

SELF ASSESSMENT REPORT

FOR ACCREDITATION OF UNDERGRADUATE ENGINEERING PROGRAMME (TIER-II)

FIRST TIME ACCREDITATION

INFORMATION SCIENCE AND ENGINEERING

Submitted to



NATIONAL BOARD OF ACCREDITATION



Estd: 1986

SJC INSTITUTE OF TECHNOLOGY

(AICTE Approved, VTU Affiliated and NAAC 'B+' Grade Accredited)

PB No. 20, BB Road

Chickballapur — 562 101, Karnataka

2021

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PART A

Institutional Information

PART A: Institutional Information**1. Name and Address of the Institution:****SJC INSTITUTE OF TECHNOLOGY**

PB No. 20, BB Road

Chickballapur – 562 101

Karnataka, India.

2. Name and Address of the Affiliating University:**Visvesvaraya Technological University**

“Jnana Sangama”

Belagavi – 590 018

Karnataka, India.

3. Year of establishment of the Institution: 1986**4. Type of the Institution:**

University

☐

Deemed University

☐

Government Aided

☐

Autonomous

☐**Affiliated**☒**5. Ownership Status:**

Central Government

☐

State Government

☐

Government Aided

☐**Self – Financing**☒**Trust**☒

Society

☐

Section 25 company

☐

Any Other (Please specify)

☐

6. Other Academic Institutions of the Trust/Society/Company etc., if any:

Name of the Institution(s)	Year of Establishment	Programs of Study	Location
Sri Kalabyraveshwara Sanskrit College, Sri Kshethra	1974	Degree and certificate program in Sanskrit	Sri Kshethra, Mandya District, Karnataka State
SAC Arts, Commerce & Science College	1976	B.A, B.Com, B.Sc, BBM, Post graduation courses in arts, commerce and science	Mandya District, Karnataka State and other 14 degree colleges in different districts of Karnataka
Adichunchanagiri Institute of Technology	1980	B,E, M.Tech Ph.D, M.B.A.	Chikkamagaluru, Karnataka State
Sri Adichunchanagiri College of Education	1980	Bachelor of Education	Hassan District, Karnataka State and other 4 colleges in different districts of Karnataka
Sri Adichunchanagiri Industrial Training Centre	1984	I.T.I.	Kolar district, Karnataka State and 40 other colleges in other districts of Karnataka
Adichunchanagiri Institute of Medical Sciences	1986	M.B.B.S. And P.G.	Mandya District, Karnataka State and other 14 degree colleges in different districts of Karnataka
GVK Polytechnic	1986	Diploma	Chitradurga district, Karnataka and other colleges in other districts Karnataka
Sri Kalabyaraweshwara Ayurvedic Medical College	1996	BAMS/MD/MS and Ayurveda	Bengaluru district, Karnataka
S J B Institute Of Technology	2001	B,E, M.Tech Ph.D,	Bengaluru district,

		M.B.A.	Karnataka
B G S Institute Of Technology	2005	B,E, M.Tech Ph.D, M.B.A.	Mandya District, Karnataka State
BGS B.P.Ed. College	2005	B.P.Ed	Chickaballapur district, Karnataka State
BGS Global Institute of Medical Sciences	2013	M.B.B.S. And P.G.	Bengaluru district, Karnataka State
SJB School of Architecture & Planning – Bangalore	2014	B.Arch	Bengaluru district, Karnataka State
BGS School of Architechure & Planning, Bangalore	2015	B.Arch	Bengaluru district, Karnataka State

Table A.6 Other Academic Institutions of the Sri Adichunchanagiri Trust

7. Details of all the programs being offered by the institution under consideration

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
BACHELOR OF ENGINEERING IN INFORMATION SCIENCE & ENGINEERING	UG	2000	2000	40	Yes	120	Applying first time	--	--	Yes	4
BACHELOR OF ENGINEERING IN CIVIL ENGINEERING	UG	1986	1986	40	Yes	90	Not accredited (specify visit dates, year)	14/09/2018	16/09/2018	No	4
BACHELOR OF ENGINEERING IN MECHANICAL ENGINEERING	UG	1986	1986	40	Yes	60	Granted accreditation for 3 years for the period (specify period)	2018	2022	0	4
BACHELOR OF ENGINEERING IN ELECTRONICS AND COMMUNICATION ENGINEERING	UG	1986	1986	40	Yes	180	Granted accreditation for 3 years for the period (specify period)	2018	2022	0	4

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
Sanctioned Intake for Last Five Years for the BACHELOR OF ENGINEERING IN ELECTRONICS AND COMMUNICATION ENGINEERING											
Academic Year						Sanctioned Intake					
2020-21						180					
2019-20						180					
2018-19						180					
2017-18						120					
2016-17						120					
2015-16						120					
BACHELOR OF ENGINEERING IN COMPUTER SCIENCE AND ENGINEERING	UG	1986	1986	40	Yes	180	Granted accreditation for years for the period (specify period)	3 2018	2022	0	4
Sanctioned Intake for Last Five Years for the BACHELOR OF ENGINEERING IN COMPUTER SCIENCE AND ENGINEERING											
Academic Year						Sanctioned Intake					
2020-21						180					
2019-20						180					
2018-19						120					
2017-18						120					
2016-17						120					
2015-16						120					
BACHELOR OF ENGINEERING IN AERONAUTICAL ENGINEERING	UG	2014	2014	60	No	60	Applying first time	--	--	0	4
BACHELOR OF ENGINEERING IN AEROSPACE ENGINEERING	UG	2018	2018	60	No	60	Not eligible for accreditation	--	--	0	4
MASTER OF TECHNOLOGY IN STRUCTURAL ENGINEERING	PG	2010	2010	18	No	18	Eligible but not applied	--	--	0	2
MASTER OF TECHNOLOGY IN INFRASTRUCTURE ENGINEERING AND MANAGEMENT	PG	2014	2014	18	No	18	Eligible but not applied	--	--	0	2
MASTER OF TECHNOLOGY IN MACHINE DESIGN	PG	2002	2002	18	Yes	9	Eligible but not applied	--	--	0	2
Sanctioned Intake for Last Five Years for the MASTER OF TECHNOLOGY IN MACHINE DESIGN											
Academic Year						Sanctioned Intake					
2020-21						9					
2019-20						18					
2018-19						18					
2017-18						18					
2016-17						18					
2015-16						18					
MASTER OF TECHNOLOGY IN DIGITAL COMMUNICATION AND NETWORKING	PG	2002	2002	18	Yes	9	Eligible but not applied	--	--	0	2

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
Sanctioned Intake for Last Five Years for the MASTER OF TECHNOLOGY IN DIGITAL COMMUNICATION AND NETWORKING											
Academic Year						Sanctioned Intake					
2020-21						9					
2019-20						18					
2018-19						18					
2017-18						18					
2016-17						18					
2015-16						18					
MASTER OF TECHNOLOGY IN COMPUTER SCIENCE AND ENGINEERING	PG	2006	2006	18	Yes	9	Eligible but not applied	--	--	0	2
Sanctioned Intake for Last Five Years for the MASTER OF TECHNOLOGY IN COMPUTER SCIENCE AND ENGINEERING											
Academic Year						Sanctioned Intake					
2020-21						9					
2019-20						18					
2018-19						18					
2017-18						18					
2016-17						18					
2015-16						18					
MASTER OF BUSINESS ADMINISTRATION	PG	2000	2000	60	No	60	Eligible but not applied	--	--	0	2

Table A.7 Details of all the programs being offered by the institution under consideration**8. Programs to be considered for Accreditation vide this application:**

Sl. No.	Program Name
1	B E in Information Science and Engineering
2	B E in Aeronautical Engineering
3	B E in Civil Engineering

Table A.8 Programs to be considered for Accreditation**9. Total number of employees in the institution:****A. Regular Employees (Faculty and Staff):**

Items	2020-21		2019-20		2018-19	
	MIN	MAX	MIN	MAX	MIN	MAX
Faculty in Engineering (Male)	107	119	120	126	129	131
Faculty in Engineering (Female)	42	45	45	46	47	49
Faculty in Maths, Science &	15	15	16	18	17	19

Humanities (Male)						
Faculty in Maths, Science & Humanities (Female)	06	06	05	06	05	05
Non-teaching staff (Male)	155	170	168	170	169	180
Non-teaching staff (Female)	39	42	41	42	42	45

B. Contractual Employees (Faculty and Staff):

Items	2020-21		2019-20		2018-19	
	MIN	MAX	MIN	MAX	MIN	MAX
Faculty in Engineering (Male)	0	4	01	01	02	02
Faculty in Engineering (Female)	0	0	0	0	0	0
Faculty in Maths, Science & Humanities (Male)	0	0	0	0	0	0
Faculty in Maths, Science & Humanities (Female)	0	0	0	0	0	0
Non-teaching staff (Male)	0	0	0	0	0	0
Non-teaching staff (Female)	0	0	0	0	0	0

10. Total number of Engineering Students:

Engineering and Technology- UG	☒ Shift1	☐ Shift2
Engineering and Technology- PG	☒ Shift1	☐ Shift2
Engineering and Technology- Polytechnic	☐ Shift1	☐ Shift2
MBA	☒ Shift1	☐ Shift2
MCA	☐ Shift1	☐ Shift2

A. Engineering and Technology- UG Shift-1

Items	2020-21	2019-20	2018-19
Total no. of Boys	1634	1580	1567
Total no. of Girls	1141	1114	1114
Total	2775	2694	2681

B. Engineering and Technology- PG Shift-1

Items	2020-21	2019-20	2018-19
Total no. of Boys	25	24	33
Total no. of Girls	23	27	33
Total	48	51	66

C. Engineering and Technology- MBA Shift-1

Items	2020-21	2019-20	2018-19
Total no. of Boys	53	50	48
Total no. of Girls	64	67	71
Total	117	117	119

11. Vision of the Institution:

Preparing Competent Engineering and Management Professionals to Serve the Society

12. Mission of the Institution:

- ✓ **Providing students with a sound Knowledge in fundamentals of their branch of study**
- ✓ **Promoting Excellence in Teaching, Training, Research and Consultancy**
- ✓ **Exposing students to emerging frontiers in various domains enabling Continuous Learning**
- ✓ **Developing Entrepreneurial acumen to venture into innovative areas**
- ✓ **Imparting Value based Professional Education with a sense of social responsibility**

13. Contact Information of the Head of the Institution and NBA coordinator, if designated:

Head of the Institution	
Name	Dr. G. T. Raju
Designation	Principal
Mobile No.	9731229555
Email ID	principal@sjcit.ac.in

NBA Coordinator, If Designated	
Name	Dr. R. Ranganatha
Designation	Professor
Mobile No.	9845312626
Email ID	ranganath@sjcit.ac.in

PART B: Criteria Summary

Criteria No.	Criteria	Total Marks	Institute Marks
1	VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES	60	60.00
2	PROGRAM CURRICULUM AND TEACHING - LEARNING PROCESSES	120	120.00
3	COURSE OUTCOMES AND PROGRAM OUTCOMES	120	120.00
4	STUDENTS' PERFORMANCE	150	112.23
5	FACULTY INFORMATION AND CONTRIBUTIONS	200	154.81
6	FACILITIES AND TECHNICAL SUPPORT	80	80.00
7	CONTINUOUS IMPROVEMENT	50	50.00
8	FIRST YEAR ACADEMICS	50	44.97
9	STUDENT SUPPORT SYSTEMS	50	50.00
10	GOVERNANCE, INSTITUTIONAL SUPPORT AND FINANCIAL RESOURCES	120	120.00
	Total	1000	912

PART B

Program Level Criteria

CRITERIA 1

**Vision, Mission and
Program Educational Objectives**

CRITERION 1	Vision, Mission and Program Educational Objectives	60

1. VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES (60)

1.1. State the Vision and Mission of the Department and Institute (5)

About Institute:

Sri Jagadguru Chandrashekaranaatha Swamiji Institute of Technology (SJCIT) is a premier institute imparting technical education since 1986. The Institute is managed by Sri Adichunchanagiri Shikshana Trust (R.) with the divine blessings of Byravaikya Jagadguru Padmabhushan Sri Sri Sri Dr. Balagangadharanatha Mahaswamiji's and spiritual guidance of Jagadguru Sri Sri Sri Dr. Nirmalanandanatha Mahaswamiji. The Trust runs more than 500 Institutions all over country. SJCIT is affiliated to Visvesvaraya Technological University (VTU), Belagavi. The Institution is recognized by the All-India Council for Technical Education (AICTE), New Delhi, and Accredited by NAAC.

VISION OF THE INSTITUTE

Preparing Competent Engineering and Management Professionals to Serve the Society

MISSION OF THE INSTITUTE

M1: Providing Students with a Sound Knowledge in Fundamentals of their branch of Study

M2: Promoting Excellence in Teaching, Training, Research and Consultancy

M3: Exposing Students to Emerging Frontiers in various domains enabling Continuous Learning

M4: Developing Entrepreneurial acumen to venture into Innovative areas

M5: Imparting Value based Professional Education with a sense of Social Responsibility

Vision and Mission of the Department

Realizing well in time that the Information Technology (IT) wave has become a phenomenon in itself over the past few years, the institute established a separate department to cater the ever growing demand for professionals in this challenging field. The department of Information Science and Engineering (ISE) came into existence in the year 2000. The department is affiliated to Visvesvaraya Technological University (VTU) Belagavi, Karnataka, approved by AICTE, New Delhi. The department currently offers undergraduate degree with intake of 120. Presently the department is headed by Prof. Satheesh Chandra Reddy and supported by well qualified and dedicated staff. The department has the state-of-the-art laboratories with needed configuration computers and internet facility. Department is one of the sought after by its performance in the University results and achievements in placements. There are 22 faculties in the department. The Department have MoUs with EMC, TCS, HireCraft, TalentMicro Innovation Pvt. Ltd, UIPath, TEQUED LABS Pvt. Ltd.

VISION OF THE DEPARTMENT

Educating Students to Engineer Information Science and Technology for Advancing the Knowledge as to best Serve the Real world.

MISSION OF THE DEPARTMENT

- M1: Focusing on Fundamentals and Applied aspects in both Information Science Theory and Programming practices.**
- M2: Training comprehensively and encouraging R&D culture in trending areas of Information Technology.**
- M3: Collaborating with premier Institutes and Industries to nurture Innovation and Learning in cutting edge Information Technology.**
- M4: Preparing the Students who are much Sought-after, Productive and Well-respected for their work culture having Lifelong Learning practice.**
- M5: Promoting Ethical and Moral values among the students so as to enable them emerge as Responsible Professionals.**

1.2. State the Program Educational Objectives (PEOs) (5)

The PEOs of ISE program describe accomplishments that graduates are expected to attain within three-five years after graduation. Graduates would have applied their expertise to contemporary problem solving, be engaged professionally, have continued to learn & adapt and have contributed to their organizations through leadership and teamwork.

PROGRAM EDUCATIONAL OBJECTIVES

Information Science and Engineering Graduates within Three-Five years of graduation should :

PEO1: Engage in Successful Professional Career in Information Science and Technology.

PEO2: Pursue Higher Studies and Research to Advance the Knowledge for Solving Contemporary Problems in IT industry.

PEO3: Adapt to a Constantly Changing World through Professional Development and Sustained Learning.

PEO4: Exhibit professionalism and Team work with Social Concern.

PEO5: Develop Leadership and Entrepreneurship Skills by incorporating Organizational Goals.

1.3 Indicate Where the Vision, Mission and PEOs are Published and Disseminated among Stakeholders (10)

The Vision, Mission and PEOs of the Information Science and Engineering program are Published and Disseminated among all the Stakeholders. The details are presented in TableB1.

1.3

Stakeholders	Published at	Dissemination Method
Internal (Management, Principal, HOD, Faculty, Students, Non- Teaching Staff)	▪ Institute Website www.sjcit.ac.in ▪ Department News Letter ▪ Department Notice boards ▪ Classrooms ▪ Department Laboratories ▪ Department Library ▪ Department Meeting Room ▪ HOD Chamber ▪ Faculty Cabins ▪ Lab Manuals-e copy ▪ Display Boards ▪ Attendance and Assessment record	▪ Orientation Programs ▪ Department Meetings ▪ Workshops ▪ Seminars ▪ Conferences ▪ Faculty Development Programs ▪ Training Programs ▪ E-Mails
External (Parents, Alumni, Industry)	▪ Institute Website www.sjcit.ac.in ▪ News Letters ▪ College Prospectus	▪ Parent-Teachers Meetings ▪ Alumni Interactions ▪ E-Mails

Table B1.1.3 Vision, Mission and PEOs Publishing and Dissemination

1.4 State the process for defining the Vision and Mission of the Department and PEOs of the program (25)

The Head of the Department with the active participation of faculty members, develops the Vision, Mission and PEO statements of the programme in alignment with Vision and Mission of the Institute. This is based on the considerations from feedback of stakeholders and the future scope of the department and the societal requirements.

- These statements are discussed further among the members of Department Advisory Board (DAB) and Program Assessment Committee (PAC) before finalization.
- Finally, the Vision, Mission and PEOs are approved by the Principal.

Figure 1.4.1 shows the broader and preliminary steps followed in defining the Vision and Mission of the Department. Similarly, Figure 1.4.2 depicts the process for defining the Vision and Mission of the Department.

Vision, Mission, and PEOs Formulation Committee

1. Principal - SJCIT
2. HOD – Information Science and Engineering
3. Program Coordinator
4. Members – Faculty, Current Students, Alumni, Parents, Industry/Academia and Employers

1.4.1 Process for defining the Vision and Mission

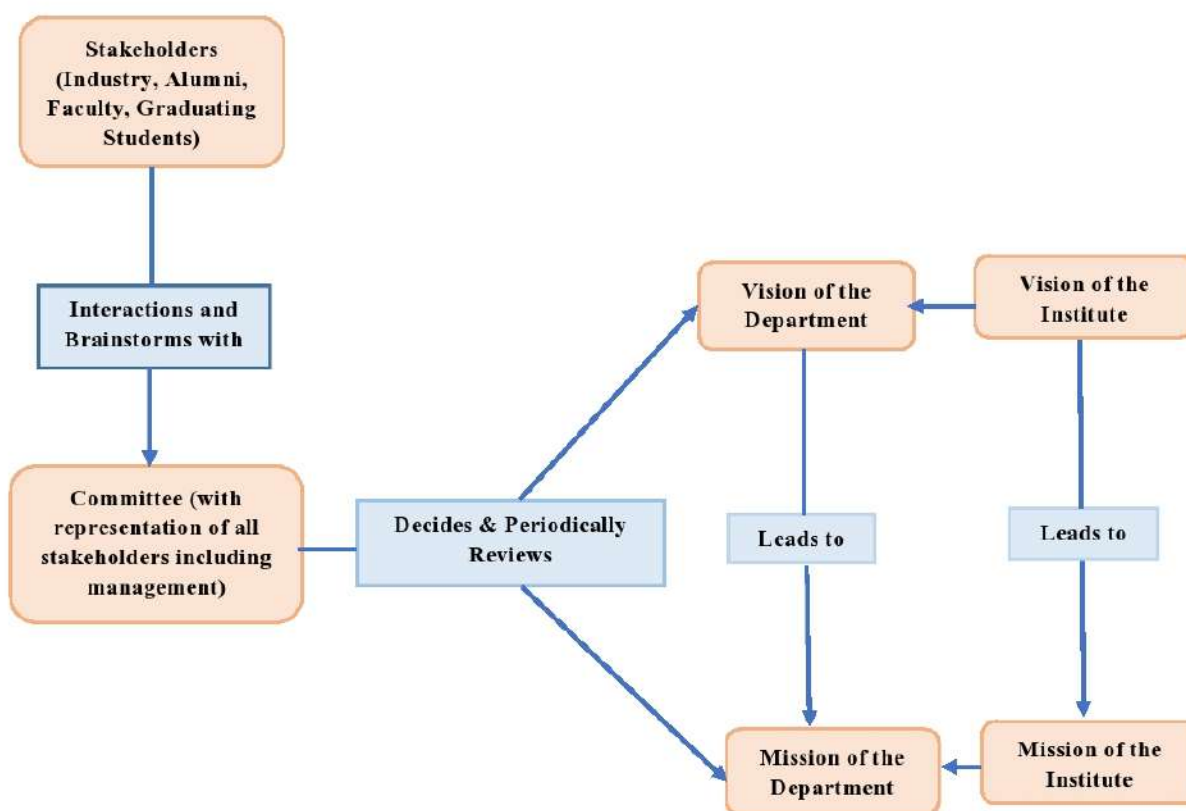


Figure 1.4.1: Broader steps for defining the Vision and Mission of the Department

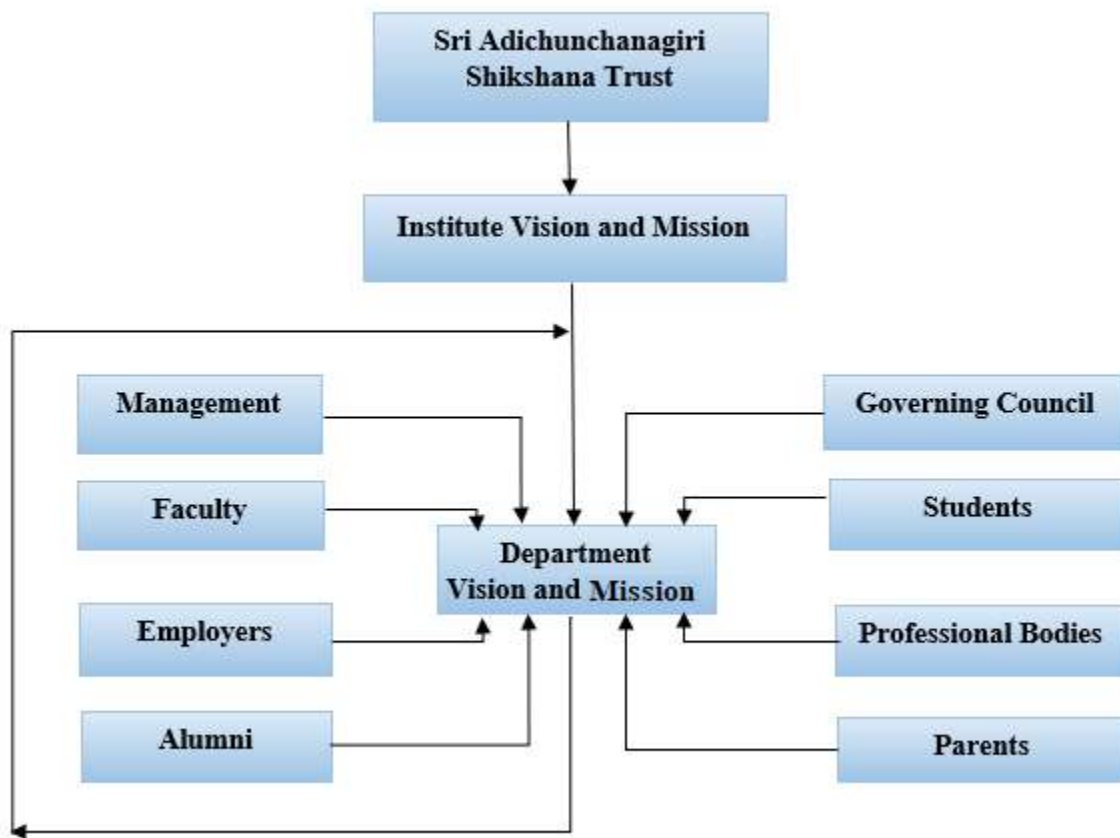


Figure 1.4.2: Process involving various stakeholders

Stakeholders involved: Principal, HOD, Faculty members, Current Students, Alumni, Employers, Industry/Academia Professionals and Parents.

- **Process**
 - Initial brainstorming sessions at different levels
 - Review, refinement and validation (Experts, Professionals)
 - Wide publicity (Institute web site, department, campus)
 - Review “to close the loop” (5 years)
 - Regular interactions with faculty and students
- Process documentation
- Records of process implementation

1.4.2 Process for defining the PEOs

The Program Educational Objectives (PEOs) describes what the Graduates of the ISE Program are expected to achieve within 3 to 5 years of completing the program. These are established through a well-defined and recorded consultation process as depicted in figure 1.4.3, involving the Key elements:

- *Professional Success*
- *Lifelong Learning, Higher Education and Research*
- *Ethical Professional Practice*
- *Communication Skills*
- *Team Player*

These statements are discussed further among the members of Department Advisory Board (DAB) before finalization. Finally, the Vision, Mission and PEOs are approved by the Head of the Institution.

Following process has been adopted in framing department Program Educational Objectives (PEOs):

1. The Head of the department along with Program Assessment Committee, held brain storming sessions with all the faculty members for defining PEOs by considering the Program Outcomes, Institution & Department Vision and Mission statements.
2. Draft PEOs statements were circulated among stakeholders for their feedback.
3. The suggestions & modifications provided by the stakeholders were analyzed in Department Advisory Board meeting & final PEOs were formulated.
4. Final Program Educational Objectives were forwarded for the approval by Head of the Institution.
5. The approved Program Educational Objectives are published & disseminated to all the stakeholders.

The PEOs are evaluated periodically using a variety of instruments including faculty meetings, interactions with members of the students, alumni, employers and DAB, program exit surveys and parent's feedback. The process of defining Program Educational Objectives (PEOs) is illustrated in the following Figure 1.4.3

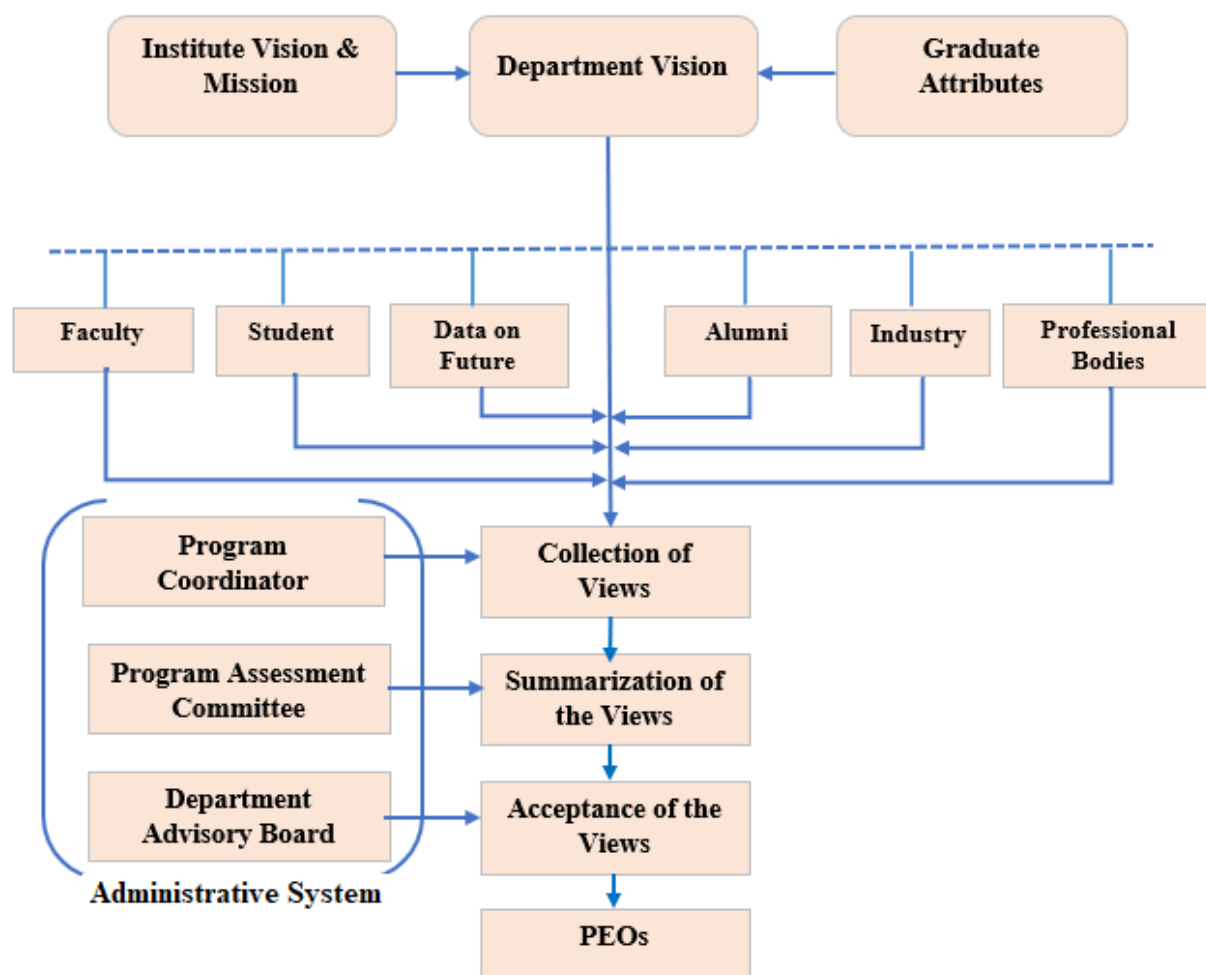


Figure 1.4.3: Process for defining the PEOs of the Department

1.5. Establish consistency of PEOs with Mission of the Department (15)

The PEOs flow naturally from the mission statements of the Department and the Institution. Table B1.5.1 shows the mapping of mission of Information Science and Engineering department with the PEOs.

Mission Statements 	M1: Focusing on Fundamentals and Applied aspects in both Information Science Theory and Programming practices.	M2: Training comprehensively and encouraging R&D culture in trending areas of Information Technology.	M3: Collaborating with premier Institutes and Industries to nurture Innovation and learning in cutting edge Information Technology.	M4: Preparing the students who are much Sought-after, Productive and Well-respected for their work culture having Lifelong Learning practice.	M5: Promoting ethical and moral values among the students so as to enable them emerge as responsible professionals.
PEO Statements 					
PEO1: Engage in Successful professional career in Information Science and Technology.	3	2	-	3	2
PEO2: Pursue higher studies and research to advance the knowledge for Solving Contemporary Problems in IT industry.	3	3	2	2	-
PEO3: Adapt to a constantly changing world through Professional Development and Sustained Learning.	3	2	2	3	1
PEO4: Exhibit Professionalism and team work with social concern.	1	2	1	2	3
PEO5: Develop Leadership and Entrepreneurship Skills by incorporating organizational goals.	1	2	2	3	2

Table B1.5.1: Mapping of PEOs with Mission of the Department

M1, M2,...Mn are distinct elements of Mission statement. Enter correlation levels 1,2 or 3 as defined below:

1: Slight(Low) 2: Moderate(Medium) 3: Substantial(High) It there is no correlation, put “-”

Note: In this document wherever the term “Process” has been used its meaning is process formulation, notification and implementation.

Justification and Rationale of the PEO-Mission mapping:

The cornerstones of ISE department’s mission statements that are incorporated in the PEOs are: ***Solid Fundamental Knowledge, Training and Encouraging R&D, Ethics, Values, Global Competence, Lifelong Learning.***

The consistency of each PEO statement with the Mission statements of the department has been described in following paragraphs.

1. Graduates of ISE program demonstrates their expertise in solving contemporary problems through design, analysis, implementation and evaluation of hardware and software systems. This shows that graduates are with solid foundations in both Information Science theory and programming practices that makes them productive with good work culture. Hence the PEO1 correlates substantially in respect of M1 and M4, whereas moderately in respect of M2 and M5.
2. Graduates of ISE program engages in their profession locally and globally by contributing ethically to the competent and professional practice of engineering or other professional careers. This is due to the fact that our graduates are trained and encouraged to work in frontier areas with ethics, values and a global outlook. Hence the PEO2 correlates substantially in respect of M1 and M2 whereas moderately in respect of M3 and M4.
3. Graduates of ISE program adapt to a constantly changing world through professional development and sustained learning. This is possible because we prepare highly sought-after graduates and induce lifelong learning practices. The learning environment provided in the college/department is designed to promote self-directed learning by the students. This coupled with the Program Curriculum will lead Graduates to engage in continuous learning in their professional careers. Hence the PEO3 correlates substantially in respect of M1 and M4, moderately with respect to M2 and M4 and slightly in respect to M5.
4. Graduates of ISE program exhibit leadership and entrepreneurship skills by incorporating organizational goals and providing facilities for peer members with defined objectives. This is due to the fact that we foster the ideals of ethics and create awareness on the role of computing in global environment. Students are encouraged to organized/ participate in various Institute/departmental professional, cultural, sports and other technical fests including conferences, seminars and workshops conducted in the department regularly. Hence the PEO4 correlates substantially in respect of M5 and moderately with M2 and M4 and slightly in respect of M1and M3
5. Graduates of ISE program develop communication skills and show a commitment to team work necessary to function productively and professionally on multidisciplinary teams. This is because our graduates are educated, trained and prepared in all most all the areas of computing with values and ethics. Project work activities are used to inculcate group work and team management skills with cross-cultural etiquettes, promoting knowledge transfer leading to conceptualization and delivery of projects with varied complexity. Hence the PEO5 correlates substantially with respect to M4 moderately with respect to M2, M3, and M5 and slightly in respect of M1.

CRITERIA 2

**Program Curriculum and
Teaching - Learning Processes**

CRITERION 2	Program curriculum Teaching-Learning Process	120

2. PROGRAM CURRICULUM AND TEACHING - LEARNING PROCESSES (120)

2.1. Program Curriculum (20)

2.1.1. State the process used to identify extent of compliance of the University curriculum for attaining the Program Outcomes and Program Specific Outcomes as mentioned in ANNEXURE I. Also mention the identified curricular gaps, if any (10)

A. Process used to identify extent of compliance of the University Curriculum for attaining the Program Outcomes and Program Specific Outcomes.

S.J.C Institute of Technology is affiliated to Visvesvaraya Technological University (VTU), Belagavi, Karnataka. Hence program curriculum is as per the scheme and syllabus of VTU that contains core, professional and elective courses. The curriculum is formulated and reviewed once in 4 years through Board of Studies (BoS) of VTU comprising a Chairman, senior Professors of ISE discipline and representative members from Industry.

Generally, Curriculum maintains the balance in the composition of **Basic Science, Humanities, Professional Courses** and their distribution in **Core and Electives** with the specified depth and breadth offerings. If some components to attain COs/POs are not included in the curriculum provided by the VTU, then the Institution makes additional efforts to impart such knowledge by covering concepts through “**Contents beyond Syllabus**” which is added by proper “**GAP analysis**” process.

A typical action plan deployed by the Department for effectively operationalizing the given curriculum is detailed below:

- **Subject Allotment:** At the end of each semester, the HoD conducts a departmental meeting to take stock of the next semester’s academic requirements. After a thorough discussion, the subjects and labs are allotted to the faculty members based on their priority, previous experience, specialization, the individual interest shown and, in some cases, the HoD may map subjects to a faculty based on the previous semester’s results, student’s feedback, staff position or similar demands, etc.,
- **Subject Preparation:** The faculty prepares the lesson plan, notes, question bank, assignment questions, presentation materials/hand-outs, etc. of the allotted subjects for the entire syllabus during the vacation. The academic material prepared by the staff is scrutinized / reviewed by HoD/Senior faculty and suitable feedback/suggestions are provided. After corrective measures, the prepared academic materials made available to the students.
- **Lab Requirement:** The labs are allotted with one *Lab In-Charge* and groups are made for each lab. The concerned *Lab In-Charge* goes through the syllabus, takes stock of new requirements, replacements needed, servicing issues, etc. and

submits a report to HoD for concerned action plan (calling quotations, purchase, etc.) during vacation.

Also, the *Lab In-Charge* prepares and updates the lab manuals along with other group members. All the staff members allotted to a particular lab are required to be familiar and thorough with the entire experiment set. They are required to rig up (for hardware) and run (for software) the experiments. In specific cases HoD along with senior faculty may conduct a test for the faculty in the concerned lab to evaluate their competency.

- **Calendar of Events:** The Chief Time Table Officer (CTTO) along with the Principal and HoDs prepares and publishes at the beginning of every semester an **academic calendar** which depicts the schedule of internal tests, holidays, cultural events, lab internals, online teacher appraisal, etc. which applies to the entire college.
- **Coverage of Syllabus:** The faculty estimates the number of probable classes available for the given academic semester and prepare lesson plan accordingly for coverage of entire syllabus. For lab involved / mathematical subjects, where more emphasis is required say Mathematics, Basic Electrical Engineering, Data Structures & Applications, Automata Theory and Computability etc., five hours per week with the fifth hour devoted for tutorials is allotted in the class time table itself. The entire syllabus is supposed to be covered by each staff with proportionate spreading out for the internals.
- **IA Question Papers:** The department maintains high standards in the preparation of IA Question papers based on the motto that “if students are properly trained and evaluated in the internal tests, they can perform better in the final exams and also during placements”. The questions in the question papers are set based on Bloom’s learning Levels. These question papers are scrutinized for framing of question, the coverage of syllabus, break up of marks, complexity level, etc. by the Course Coordinator, PAC & HoD.
- **Monitoring Student’s Performance on Regular Basis:** After the each test the faculty has to evaluate the answer scripts of every student based on the scheme of evaluation prepared in advance by the faculty and discussed with the students. Once the assessment scores are available the assigned class teacher circulates the student’s performance that is marks scored and attendance in all subjects with the two proctors allotted. The proctor has to communicate and guide the student on his performance and in case of poor attendance and performance the proctor has to communicate with parent or care takers or guardians of the students about his performance. The communication could be preferably done in person or through telecommunication mandatorily. The proceedings of proctoring after every 15 days and after each assessment is recorded in the student’s proctor book regularly with signature of faculty and student as well with date.
- **Periodic Feedback:** The HoD meets students periodically (once in every two weeks) to ascertain the understanding and difficulties faced by the students in delivery by the teachers and coverage of syllabus. After the interactions, suitable actions are taken – such as arranging tutorial classes for particular subjects, extra

classes for coverage and in cases where sufficient portion is covered, rearrangement of the time table, etc. Corrective measures are initiated on the basis of feedback received.

- **Academic Audit:** To assess the effectiveness of curricular implementation plan, the IQAC of SJCIT reviews the roles and responsibilities, academic preparation, orientation of faculty towards the subject, understanding of the curriculum requirements, covering content beyond syllabus, teaching practices adopted by the faculty for each subject, projects guided, SWOC analysis, previous appraisal and percentage results obtained. Based on this, specific aspects of the action plan to be contemplated are revisited.

Apart from the above,

- Each faculty classifies the level of the courses studying the elements of POs. Further, the Bloom's level of cognitive domain was adopted to determine the level of expected attainment.
 - The **Introductory/Fundamental courses** are termed as level **I** covering Bloom's levels **1 & 2**, where students were exposed to the fundamental concepts.
 - The **Core Competency courses** are termed as level **II** covering Bloom's levels **3 & 4**, where students gain competency in the advanced topics.
 - The **Specialization/Expertization courses** termed as level **III** covering Bloom's levels **5 & 6**, where students gain mastery in the topics.
- The **COs and POs mapping, assessment and attainment process** has been performed, the weak areas were pointed out and probable gaps were identified. The CO-PO table thus prepared was reviewed by faculty members to determine which components of PO were either not met or met to level only. Discussions focused on whether level of introductory nature was adequate or does the institute need to develop more beyond syllabus topics, introduce additional electives, laboratory experiments, etc. to improve the level.
- For developing content beyond the syllabus, the feedback from alumni and industry (T&P department) were discussed thoroughly and analysed. Also, the internet searching was done to assess the demand of IT industries and a review on the syllabus provided by VTU and other universities has been done to identify the gaps.

Tables B 2.1.1.1 and B 2.1.1.2 list the POs and PSOs respectively.

PO1	Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Problem Analysis: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	Design/development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	Conduct Investigations of Complex Problems: Use research-based knowledge and research Methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
PO6	The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments
PO12	Life-long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Table B 2.1.1.1: Program Outcomes (POs) defined by NBA

A.2 PSOs of ISE Program:

PSO1	Apply the knowledge of data structures, database systems, system programming, networking, web development and AI & ML techniques in engineering the software
PSO2	Exhibit solid foundations and advancements in developing software / hardware systems for solving contemporary problems.

Table B 2.1.1.2: PSOs of ISE Program

A.3 Extent of compliance of the University Curriculum for attaining the Program Outcomes:

SUBJECT CODE	SUBJECT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Fundamental Courses-Knowledge of Mathematics															
17MAT31	Engineering Mathematics-III	✓	✓	✓	✓	✓							✓		
17CS36	Discrete Mathematical Structures	✓	✓	✓	✓								✓	✓	✓
17MAT41	Engineering Mathematics -IV	✓	✓	✓	✓	✓							✓		
17CS653	Operation Research	✓	✓	✓	✓	✓	✓						✓	✓	
Fundamental Courses-Problem analysis, Design/Development of solutions															
17PCD23	Programming in C and Data structures	✓	✓	✓	✓								✓		✓
17CPL26	Computer Programming Lab	✓	✓	✓	✓	✓							✓		✓
17CS33	Data Structures And Applications	✓	✓	✓	✓	✓			✓	✓			✓	✓	✓
17CS35	Unix And Shell Programming	✓	✓	✓		✓							✓	✓	
17CSL38	Data Structures Laboratory	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
17CS42	Object Oriented Concepts	✓	✓	✓	✓	✓				✓			✓	✓	✓
17CS43	Design and Analysis of Algorithms	✓	✓	✓	✓								✓	✓	✓
17CSL47	Design and Analysis of Algorithm Laboratory	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
17CS53	Database Management System	✓	✓	✓	✓	✓		✓	✓	✓			✓	✓	✓
17CS553	Advanced JAVA and J2EE	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓
17CSL58	DBMS Laboratory with mini project	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓
17CS664	Python application programming	✓	✓	✓	✓	✓						✓	✓	✓	
17IS62	File Structures	✓	✓	✓	✓	✓			✓	✓			✓	✓	✓
17ISL68	File Structures Laboratory with mini project	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
17CS564	. Net	✓	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓
Core Competency Courses-System Software															
17CS54	Automata theory and Computability	✓	✓	✓	✓			✓					✓	✓	✓
17CS64	Operating Systems	✓	✓										✓		✓
Core Competency Courses-Networking															
17CS46	Data Communication	✓	✓	✓	✓	✓								✓	✓
17CS52	Computer Networks	✓	✓	✓	✓	✓	✓	✓					✓		✓
17CSL57	Computer Network Laboratory	✓	✓	✓	✓	✓							✓	✓	✓
17CS61	Cryptography, Network Security and Cyber Law	✓	✓	✓	✓	✓	✓		✓				✓	✓	
17CS71	Web Technology And Its Applications	✓	✓	✓										✓	✓
17CS754	Storage Area Networks	✓	✓	✓	✓								✓	✓	
17CS743	Information and network Security	✓	✓	✓	✓	✓				✓		✓	✓	✓	
17CSL77	Web Technology	✓	✓	✓		✓								✓	✓

	Laboratory With Mini Project														
17CS81	Internet Of Things Technology	✓	✓	✓	✓	✓					✓		✓	✓	✓
Core Competency Courses-Hardware and Organization															
17CS32	Analog And Digital Electronics	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓
17CS34	Computer Organization	✓	✓	✓	✓						✓		✓	✓	✓
17CSL37	Analog and Digital Electronics Laboratory	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓
17CS44	Microprocessors And Microcontrollers	✓	✓	✓	✓						✓		✓	✓	✓
17CSL48	Microprocessors Laboratory	✓	✓	✓	✓						✓	✓	✓	✓	✓
Specialized Courses-Software Engineering and Modelling															
17CS45	Software Engineering	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
17IS63	Software Testing	✓	✓	✓	✓	✓							✓	✓	✓
17ISL67	Software Testing Laboratory	✓	✓	✓	✓	✓				✓		✓	✓	✓	✓
17IS72	Software Architecture And Design Patterns	✓	✓	✓										✓	✓
17IS832	User Interface Design	✓	✓	✓									✓	✓	✓
Specialized Courses-AI, DW & DM															
17CS51	Management and Entrepreneurship for IT Industry	✓					✓		✓	✓	✓	✓	✓		
17CS562	Artificial Intelligence	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓
17CS651	Data Mining And Data Warehousing	✓	✓	✓	✓								✓	✓	✓
17CS73	Machine Learning	✓	✓	✓	✓	✓					✓		✓	✓	
17CSL76	Machine Learning Laboratory	✓	✓	✓		✓								✓	✓
17CS742	Cloud Computing & Its Application	✓	✓	✓	✓	✓				✓			✓	✓	✓
17CS82	Big Data Analytics	✓	✓	✓	✓								✓	✓	✓
17CS834	System Modelling And Simulation	✓	✓	✓	✓	✓	✓							✓	✓
17IS84	Internship / Professional Practise	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
17ISP85	Project Work Phase II	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	
17ISS86	Seminar		✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓

Table B 2.1.1.4: Extent of compliance of the University Curriculum CBCS 2017 Scheme for attaining the Program Outcomes and Program Specific Outcomes.

SUBJECT CODE	SUBJECT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Fundamental Courses-Knowledge Of Mathematics															
15MAT31	Engineering Mathematics-III	✓	✓	✓	✓	✓							✓		
15CS36	Discrete Mathematical Structures	✓	✓	✓	✓									✓	✓
15MAT41	Engineering Mathematics - IV	✓	✓	✓	✓	✓									
15CS653	Operation Research	✓	✓	✓	✓	✓								✓	✓
Fundamental Courses-Problem Analysis, Design/Development Of Solutions															
15PCD23	Programming in C and Data Structures	✓	✓	✓	✓	✓							✓	✓	✓
15CPL26	Computer Programming Lab	✓	✓	✓	✓	✓							✓	✓	✓
15CS33	Data Structures and Applications	✓	✓	✓	✓	✓								✓	✓
15CS35	Unix And Shell Programming	✓	✓	✓	✓									✓	✓
15CSL38	Data Structures Laboratory	✓	✓	✓	✓	✓								✓	✓
15CS45	Object Oriented Concepts	✓	✓	✓	✓	✓								✓	✓
15CS43	Design and Analysis Of Algorithms	✓	✓	✓	✓								✓	✓	✓
15CSL47	Design and Analysis Of Algorithm Laboratory	✓	✓	✓	✓	✓								✓	✓
15CS53	Database Management System	✓	✓	✓	✓	✓	✓							✓	✓
15CS553	Advanced JAVA and J2EE	✓	✓	✓										✓	
15CSL58	DBMS Laboratory With Mini Project	✓	✓	✓	✓	✓								✓	✓
15CS664	Python Application Programming	✓	✓	✓	✓									✓	✓
15IS62	File Structures	✓	✓	✓	✓	✓								✓	✓
15ISL68	File Structures Laboratory With Mini Project	✓	✓	✓	✓	✓			✓	✓	✓				✓
Core Competency Courses-System Software															
15CS54	Automata Theory and Computability	✓	✓	✓	✓									✓	✓
15CS64	Operating Systems	✓	✓	✓	✓									✓	✓
Core Competency Courses-Networking															
15CS46	Data Communication	✓	✓	✓	✓	✓								✓	✓
15CS52	Computer Networks	✓	✓	✓	✓	✓								✓	✓
15CSL57	Computer Network Laboratory	✓	✓	✓	✓	✓								✓	✓
15CS61	Cryptography, Network Security and Cyber Law	✓	✓	✓										✓	✓

15CS71	Web Technology and Its Applications	✓	✓	✓										✓	✓
15CS743	Information and Network Security	✓	✓	✓	✓	✓								✓	✓
15CS754	Storage Area Networks	✓	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓
15CSL77	Web Technology Laboratory with Mini Project	✓	✓	✓		✓								✓	✓
15CS81	Internet of Things Technology	✓	✓	✓	✓	✓				✓				✓	
Core Competency Courses-Hardware And Organization															
15CS32	Analog and Digital Electronics	✓	✓	✓	✓								✓	✓	✓
15CS34	Computer Organization	✓	✓	✓	✓								✓	✓	✓
15CSL37	Analog and Digital Electronics Laboratory	✓	✓	✓	✓								✓	✓	✓
15CS44	Microprocessors and Microcontrollers	✓	✓	✓	✓								✓	✓	✓
15CSL48	Microprocessors Laboratory	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓
Specialized Courses-Software Engineering And Modelling															
15CS42	Software Engineering	✓	✓	✓			✓		✓	✓	✓		✓		✓
15IS63	Software Testing	✓	✓	✓	✓	✓								✓	✓
15ISL67	Software Testing Laboratory	✓	✓	✓	✓	✓				✓		✓	✓	✓	✓
15IS72	Software Architecture And Design Patterns	✓	✓	✓										✓	✓
15IS832	User Interface Design	✓	✓	✓	✓								✓		✓
Specialized Courses-AI, DW & DM															
15CS51	Management And Entrepreneurship For IT Industry	✓	✓				✓	✓	✓	✓	✓	✓	✓		✓
15CS562	Artificial Intelligence	✓	✓	✓	✓	✓								✓	✓
15IS833	Virtual Reality	✓	✓	✓	✓					✓	✓		✓	✓	✓
15CS651	Data Mining And Data Warehousing	✓	✓	✓	✓	✓								✓	✓
15CS73	Machine Learning	✓	✓	✓	✓	✓				✓	✓		✓	✓	✓
15CSL76	Machine Learning Laboratory	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓	✓
15CS565	Cloud computing and its application	✓	✓	✓	✓	✓								✓	✓
15CS82	Big Data Analytics	✓	✓	✓	✓									✓	✓
15CS834	System Modelling And Simulation	✓	✓	✓	✓	✓						✓	✓	✓	✓

15CS84	Internship / Professional Practise	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
15CSP85	Project Work Phase II	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
15CSS86	Seminar	✓		✓		✓			✓	✓	✓	✓			✓

Table B 2.1.1.3: Extent of compliance of the University Curriculum CBCS 2015 Scheme for attaining the Program Outcomes and Program Specific Outcomes.

A.4 Process to identify the extent of Compliance of University Curriculum:

The process used to identify the extent of compliance of university curriculum is through getting feedback on gaps from different stakeholders. It includes

1. Seeking input from the teachers handling the course.
2. Seeking feedback from senior students
3. Seeking input from industry experts
4. Collecting feedback from placement cell/ Employers
5. Collecting alumni feedback

The figure 2.1.1.1 gives the process of Curriculum Gap analysis and the figure 2.1.1.2 shows the process for assessment on gap analysis.

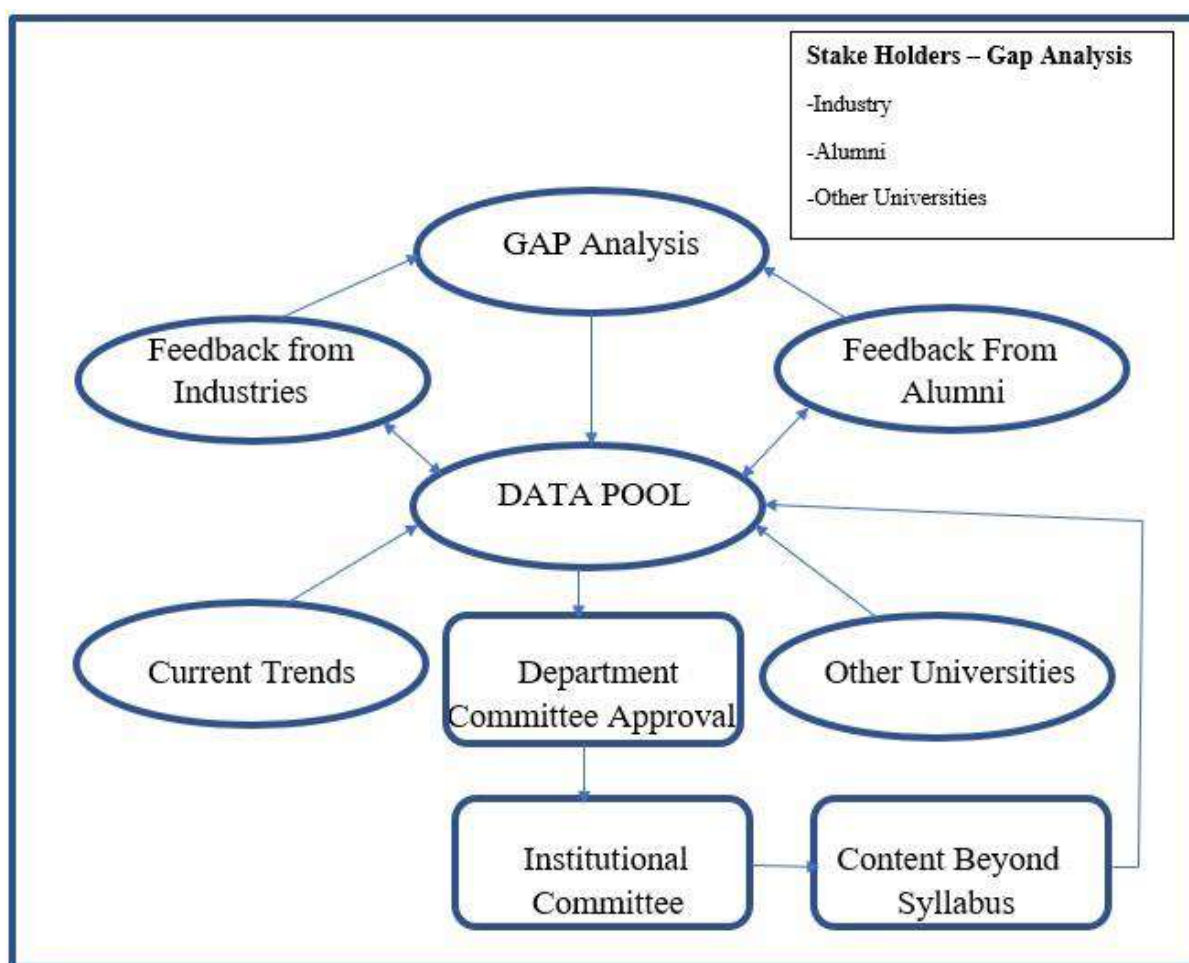


Figure 2.1.1.1: Process to Identify the Curriculum Gaps

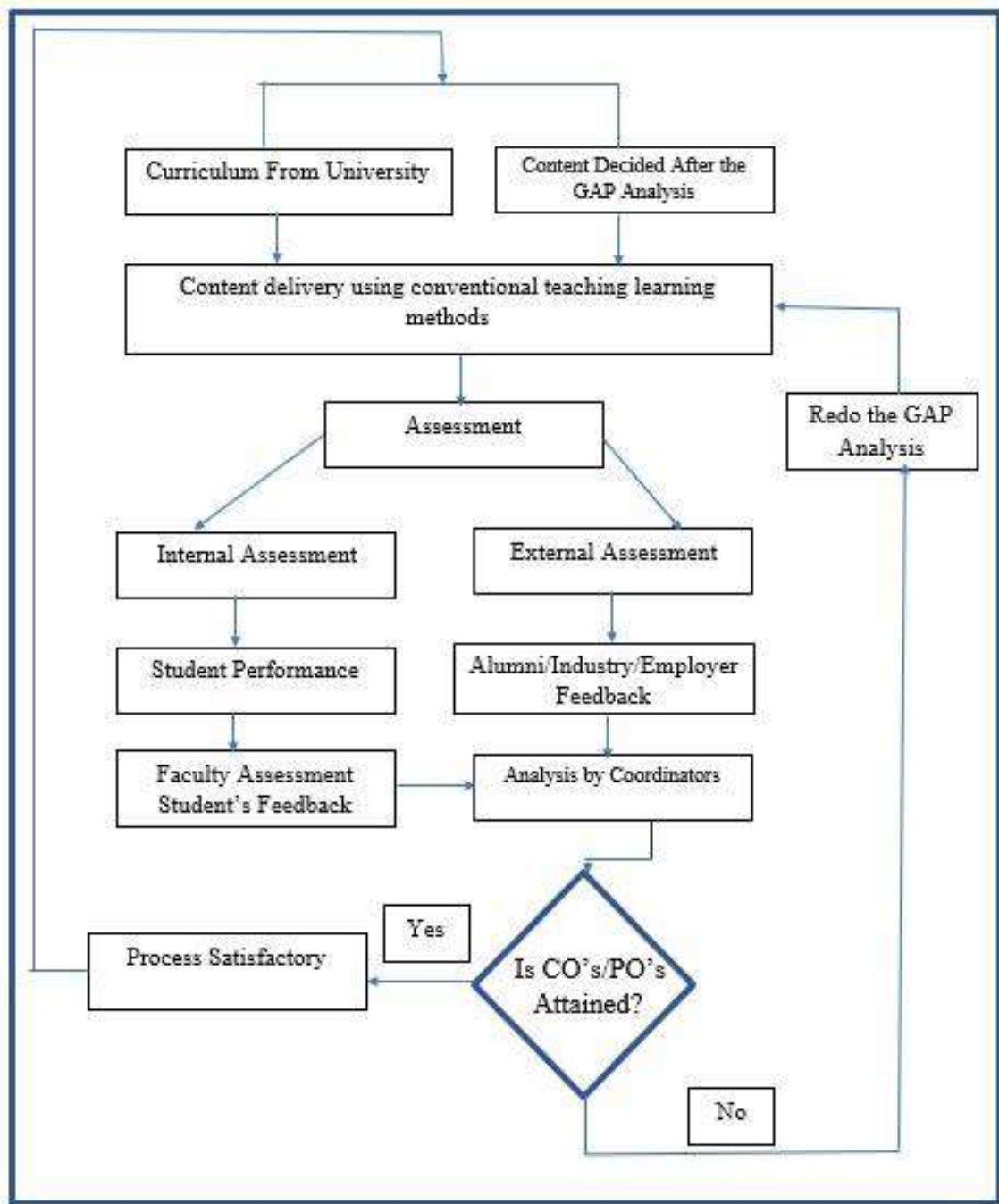


Figure 2.1.1.2: Process for Assessment on Gap Analysis

Implementation:

Identified content beyond the syllabus (Theory/Lab), if any, is included in lesson plan and covered in classroom by the subject teacher. If the topic/area is new, people from Industry are

invited to deliver a talk.

Effectiveness:

Effectiveness of this process is analysed through feedback from the students and their performance in examinations. Also, from the alumni and industry experts.

Feedback from Students: “Program Exit Survey”, A questionnaire is prepared by the program coordinator and is given to students at end of the program to get feedback on the POs and PSOs. The results are analysed to see whether the POs and PSOs are strongly or loosely mapped. Figures 2.1.1.3 a, b, c and 2.1.1.4 shows the snapshots of sample student’s exit survey form.



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EXIT_FEEDBACK 2018-19

Batch : BE , 2015-2019

Department : Information Science and
 Engineering
 Date : 24 May 2019

No	Questions	Excellent	Good	Satisfactory	Poor	Feedback Percentage	Average Score (4)
		4	3	2	1		
	<i>Co-Curricular Activity</i>						
1	Seminars/Workshop's usefulness	25	21	2	0	87	3.5
2	Industrial Visits	19	18	4	7	75.5	3
3	Career guidance & entrepreneurial activities	21	21	4	2	81.8	3.3
4	Placement & Training activities	27	19	2	0	88	3.5
	<i>Comments</i>						
	good g						
	everything was good.						
	good						
	good						
	good						
	there was only one industrial visit in whole four year, it should me more						
	good						

(a)

<i>Curricular Activity</i>							
1	Quality of Teaching	23	24	1	0	86.5	3.5
2	Laboratory Conduction	22	22	4	0	84.4	3.4
3	Faculty competency	24	22	2	0	86.5	3.5
4	Adequacy of Class rooms	26	18	4	0	86.5	3.5
5	Laboratory Facilities	23	23	2	0	85.9	3.4
6	Usage of Teaching Aids	23	23	2	0	85.9	3.4
<i>Comments</i>							
good							
all nice.							
good							
good							
satisfactory							
labs are open only during collage hour, it should be opened till evening							
good							
good							
good							
good							
Teaching quality of teachers are good here, they use to listen and clear the doubts of each and every students.							

(b)

<i>Extra-Curricular Activity</i>							
1	Cultural Activities	20	21	6	1	81.2	3.2
2	Sports Activities	21	21	5	1	82.3	3.3
<i>Comments</i>							
good							
all good.							
satisfactory							
good							
good							
principle will always restrict from cultural activity of department, it should be improved							
good							
good							
good							
good							
Students are highly involved in the extra-curricular activities.							

(c)

Figure 2.1.1.3 a, b & c: Students Exit Survey Form

<i>Library Facilities</i>							
1	Availability of text/reference books	21	19	8	0	81.8	3.3
2	Availability of General/Technical Journals	21	20	7	0	82.3	3.3
3	Accessibility to Books/Journals	21	20	7	0	82.3	3.3
4	Staff assistance	21	20	6	1	81.8	3.3
5	Working hours	21	20	4	3	80.7	3.2
<i>Comments</i>							
good							
all good.							
good							
good							
good							
library staff behaviour is very poor							
good							
good							
good							
good							
College library contains number of textbooks along with the reference books.							

Figure 2.1.1.4: Responses from Students Exit Survey

Feedback from Parents - The program coordinator will collect the feedback from the parents about their experience and also their wards opinion on the program. It helps to improve the overall system. Figure 2.1.1.5 show the sample feedback form from the parents.

Parents Feedback(2021 Batch)

 vimalarangaswamy25@gmail.com
(not shared) [Switch account](#)

 * Required

Parent Name *

Your answer

Occupation/Profession *

Your answer

Company details *

Your answer

Mobile number *

Your answer

E-mail id

Your answer

Ward name/Semester/Section *

Your answer

1. Infrastructure in Department/College *

☐ Excellent

☐ Good

☐ Satisfactory

2. Teaching and Learning *

☐ Excellent

☐ Good

☐ Satisfactory

3. Teachers interaction with Students *

☐ Excellent

☐ Good

☐ Satisfactory

4. Enhancement of skill sets through Projects(PROP) *

☐ Excellent

☐ Good

☐ Satisfactory

5. Placement training on Technical, Aptitude, logical reasoning... *

☐ Excellent

☐ Good

☐ Satisfactory

6. Job opportunities/internship provided on campus *

☐ Excellent

☐ Good

☐ Satisfactory

Any Suggestions *

Your answer

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Google Forms

1	Timestamp	Parent Name	Occupation/Profession	Company details	Mobile number	E-mail id	Ward name/Semester	1. Infrastructure in	2. Teaching and Learning	3. Teachers interaction	4. Enhancement of skill sets	5. Placement training on	6. Job opportunities	Any Suggestions
2	10-31-2021 20:21:47	Manjula GK	Clerk	National college	9663462936		7th sem	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Good
3	10-31-2021 20:34:04	Anasuya K N	Teacher	Nil	886190425	reddypolu67@gmail.co	8th A	Good	Excellent	Excellent	Good	Good	Excellent	No Suggestions
4	10-31-2021 20:43:28	LAKSHMI DEVI Y	NILL	NILL	6381731351	snehaag731@gmail.com	8th SEMESTER	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	No Suggestions
5	10-31-2021 21:03:45	Venkatesh Babu P K	Business	NA	9242781278	vinayastreet165@gmail.i	Vinaya Shree P V 8th	Good	Good	Good	Good	Good	Good	Satisfied with the performance.
6	10-31-2021 21:04:52	Mohan Kumar M D	Senior Technician	BEVL	8860516741		Rahul M	Good	Good	Good	Good	Good	Good	No
7	10-31-2021 21:06:07	Rajendra prasad	Business	Nil	7760672059			Satisfactory	Good	Good	Good	Good	Good	When the students went to meet princ
8	10-31-2021 21:09:36	G Venkataramana	Business		8310209296	sraesha.gv1889@gmail.co	m B sec	Good	Excellent	Excellent	Excellent	Excellent	Excellent	Good
9	10-31-2021 21:10:36	Sumithra	-	-	7022036814	nehaan1695@gmail.com	Neha - 2021 Passed	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	-
10	10-31-2021 21:19:25	SHREEDHARA B	High School Teacher	Government	9008939670	vivekvisdy507@gmail.co	8th	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Nothing
11														

Figure 2.1.1.5: Feedback from Parents

Feedback from the Recruiters/Employers: A questionnaire is prepared by the program coordinator and is given to the recruiters during recruitment process to see whether the program outcomes and program specific outcomes are strongly or loosely attained. Figures 2.1.1.6 and 2.1.1.7 show the sample survey taken from the employers.



**SJC Institute of Technology
Chickballapur , Karnataka.**

Every education like ours must undergo a quality-assurance process known as accreditation, during which all aspects of the academic and administrative enterprise are evaluated and an external body determines whether particular standards are met.

The NBA & ISO accreditation review of our institution will take place Shortly.

As part of Accreditation, we need to collect feedback and other inputs from Esteemed Recruiters of our institution, on this regard we would like to ask you (Esteemed Recruiter) a few questions related to our institution and Students. Kindly support us and do the needful.

Email *

Your email

Company Name *

Your answer:

Employee Name *

Your answer:

Employee Designation *

Your answer:

Employee Official Email ID *

Your answer:

Employee Contact No. *

Your answer:

SJC Institute of Technology Chickballapur , Karnataka.

Questionnaire for Corporate

Read the following statements and give your feedback by selecting any one among the options

1. How do you rate our Institution ? *

☐ Excellent

☐ Good

☐ Average

2. Do our graduates meet your expectation? *

☐ Excellent

☐ Good

☐ Average

3. How well do you think the program has strengthened links between the Academic and industry? * ☐ Excellent ☐ Good ☐ Average	6. Whether our graduates are able to face the real life engineering problems and able to design feasible solutions? * ☐ Excellent ☐ Good ☐ Average
4. To what extent you are satisfied with the progress of our Graduates in professional career? * ☐ Excellent ☐ Good ☐ Average	7. Whether our students are able to carry out your assigned work with adequate managerial skills as well as communication skills? * ☐ Excellent ☐ Good ☐ Average
5. Whether our students are able to properly address various ethical, environmental and safety codes framed by your organization or by concerned public institutions? * ☐ Excellent ☐ Good ☐ Average	8. To what extent you rate the ability of our graduates to work as team members? * ☐ Excellent ☐ Good ☐ Average
9. Whether our students are able to solve your problems through required innovation and research? * ☐ Excellent ☐ Good ☐ Average	
10. To what extent you are satisfied with the progress of our Graduates in professional career? * ☐ Excellent ☐ Good ☐ Average	
SJC Institute of Technology Chickballapur , Karnataka. Identify the gap between Institution and Industry * Your answer _____ Suggestion for Improvement? (if Any) * Your answer _____ Back Submit Clear form	

Figure 2.1.1.6: Sample Survey form – Employers

Company Name	Employee Name	Employee Designation	1. How do you rate our Institution?	2. Do our graduates meet your expectation?	3. How well do you think the program has strengthened links between the Academic and industry?	4. To what extent you are satisfied with the progress of our Graduates in professional career?	5. Whether our students are able to properly address various ethical, environmental and safety codes framed by your organization or by concerned public institutions?
Tata Consultancy Services	Benjin Samuel	HR Campus Recruiter Karnataka	Good	Good	Good	Good	Excellent
Theorem India pvt. Ltd.	Gaganshri K	Executive -HR	Excellent	Excellent	Good	Excellent	Excellent
Wipro limited	Shilpi S	Campus program manager	Good	Good	Good	Good	Good
System Consultant Information India (P) Ltd.	Alexander C Varkey	CEO	Excellent	Good	Excellent	Excellent	Excellent
Preva systems Pvt ltd	Siri Acharya	Exective HR	Excellent	Good	Good	Excellent	Good
Titan company limited	Rakesh sharma G B	Manager- HR	Excellent	Excellent	Good	Good	Good

Figure 2.1.1.7: Sample responses from Employers on POs and PSOs

Feedback from Alumni: A questionnaire is prepared by the program and course coordinator and is given to the alumni. It will be done once in every year to see whether the POs and PSOs are strongly or loosely attained. Figures 2.1.1.9 to 2.1.1.12 show the sample Alumni survey 2017-2021 Batch

Questions Responses 35 Settings



SJCIT-ISE-Alumni Survey

Please provide your valuable feedback during your tenure of four years at Department of ISE, SJCIT, as a valuable student.

Email *

Valid email

This form is collecting emails. [Change settings](#)

Figure 2.1.1.8: Alumni Survey – 2017-21 Batch

How well you can identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. *

☐ Poor

☐ Good

☐ Moderately

☐ Excellently

To what extent you can design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. *

☐ Poor

☐ Good

☐ Moderately

☐ Excellently

How well you can use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. *

- ☐ Poor
- ☐ Good
- ☐ Moderately
- ☐ Excellently

To what level you can create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations *

- ☐ Poor
- ☐ Good
- ☐ Moderately
- ☐ Excellently

To what extent you can apply the knowledge of data structures, database systems, system programming, networking, web development and AI & ML techniques in engineering the software. *

- ☐ Poor
- ☐ Good
- ☐ Moderately
- ☐ Excellently

To what level you can exhibit solid foundations and advancements in developing software / hardware systems for solving contemporary problems. *

- ☐ Poor
- ☐ Good
- ☐ Moderately
- ☐ Excellently

Figure 2.1.1.9: Alumni Survey – 2017-21 Batch

Email Address	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012	PS01	PS02
gmsupriya1998@gmail.co	Yes	Poor	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
vivekicky164@gmail.com	No	Moderately	Moderately	Moderately	Moderately	Moderately	Moderately	Moderately	Poor	Moderately	Moderately	Moderately	Poor	Poor
rahulmohankumar888@g	Yes	Excellent	Good	Excellent	Good	Excellent	Excellent	Good	Excellent	Good	Good	Good	Good	Excellent
lohith_sea11@gmail.com	Yes	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
yvaralakshmi495@gmail.c	Yes	Moderately	Moderately	Moderately	Moderately	Moderately	Moderately	Excellent	Moderately	Moderately	Moderately	Moderately	Moderately	Moderately
amruthajowda27@gmail	Yes	Moderately	Good	Good	Good	Good	Moderately	Moderately	Moderately	Moderately	Moderately	Moderately	Moderately	Moderately
cpriyankaropa@gmail.co	Yes	Excellent	Moderately	Moderately	Moderately	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
kumudanandish22@gmai	Yes	Moderately	Moderately	Moderately	Moderately	Moderately	Excellent	Moderately	Moderately	Moderately	Moderately	Moderately	Excellent	Moderately
linycheeran@yahoo.com	Yes	Moderately	Excellent	Moderately	Excellent	Moderately	Moderately	Excellent	Excellent	Excellent	Moderately	Moderately	Excellent	Excellent
kavyabalegadde@gmail.c	Yes	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
iyotiegowda28@gmail.co	Yes	Good	Good	Good	Good	Good	Moderately	Moderately	Moderately	Moderately	Moderately	Good	Good	Good
nagarajpriyanka1222@g	Yes	Moderately	Moderately	Moderately	Moderately	Moderately	Moderately	Moderately	Moderately	Moderately	Moderately	Moderately	Moderately	Moderately
nithinnaidu16@gmail.com	Yes	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
chandrareddyshravani@g	Yes	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
nehasrinivas.09@gmail.co	Yes	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
sireesha.gv18699@gmail	Yes	Moderately	Good	Moderately	Moderately	Good	Good	Good	Good	Good	Moderately	Good	Moderately	Good
channabasava1098@gma	Yes	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
hemasandy29@gmail.com	Can't	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
niveditha.r.prasad47@gm	Can't	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Moderately	Good
himabindun09@gmail.co	Yes	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
manoj.19@outlook.com	Yes	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Good	Good	Good	Good	Good	Good
abhishekb17110@gmail.co	Can't	Moderately	Moderately	Moderately	Moderately	Good	Moderately	Good	Moderately	Moderately	Good	Moderately	Moderately	Moderately
manojkumarmanu1996@g	Yes	Good	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
santhoshmonika58@gma	Yes	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
sumana1998@gmail.com	Yes	Excellent	Moderately	Moderately	Moderately	Moderately	Moderately	Excellent	Excellent	Moderately	Excellent	Moderately	Moderately	Moderately
amruthamgutha@gmail.c	Yes	Good	Good	Good	Excellent	Good	Good	Good	Good	Good	Good	Good	Good	Good
mharshith235@gmail.co	Yes	Good	Moderately	Moderately	Good	Good	Excellent	Moderately	Good	Excellent	Moderately	Moderately	Excellent	Excellent
rhmonish@gmail.com	Yes	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Excellent	Good
nithyanithug98@gmail.co	Can't	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
dhanalakshmik2017@gm	Yes	Good	Good	Moderately	Good	Good	Excellent	Good	Excellent	Excellent	Good	Good	Good	Good
harshukummu206@gmail	Yes	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
chaitusowji98@gmail.co	Yes	Poor	Good	Moderately	Moderately	Moderately	Moderately	Excellent	Excellent	Moderately	Moderately	Moderately	Moderately	Moderately
1999ksarkar@gmail.com	Yes	Good	Moderately	Good	Moderately	Good	Moderately	Moderately	Good	Moderately	Moderately	Good	Moderately	Moderately

Figure 2.1.1.10: Alumni Survey – 2017 – 2021 Batch

B. List the curricular gaps for the attainment of defined POs and PSOs.

B.1 Curricular Gaps and recommended subjects to bridge Academia and Industry:

- As per the University Curriculum, basics of Object Oriented Programming are introduced in III semester. The Course Object Oriented Programming with C++ (17CS42) does not introduce the real time applications using C++. Therefore, a course on Programming skills for real time applications using C++ was identified and an adjunct faculty was assigned. That faculty took extra classes in the semester vacation

and tried to bridge the gap

- As per the University curriculum, basics of Database Management System (17CS53) are introduced in 5th semester. In today's world, Big Data Analytics is considered very relevant and therefore a course on Big Data Analytics is identified for students of 5th semester. Similarly, AI and Machine learning concepts were not there in the previous curriculum and the department has formed a Centre of Excellence in Machine Learning and motivating students to do projects/mini-projects under that banner. Special lecturers and seminars on Big Data, AI and Machine Learning were arranged.
- As per the University Curriculum, Networks and Web Programming courses are introduced in 5th Semester and 7th Semester. To bridge the gap between academics and Industry, emphasis on Internet of Things (IoT) with awareness for hardware sensors is given to students.
- As a regular practice, before the beginning of the semester, all faculty meeting will be conducted at department level to decide on the gaps in each subject. Those gaps will be listed, and actions will be planned. In the end of the semester, those gaps, actions achieved will be listed. The sample end-semester subject wise gaps and their relevance to POs is given in Table B2.1.1.4.a and Table B2.1.1.4.b

Subject wise Gaps and their relevance to POs:

Subject Code/ Scheme	Subject Name	Gap	Resource Person	Steps Taken	Date	Relevance to POs and PSOs
17PCD23	Programming in C and Data structures	Introduction to Hardware, Problem solving techniques	Mr Sateesh Chandra Reddy & Mr Abdul Khadar	1.Demo Given in the lab for Hardware 2.Handouts for Algorithm and Flowchart are given	First week of the Semester beginning	PO1, PO2, PSO1, PSO2
17CS32	Analog And Digital Electronics	1. VEM Technique 2. Explanation of Lab Components / Equipment 3. VHDL Coding 4. Simulation Tools	Mr Nagesh & Mr Abdul Khadar	1.Simplification explained 2.Lecture notes and demo given 3. Programs explained 4. Demo given	Regular practice during laboratory hours	PO1, PO3, PO5, PSO1, PSO2
17CS33	Data Structures and Applications	1. Application of Sorting and Searching Algorithms 2. Applications of Linked List	Mrs Bhanumathi & Mrs Nandini	Explanation / implementation done in theory/Lab classes	Regular practice during laboratory hours	PO1, PO2, PO3, PO12, PSO1, PSO2
17CS34	Computer Organization	RISC and CISC architecture emphasis	Mr Satheesh Chandra Reddy	Explanation / implementation done in theory	During regular classes	PO1, PO4, PO11, PSO1, PSO2
17CS35	Unix And Shell Programming	1. Introduction to various OS 2. Hands on UNIX commands, Shell programming, PERL scripts 3. Types of Editors, UNIX	Mr Nagaragu G & Mr Aravinda Thejas Chandra	Explanation / implementation done in theory/Lab classes	During regular semester classes	PO2, PO3, PO5, PSO1, PSO2

		flavours				
17CS36	Discrete Mathematical Structures	Fundamentals of Set theory, Applications to Computer Science	Mrs Nandini & Mrs Vindhya L	Extra classes on covering set theory fundamentals, Laws, operations, properties and applications	During first week of the semester	PO1, PO2, PSO1
17CS42	Object Oriented Concepts	1. Introduction to JDBC 2. IDE	Mrs Shwetha G R	1. Bridge Course Conducted 2. Eclipse IDE Usage explained	One week Early to the commencement of the semester	PO1, PO2, PO3, PO5, PSO1, PSO2
17CS43	Design and Analysis Of Algorithms	Applications of algorithms	Mrs Bhanumathi & Mr Chandrashekar J M	Demonstration through NPTEL Videos.	During the semester	PO2, PO3, PO12, PSO1
17CS44	Microprocessors and Microcontrollers	1. Overview of 8085 2. KIEL software	Mr AravindaThejas Chandra & Mr Abdul Khadar	1. Covered in introduction 2. Demo given	During the semester	PO1, PO5, PSO1, PSO2
17CS45	Software Engineering	SDLC – Case Study Software requirements application, Various SDLC models application	Mrs Susheelamma	Explanation done in theory classes	During regular semester classes	PO1, PO2, PO9, PSO1
17CS46	Data Communication	1. Connecting devices 2. Subnet, Supernet, CIDR	Mr. Nagaraju G	1.Demonstrated in Lab 2. Handouts given	During regular classes	PO1, PO2, PSO1
17CS51	Management and Entrepreneurship for IT Industry	Financial Institutes for start-ups	Mrs Susheelamm & Mr AnandTilagul	Explained in regular class	During regular classes	PO6, PO8, PO11
17CS52	Computer Networks	1. NS-2/Wireshark tool 2. Security algorithms	Mr AravindaThejas Chandra & Mr.Yogaraja GSR	Hands on provided in Lab.	During the semester	PO1, PO2, PO5, PSO1
17CS53	Database Management System	1. Connectivity using JDBC 2. Frontend tools like VB,HTML,CSS	Chandrashekar J M & Pratibha R	Demonstrated in Lab	During the semester	PO5, PO12, PSO1, PSO2
17CS553	Advanced JAVA and J2EE	Java socket programming	Mr Abdul Khadar	Demonstrated socket programming in Lab. Programs given to students.	During the semester	PO1, PO2, PO3, PO5, PO11, PSO1, PSO2
17CS562	Artificial Intelligence	Application of AI & Expert systems	DR Shrishail math.	Invited lecture delivered.	During the semester	PO2, PO3, PO12, PSO1

17CS61	Cryptography, Network Security and Cyber Law	1. Cyber security and laws awareness	Mr AravindaThejas Chandra	Notes on Indian IT act 2000 given.	During the semester	PO1, PO2, PSO1
17CS64	Operating Systems	1. Types of OS 2. Two-Process solution to solve critical section problems 3. Examples and problems in race condition	Mr AravindaThejas Chandra	1.Explained 2. Demonstrated in Lab with C programs	During the semester	PO1, PO2, PO3, PSO1
17CS651	Data Mining And Data Warehousing	Case studies	Mrs. Bhanumathi S	Group discussion in class.	During the semester	PO1, PO2, PO3, PO9, PSO1
17CS653	Operation Research	1. Sensitivity analysis 2. Decision trees	Mr. Yogaraja GSR	Materials provided	During the semester	PO1, PO2, PO3, PSO1, PSO2
17CS664	Python Application Programming	Data structure representation	Mr Badrinath & Mr Abdul Khadar	Demonstrated programs in Lab.	During the semester	PO1, PO2, PO3, PSO1
17CS71	Web Technology and Its Applications	Installation and configuration of XAMPP server	Mr AravindaThejas Chandra	Explained and provided XAMPP Manuals	During Regular Lab	PO1, PO2, PO3, PSO1, PSO2
17IS72	Software Architecture And Design Patterns	Implementation of Library System	Mrs. Bhanumathi S	Source code provided	During the semester	PO1, PO2, PO3, PSO1, PSO2
17CS73	Machine Learning	Data Science Concept	Mr. Abdul Khadar A	1. Lecture notes given 2. Assignment and lab implementation	During the semester	PO1, PO2, PO3, PO5, PO12, PSO1, PSO2
17CS743	Information and Network Security	Implementation details of Network protocols	Mr AravindaThejas Chandra	Explained with Open source code of some security protocols.	During the semester	PO1, PO2, PO3, PSO1, PSO2

Table B2.1.1.4a Subject wise Gaps and their relevance to POs (2017 Scheme)

Subject Code/ Scheme	Subject Name	Gap	Resource Person	Steps Taken	Date	Relevance to POs and PSOs
15PCD13/23	PCD	Introduction to Hardware, Problem solving techniques	Mr Sateesh Chandra Reddy & Mr Abdul Khadar	1.Demo Given in the lab for Hardware 2.Handouts for Algorithm and Flowcharts given	First week of the Semester beginning	PO1, PO2, PSO1, PSO2
15CS32	Analog And Digital Electronics	1. VEM Technique 2. Explanation of Lab Components / equipment 3. VHDL Coding 4. Simulation Tools	Mr Nagesh, & Mr Abdul Khadar	1.Simplification explained 2.Lecture notes and demo given 3. Programs explained 4. Demo given	Regular practice during laboratory hours	PO1, PO3, PO5, PSO1, PSO2

15CS33	Data Structures and Applications	1. Application of Sorting and Searching Algorithms 2. Applications of Linked List	Mrs Bhanumathi & Mrs Nandini	Explanation / implementation done in theory/Lab classes	Regular practice during laboratory hours	PO1, PO2, PO3, PO12, PSO1, PSO2
15CS34	Computer Organization	RISC and CISC architecture emphasis	Mr Sattesh Chandra Reddy	Explanation / implementation done in theory	During regular classes	PO1, PO4, PO11, PSO1, PSO2
15CS35	Unix And Shell Programing	1. Introduction to various OS 2. Hands on UNIX commands, Shell programming, PERL scripts 3. Types of Editors, UNIX flavors	Mr Nagaragu G & Mr Aravinda Thejas Chandra	Explanation / implementation done in theory/Lab classes	During regular semester classes	PO2, PO3, PO5, PSO1, PSO2
15CS36	Discrete Mathematical Structures	Fundamentals of Set theory, Applications to Computer Science	Mrs Nandini & Mrs Vindhya L	Extra classes on covering set theory fundamentals, Laws, operations, properties and applications	During first week of the semester	PO1, PO2, PSO1
15CS42	Software Engineering	SDLC – Case Study Software requirements application, Various SDLC models application	Mrs Susheelamma	Explanation done in theory classes	During regular semester classes	PO1, PO2, PO9, PSO1
15CS43	Design and Analysis Of Algorithms	Applications of algorithms	Mrs Bhanumathi & Mr Chandrashekar J M	Demonstration through NPTEL Videos.	During the semester	PO2, PO3, PO12, PSO1
15CS44	Microprocessors and Microcontrollers	1. Overview of 8085 2. KIEL software	Mr AravindaThejas Chandra & Mr Abdul Khadar	1. Covered in introduction 2. Demo given	During the semester	PO1, PO5, PSO1, PSO2
15CS45	Object Oriented Concepts	1. Introduction to JDBC 2. IDE	Mrs Shwetha G R	1. Bridge Course Conducted 2. Eclipse IDE Usage explained	One week Early to the commencement of the semester	PO1, PO2, PO3, PO5, PSO1, PSO2
15CS46	Data Communication	1. Connecting devices 2. Subnet, Supernet, CIDR	Mr. Nagaraju G	1.Demonstrated in Lab 2. Handouts given	During regular classes	PO1, PO2, PSO1
15CS51	Management And Entrepreneurship For IT Industry	1. Financial Institutes for start-ups	Mrs Susheelamm & Mr AnandTilagul	Explained in regular class	During regular classes	PO6, PO8, PO11

15CS52	Computer Networks	1. NS-2/Wireshark tool 2. Security algorithms	Mr Aravinda Thejas Chandra & Mr. Yogaraj GSR	Hands on provided in Lab.	During the semester	PO1, PO2, PO5, PSO1
15CS53	Database Management System	1. Connectivity using JDBC 2. Frontend tools like VB,HTML,CSS	Chandrashekar J M & Pratibha R	Demonstrated in Lab	During the semester	PO5, PO12, PSO1, PSO2
15CS54	Automata Theory and Computability	1. Grammar to model conversion application. 2. Usage of RE in Unix or Linux	Mrs Nandini Mr & Chandrashekar J M	Problems are explained Lecture notes given Students implemented Exercise problems	During the semester	PO1, PO2, PO5, PSO1, PSO2
15CS553	Advanced JAVA and J2EE	Java socket programming	Mr Abdul Khadar	Demonstrated socket programming in Lab. Programs given to students.	During the semester	PO1, PO2, PO3, PO5, PO11, PSO1, PSO2
15CS562	Artificial Intelligence	Application of AI & Expert systems	DR Shrishail math.	Invited lecture delivered.	During the semester	PO2, PO3, PO12, PSO1
15CS61	Cryptography, Network Security and Cyber Law	1. Cyber security and laws awareness	Mr AravindaThejas Chandra	Notes on Indian IT act 2000 given.	During the semester	PO1, PO2, PSO1
15CS64	Operating Systems	1. Types of OS 2. Two-Process solution to solve critical section problems 3. Examples and problems in race condition	Mr AravindaThejas Chandra	1.Explained 2. Demonstrated in Lab with C programs	During the semester	PO1, PO2, PO3, PSO1
15CS651	Data Mining And Data Warehousing	Case studies	Mrs. Bhanumathi S	Group discussion in class	During the semester	PO1, PO2, PO3, PO9, PSO1
15CS653	Operation Research	1. Sensitivity analysis 2. Decision trees	Mr. Yogaraja GSR	Discussed with NPTEL Videos	During the semester	PO1, PO2, PO3, PSO1, PSO2
15CS664	Python Application Programming	Data structure representation	Mr Bhadrinath & Mr Abdul Khadar	Demonstrated programs in Lab.	During the semester	PO1, PO2, PO3, PSO1
15CS71	Web Technology and Its Applications	Installation and configuration of XAMPP server	Mr Aravinda Thejas Chandra	Explained and provided XAMPP Manuals	During Regular Lab	PO1, PO2, PO3, PSO1, PSO2
15IS72	Software Architecture And Design Patterns	Implementati on of Library System	Mrs. Bhanumathi S	Demonstrated in lab.	During the semester	PO1, PO2, PO3, PSO1, PSO2
15CS73	Machine Learning	Data Science Concept	Mr. Abdul Khadar A	1. Lecture notes given	During the semester	PO1, PO2,

				2. Assignment and lab implementation		PO3, PO5, PO12, PSO1, PSO2
15CS743	Information and Network Security	Implementation details of Network protocols	Mr Aravinda Thejas Chandra	Explained with Open source code of some security protocols.	During the semester	PO1, PO2, PO3, PSO1, PSO2

Table B2.1.1.4b Subject wise Gaps and their relevance to POs (2015 Scheme)

B.2 Classification of Gaps

Based on the Table B2.1.1.4, the identified gaps are classified under for major categories:

1. Knowledge on computer languages and tools
2. Fundamental concepts
3. Advanced topics and latest trends
4. General topics.

We have consolidated the gaps in Table B2.1.1.5 under above categories and listed the actions taken along with the remedial measures.

B.3 Consolidation of Gaps and the Actions Taken:

Sl. No	Categories	Gaps	Actions Taken	Remedial Measures
1.	Languages/Tools	Simulation tools, VHDL coding, PERL scripts, KIEL, NS2/Wireshark, JDBC, PHP, Python	1.Extra classes conducted for the subjects which needed more in depth knowledge on languages /tools 2. Programs explained 3. Workshops were conducted for both students as well as faculties to get familiarity with the tools and languages 4. Making students to do some mini projects in that areas for familiarization	1. As a regular practice, all faculties meeting in the department level will happen thrice as minimum, in our department under the guidance of our HoD, ISE. a. In the beginning of the semester b. In the middle of the semester c. In the end of the semester d. In the all faculty meetings, issues like the gaps in the subjects/curriculum will be discussed elaborately. 2. The identified gaps will be listed and remedial measures will be planned. 3. In the mid-sem meeting, we will monitor the status of the remedial measures 4. Through the Head of the Department, the identified gaps will be informed to the Board of Studies. 5. Those matters will be discussed in the BOS meeting and they will be rectified in the next curriculum revision as much as possible.
2.	Fundamental Concepts	Introduction to hardware, Editors in UNIX, Fundamentals of set theory, 8085 overview, IDE, Concepts of connecting devices, Subnet, supernet and CIDR, Professional ethics, types of OS, Data structures in Python, ARM Versions	1. Extra classes allotted in the timetable itself for the subjects which needed more emphasis on the basics 2. If the concept can be explained by practical, then practical demo classes were arranged for those subjects 3. Using visual aids, simple audio or video lectures were shown to clarify the concepts 4. Early classes in the vacation time is conducted to some subjects to make the students to get familiar in the basic concepts as pre-requisite 5. Assignments and seminars were given to make the students familiar with the concepts 6. Lecture notes were provided 7. Making students to do some mini projects in that areas for familiarization 8. Encouraging students to implement some problems by themselves	
3.	Advanced Concepts	Applications for	1.Tech talks were arranged to bring subject	

	and Trends	Algorithms, Application of AI & Expert systems, Data mining and warehousing tools, UML tools, IoT, Big data, Block Chain, Machine learning, Device Mesh, User Experience, Storage area networks	experts from reputed institutions/industries 2. Workshops were conducted for both students as well as faculties to get familiarity 3. Encourage students to do internships in their vacation time to get familiar with the latest technologies 4. Emphasizing students to do their final year projects in the advanced concepts 5. Deputing faculties to attend workshops and seminars on the latest trends 6. Presented projects to KSCST to get funds for the innovative projects. This will motivate the students to learn advanced concepts and try to implement them.	6. Ex: The subjects like Python were introduced in the new revised syllabus 7. The progress as well as the final status will be discussed in the end-sem meeting 8. Stakeholder's opinion will be taken regularly to find out their expectations as well as current trends. That information will be again discussed in the staff meetings to plan for next course of action.
4.	General topics	Automated testing tools, protocols, awareness of architecture tools and implementations of them	1. Assignments were given 2. Lecture notes were provided 3. Guidance is given to students to implement these concepts in their regular course end projects	

Table B2.1.1.5: Gap Analysis and the Actions Taken

2.1.2. State the delivery details of the content beyond the syllabus for the attainment of POs and PSOs (10)

A. Delivery details of Content beyond syllabus

- Assignments on Contemporary Issues - from Library/Internet
- Additional Laboratory Experiments
- Pre-placement Training
- Training on Soft skills and Value Addition Programs
- Practicing/Mini/Creative Projects
- Guest Lectures/Technical Talks/Demonstrations
- Workshops/Conferences
- Industrial Visits and Internships

B. Mapping of content beyond Syllabus with the POs & PSOs

Tables B2.1.2.1 and B2.1.2.2 show the mapping of content beyond syllabus with POs and PSOs respectively.

POs/Activity	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Pre-placement Training	✓	✓	✓			✓	✓		✓	✓	✓	✓
Training and Soft skills		✓	✓	✓	✓	✓		✓		✓	✓	✓
Practicing/Mini/Creative projects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Guest Lectures/Technical Talks/Demonstrations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Workshops	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Industrial Visits & Internships		✓	✓	✓		✓	✓			✓	✓	✓

Table B2.1.2.1: Mapping of Content beyond Syllabus with POs

PSOs/Activity	PSO1	PSO2
Pre-placement Training	✓	✓
Training and Soft skills	✓	✓
Practicing/Mini/Creative Projects	✓	✓
Guest Lectures/Technical Talks/Demonstrations	✓	✓
Workshops	✓	✓
Industrial Visits & Internships	✓	✓

Table B2.1.2.2: Mapping of Content beyond Syllabus with PSOs

Tables B 2.1.2.3, B2.1.2.4 and B2.1.2.5 show the specific gaps and actions taken in last three years.

CAY (2020-21) Gaps and the Actions Taken during 2020 - 2021

Sl. No	Gap/Topic	Action Taken	Date-Month-Year	Resource Person with Designation	% of Students	Relevance to POs and PSOs
1	Real Time IOT projects	Workshop on “Hands on Approach on Internet of Things & its Protocols”	20/08/2020	Mr. Baba Fakruddin Ali, Asst. Prof. SSE, Technical Head, NRET Bangalore	70 Students from 8 th Semester, Participated	PO1, PO, PO3, PO5, PO7, PO10, PSO1, PSO2
2	Data storage	Lecture on “Data storage (RAID)”	10/09/2020	Miss. Prathiba R Asst. Prof. ISE, SJCIT	53 Students of 5 th Semester, Participated	PO4, PO12, PSO1
3	AWS	PPT on “Introduction to AWS”	2/10/2020	Mr. Sabin TT Asst. Prof. ISE, SJCIT	25 Students of 7 th Semester, Participated	PO1, PO2, PSO3, PO12 PSO2
4	Entrepreneurs	Lecture on “Case Study on Entrepreneurs”	22/10/2020	Miss. Prathiba R Asst. Prof. ISE, SJCIT	50 Students of 5 th Semester, Participated	PO4, PSO1, PSO2
5	Applications on IOT	Lecture on “Internet of Things, next generation Internet”	05/11/2020	Mr. Yogaraja G S R Asst. Prof. ISE, SJCIT	53 Students of 5 th Semester, Participated	PO1, PO5, PO12
6	Text Classifier real time examples	Discussion on “Text classification using naïve bayes classifier.”	12/11/2020	Mr. Chandra Shekhar J M Asst. Prof. ISE, SJCIT	60 Students of 7 th Semester, Participated	PO3, PO4
7	JDBC Connectivity	Lecture on “JDBC-ODBC connectivity”	15/12/2020	Dr. Vijay G R Asst. Prof. ISE, SJCIT	51 Students of 5 th Semester, Participated	PO4, PSO1
8	Real time Computation theory	Lecture on “Application of the theory of computations with real time examples.”	18/12/2020	Mrs. Nandini S Asst. Prof. ISE, SJCIT	50 Students of 5 th Semester, Participated	PO1, PO2, PO3, PO4
9	AWS Services	PPT on “How to create an AWS account and get various services”	24/12/2020	Mr. Sabin TT Asst. Prof. ISE, SJCIT	25 Students of 7 th Semester, Participated	PO1, PO2, PSO3, PO12 PSO2
10	Quantum Computation	Lecture on “Quantum computation working mechanism”	04/01/2021	Mr. Chandra Shekhar J M Asst. Prof. ISE, SJCIT	49 Students of 5 th Semester, Participated	PO1, PO2
11	Data Transferring	Lecture on “Data Transfer and Manipulation”	14/01/2021	Dr. Vijay G R Asst. Prof. ISE, SJCIT	62 Students of 3 rd Semester, Participated	PSO1, PO1
12	Mobile Pages	Lecture on “Accelerated Mobile Pages”	19/01/2021	Mrs. Susheelamma K H Asst. Prof. ISE, SJCIT	56 Students of 7 th Semester, Participated	PO1, PSO2
13	Working model of Comparator	Demonstration of Working model on 2bit Comparator	17/02/2021	Mr. Nagesh.R Asst. Prof. ISE, SJCIT	60 Students of 3 rd Semester, Participated	PO5, PO12, PSO1, PSO2

14	Android Application Development	Workshop on “Android Mobile Application Development”	18/04/2021 to 20/04/2021	Nitin Kumar, VVCE Mysore and Veerendra Patil from Industry	12 Students with faculty from other colleges participated	PO3, PO5, PO7, PS09, PO10, PO12, PO11, PSO1, PSO2
15	Cross Platform Mobile Application Development	Webinar on “Cross Platform Mobile Application Development”	4/05/2021	Deepak garg, GNS Technologies, Bangalore	98 Students form 8 th Semester, Participated	PO3, PO5, PO7, PS09, PO10, PO12, PO11, PSO1, PSO2
16	Innovative Project Development	Online Boot Camp	24/05/2021	NAIN- New Age Innovation Network	150 Students from 45 th , 6 th and 8 th Semester, Participated	PO3, PO5, PO7, PS09, PO10, PO12, PO11, PSO1, PSO2
17	Orientation on Real time internships	Webinar on “Industrial Skill Development & Internship Program”	29/05/2021	Nithin, Tech Lead Tequed Labs, Bangalore	75 Students from 8 th Semester, Participated	PO3, PO5, PO7, PS09, PO10, PO12, PO11, PSO1, PSO2
18	Introduction to ARDUINO	PPT presentation on “Introduction about ARDUINO platform”	22/07/2021, 30/07/2021	Mr. Sabin TT & Mr. Abdul Khadar A	100 Students of 4 th Semester, Participated	PO1, PO2, PO3, PO12, PSO2

Table B 2.1.2.3: Gaps and the Actions Taken during 2017 – 2021**CAYm1 (2019-20) Gaps and the Actions Taken during 2019 - 2020**

Sl. No	Gap/Topic	Action Taken	Date-Month-Year	Resource Person with Designation	%of Students	Relevance to POs and PSOs
1	Big Data	Lecture on “Big Data”	5/8/2019	Miss. Prathiba R	58 Students of 5 th Semester, Participated	PSO1
2	Types of networks	Lecture on “LAN, WAN, MAN”	28/08/2019	Mr. Yogaraja G S R	60 Students of 5 th Semester, Participated	PO1, PO4, PO12
3	Practical Programming	Lecture on “Real time Problems”	23/8/2019	Mrs. Nandini S	49 Students of 3 rd Semester, Participated	PSO1, PO1, PO2
4	Software Ethics	Lecture on “software Ethics”	26/08/2019	Mr. Chethan HV	50 Students of 5 th Semester, Participated	PO1, PO5
5	Additional Programming Examples	Lecture using blackboard on “Programming Examples”	19/9/2019	Mrs. Bhanumathi S	60 Students of 3 rd Semester, Participated	PSO1, PO1, PO2
6	Practical Approach using PL-SQL	Discussion on “Practical approach to	09/10/2019	Mr. Chandra Shekhar J M	60 Students of 5 th Semester, Participated	PO3, PO4

		Implement procedures in PL-SQL.”				
7	Applet Programming	Chalk & Board Discussion on “Drawing graphics in applets”	22/10/2019	Mrs. Nandini S	54 students of 5 th Semester, Participated	PO1, PO2, PO3, PO4
8	Technical Report Writing	Lecture on “To Prepare a report by taking general example.”	23/10/2019	Mr. Chethan HV	50 Students of 5 th Semester, Participated	PO1, PO3, PO12
9	Real Time Software Architecture	Lecture using blackboard on “Program on Library System”	31/10/2019	Mrs. Bhanumathi S	50 Students of 7 th Semester, Participated	PSO1, PO2
10	Quantum Computation	Lecture on “Quantum computation working mechanism”	31/10/2019	Mr.Chandra Shekhar J M	60 students of 5 th Semester, Participated	PO1, PO2
11	Logic Building	Lecture with practical demonstration in laboratory	1/11/2019, 2/11/2019	Mr.Abdul Kadar A	90 Students of 3 rd Semester, Participated	PSO1, PO1, PO2, PO3
12	Network Programming using Java	Lecture on “UDP socket programming”	18/11/2019	Mrs. Shwetha G R	52 Students of 5 th Semester, Participated	PSO1, PO1, PO3
13	Blockchain	Lecture on “Blockchain with Web Development”	20/11/2019	Mrs. Susheelamma K H	40 Students of 7 th Semester, Participated	PO1, PSO2
14	Quality Management	Lecture on “Total Quality Management”	22/11/2019	Mrs. Susheelamma K H	60 Students of 5 th Semester, Participated	PO1, PSO2
15	Data Science	Hands-on Extra Lab on “Introduction to Data Science using Python”	29/11/2019	Mr. Abdul Khadar A	60 Students of 7 th Semester, Participated	PO5, PSO1, PSO2

16	Convolutional Neural Networks	Lecture using Chalk & Board on “Convolutional Neural Network”	3/12/2019	Mr. Abdul Khadar A	60 Students of 7 th Semester, Participated	PO1, PO4
17	Web Scrapping	Lecture on “Chalk and talk”, InFy TQ Videos provided	7/2/2020 11/2/2020 14/2/2020 18/2/2020	Mr. Anand Tilagul	50 Students of 5 th Semester, Participated	PO1, PO2, PO3, PO4, PO5
18	Large Cloud Storage	Lecture on “Cloud storage for large data”	18/02/2020	Mr. Yogaraja G S R	30 Students of 8 th Semester, Participated	PO2, PO3, PO5
19	Usage of DM & TM	Lecture on “Usage of DM, TM in real life”	03/03/2020	Mr. Yogaraja G S R	30 Students of 8 th Semester, Participated	PO2, PO11, PO12
20	Greedy Technologies	Lecture on “Real-time applications of Greedy method”	10/3/2020	Mrs. Bhanumathi S	60 students of 4 th Semester, Participated	PO1, PO2
21	Introduction on working of Sensors	Lecture on “Given idea how Sensor works in Car.”	23/03/2020	Mr. Chethan H V	35 Students of 8 th Semester, Participated	PO1, PO4, PO5, PO11
22	Technical talk on “Block chain technologies”	PPT was shared	21/07/ 2020	Mr. Raghavendra Kulkarni, Vice President, Agasthya Technologies, Bangalore	64 students from 8 th Semester, Participated	PO1, PO2, PO3, PO5, PO7, PO10, PSO1, PSO2

Table B 2.1.2.4: Gaps and the Actions Taken during 2016 - 2020

CAYm1 (2018-19) Gaps and the Actions Taken during 2018 – 2019

Sl. No.	Gap/Topic	Action Taken	Date Month-Year	Resource Person with Designation	%of Students	Relevance to POs and PSOs
1	Security Attacks	Lecture on “Security Attacks”	06/08/2018	Mr. Yogaraja G S R Asst Prof, ISE, SJCIT	62 Students of 5 th Semester, Participated	PO1, PO5
2	Cyber law	Chalk and talk on Cyber Law	31/8/201, 7/9/2018	Mrs. Susheelamma K H Asst Prof, ISE, SJCIT	65 students from 7 th Semester, Participated	PO6, PO7, PO8
3	Entrepreneurs	Discussion on “About successful entrepreneurs examples”	28/9/2018, 12/10/2018 5/11/2018	Mrs. Susheelamma K H Asst Prof, ISE, SJCIT	65 students from 7 th Semester, Participated	PO6, PO7, PO8
4	Big Data	Lecture on “Challenges in Big Data”	2/11/2018	Mr. Yogaraja G S R Asst Prof, ISE, SJCIT	62 Students of 5 th Semester, Participated	PO1, PO8, PO12
5	Convolutional Neural Network	Chalk & Board	28/11/2018	Abdul Khadar A	62 Students of 7 th Semester, Participated	PO1, PO4
6	Introduction to Data Science using Python	Hands-on Extra Lab	29/11/2018	Abdul Khadar A	62 Students of 7 th Semester, Participated	PO5, PSO1, PSO2
7	Hands on Training on “DevOps”	PPT was shared and Developed GitHub Data	2/3/2019 to 14/4/2019	Mr Shivakumar Tech Lead, Robert Bosch	Total 30 students of 6 th Semester, Participated	PO1, PO2, PO3, PO5, PO7, PO10, PO12, PO11, PSO1, PSO2
8	Smart Stick for Blind people using Arduino Microcontroller	Project demonstration	8/5/2019	Nagesh.R	20 Students from 8 th Semester, Participated	PO5, PO12, PO9, PSO1, PSO2
9	Hands on Training on “Full Stack Development”	PPT was shared and Developed GitHub Data	5/10/2019 to 15/11/2019	Mr. Sanjay & Mr Bharath Tech Lead, InterOne pvt ltd	Total 20 students of 6 th Semester, Participated	PO1, PO2, PO3, PO5, PO7, PO10, PO12, PO11, PSO1, PSO2
10	Invited Lecture on “Artificial Intelligence”	PPT was shared	23/11/ 2019	Dr. Shrishail Math, Prof, CSE, KIT, Bengaluru	65 Students of 7 th Semester, Participated	PO1, PO2, PO3, PO5, PO7, PO10, PSO1, PSO2

Table B 2.1.2.5: Gaps and the Actions Taken during 2015 – 2019

C. On-Campus Skill Development Courses Conducted by External Professional Trainers:

Table B 2.1.2.6 gives the on-campus skill development courses conducted by external professional trainers.

Skill Development Courses	Trainers
Soft Skills	ZesTech/Seventh Sense/Universal Education
Aptitude -Fundamentals	
Aptitude - Advanced	

Table B 2.1.2.6: On-Campus Skill Development Courses by External Professional Trainers

D. On-Campus Skill Development Courses Conducted by Internal Faculty

Table B 2.1.2.7 shows the skill development courses offered by in-house faculty members.

Sl. No	Skill development courses	Faculty Members
1	J2EE Wipro Certification	Prof Abdul Khadar A
2	J2EE Wipro Certification	Prof Abdul Khadar A
3	Infosys InfyTQ Python certification	Prof Badrinath K and Prof Anand Tilagul
4	J2EE Wipro Certification	Prof Abdul Khadar A
5	Infosys InfyTQ Python certification	Prof Badrinath,KProf Anand Tilagul and Prof Abdul Khadar A
6	Logic Building through C programming and Data Structures(C&DS)	Prof Abdul Khadar A and Prof Badrinath K
7	Logic Building through C programming and Data Structures(C&DS)	Prof Abdul Khadar A

Table B 2.1.2.7: Skill Development Courses Offered by In-House Faculties

2.2. Teaching - Learning Processes (100)

2.2.1. Describe Processes followed to improve quality of Teaching & Learning (25)

Teaching Learning Process:

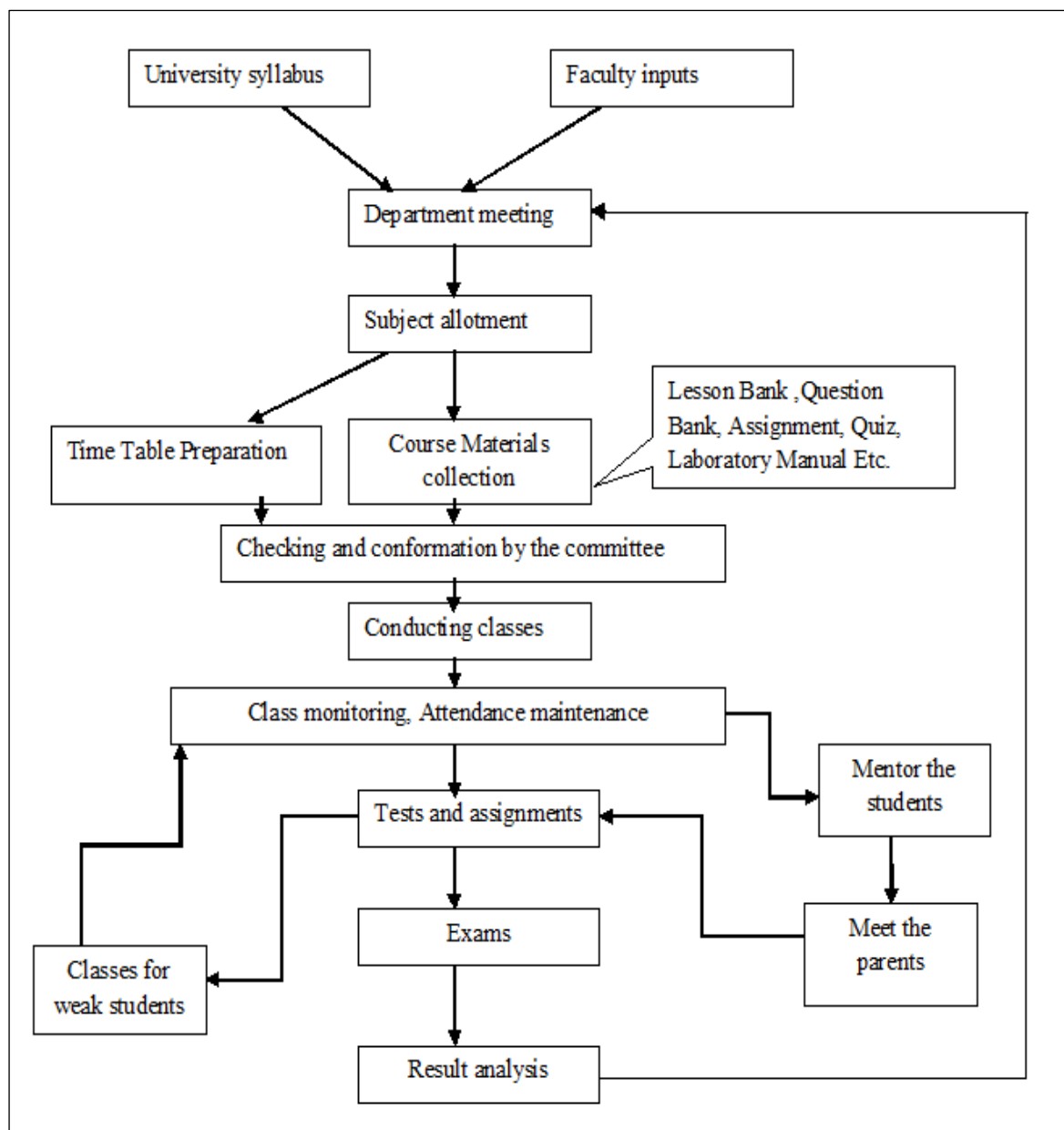


Figure 2.2.1.1: Teaching Learning Process

Figure 2.2.1.1 describes the sequence of events and steps followed in Teaching Learning Process. Figure 2.2.1.2 shows the teaching aids in learning process.

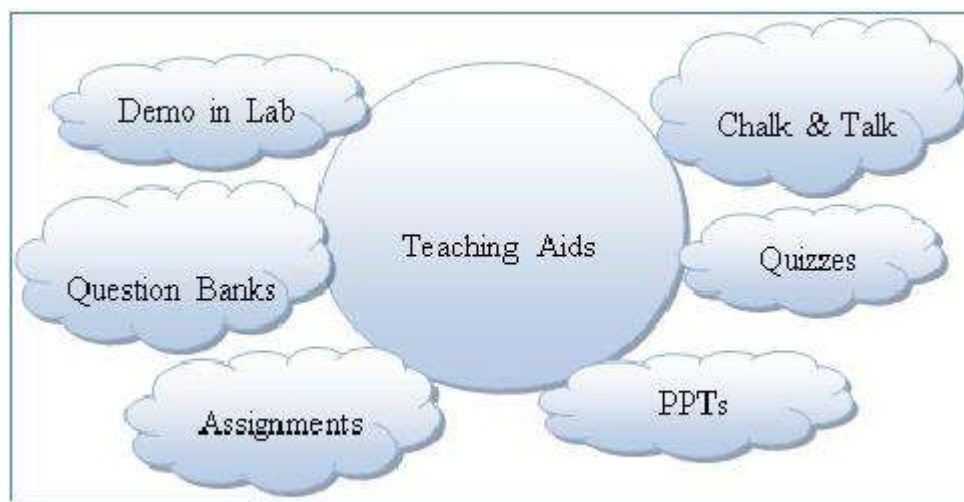


Figure 2.2.1.2: Teaching Aids

2.2.1.1 Adherence to Academic Calendar (Institute and Department calendar)

Institutional Calendar has been prepared every semester in line with the University academic calendar. It contains the events of the University and the events of the Institute which are useful in overall development of the students. For example, soft skill development program, necessary for training and placement of students, is a part of our academic calendar. During this event, in addition to soft skill development, emphasis is also given on personality development of the students so that they become employable. We follow the institutional academic calendar in total. Our management and higher-ups always adhere to the academic calendar.

Features of Academic Calendar:

The SJCIT's Calendar of Events is prominently displayed on all notice boards and distributed to students at the beginning of the semester. The academic calendar prepared defines the schedule for various activities such as:

- Commencement and Closure of Classes
- Orientation Program schedules
- List of Holidays (as announced by Karnataka State)
- Internal Assessment (IA) Test Schedule
- Project Presentation/Open House/Assignment Submission/Seminars/ Personality Development Program
- Techno-cultural / Sports events, etc.
- Technical talks
- Final Internal Lab Assessment /Test
- Dispatch of Progress Reports to Parents
- Based on the information provided by 1 and 2 schedules listed above, teachers estimate number of classes available during the semester and appropriately prepare the lesson plan.

- The planning and organizing of various co-curricular and extracurricular activities and festivals like- Independence Day, Republic Day, Rajyostava, Ganesha Chaturthi, Ayudha Pooja, Ramanavami, etc. are celebrated by the college, by involving staff, student cultural bodies.
- The schedule and conduction of Internal Assessments by all the departments will be as per the calendar of events. Three tests are planned in each semester: the first test is planned six weeks after the commencement of classes, second test during the tenth week and the third being towards the end of the semester.
- Final Lab Assessment Week is scheduled in the College Calendar of Events, whereas the Cycle-wise Lab tests are scheduled at the department level.
- Minor changes in the calendar of events are informed through Circulars to all Departments.

Department Calendar of Events is prepared in line with the Institution Calendar of Events. This includes events like technical talks to augment the subject knowledge, Orientation programme schedule, class teachers meet, counsellor's meet schedule, progress report review meet schedule, monitoring bright students and weak students, logic building sessions, workshops for enhancing the fundamentals in advanced concepts like Machine Learning, IoT etc., practicing projects schedule, mini and main project work schedule, departmental test schedule, lab tests schedule etc.,

Figures 2.2.1.3 and 2.2.1.4 show the sample University Calendar of Events. Figures 2.2.1.5 and 2.2.1.6 show the sample Calendar of Events of the department and the Institute respectively.

University Calendar of Events:

 **Revised-Academic Calendar of EVEN semesters of UG Programmes for 2020-2021**

Semesters	IV semester B.E./B.Tech.	IV semester B.Arch./ B.Plan.	VI semester B.E./B.Tech.	VI semester B.Plan./B.Arch	VIII semester B.E./B.Tech.	VIII semester B.Plan.	VIII semester B.Arch
EVENTS							
Commencement of EVEN Semester	19.04.2021	19.04.2021	19.04.2021	19.04.2021	19.04.2021	19.04.2021	19.04.2021
Last Working day of EVEN Semester	07.08.2021	07.08.2021	07.08.2021	07.08.2021	#20.07.2021	#20.07.2021	07.08.2021
Practical Examinations	09.08.2021 To 19.08.2021	09.08.2021 To 19.08.2021	09.08.2021 To 19.08.2021	---	---	---	---
Theory Examinations	23.08.2021 To 09.09.2021	23.08.2021 To 09.09.2021	23.08.2021 To 09.09.2021	10.08.2021 To 31.08.2021	22.07.2021 To 30.07.2021	22.07.2021 To 30.07.2021	10.08.2021 To 17.08.2021
Internship	---	---	---	---	---	---	---
Internship Viva-Voce/ Project Viva-Voce	---	---	---	---	02.08.2021 To 06.08.2021	---	---
Professional training / Organization study	---	---	---	---	---	---	---
Commencement of ODD Semester	13.09.2021	13.09.2021	13.09.2021	13.09.2021	---	---	23.08.2021

- The classroom sessions for even the semester should commence from the dates mentioned above.
- The Institute needs to function for six days a week with additional hours (Saturday is a full working day). #if required the college can plan to have extra classes even on Sundays also.
- If any of the above dates are declared to be a holiday then the corresponding event will come into effect on the next working day.
- Notification regarding the Calendar of Events relating to the conduct of University Examinations will be issued by the Registrar (Evaluation) from time to time.
- The faculty/staff shall be available to undertake any work assigned by the university.
- Academic Calendar may be modified based on guidelines/directions issued in the future by MHRD/UGC/AICTE/State Government.
- Revised Academic Calendar is also applicable for **Autonomous Colleges**. In case if any changes are to be affected by Autonomous Colleges in the academic terms and examination schedule, they could do so with the approval of the University.


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Figure 2.2.1.3: University Calendar of Events (Apr 2021 – Aug 2021)

Revised Academic Calendar of VTU, Belagavi for ODD Semester of 2020-21 (Tentative)

	I Sem B. E. / B. Tech. / B. Arch./B. Plan	I sem M.Tech./MBA /MCA/M.Arch.	III, V B. E. /B. Tech./B. Plan/ B.Arch. & VII sem BPlan /BArch & IX Sem B. Arch.	VII Sem B. E. /B. Tech	III & V Sem MCA	III Sem MBA	III Sem M. Tech.	III Sem M. Arch.
Commencement of ODD Semester	14.12.2020	Will be announced later	01.09.2020	01.09.2020	01.09.2020	01.09.2020	01.09.2020	01.09.2020
Last Working day of ODD Semester	25.03.2021		16.01.2021	16.01.2021	16.01.2021	16.01.2021	16.01.2021	16.01.2021
Practical Examinations	29.03.2021 Onwards#		21.01.2021 Onwards#	21.01.2021 Onwards#	08.02.2021 Onwards#	--	21.01.2021 Onwards#	--
Theory Examinations	12.04.2021 To 30.04.2021		08.02.2021 To 27.03.2021	08.02.2021 To 27.03.2021	21.01.2021 To 06.02.2021	21.01.2021 To 19.02.2021	28.01.2021 To 13.02.2021	21.01.2021 To 06.02.2021
Internship			---	29.03.2021 To 10.04.2021	---	---	---	---
Internship Viva- Voce			---	---	---	---	15.02.2021 To 22.02.2021	---
Professional training / Organization study			---	---	---	22.02.2021 To 03.04.2021	---	---
Commencement of EVEN Semester	03.05.2021		29.03.2021	12.04.2021	15.02.2021	05.04.2021	23.02.2021	08.02.2021

- NOTE:**
- VII Semester B. E. / B. Tech. students shall have to undergo **Internship** as per circular of University VTU/Aca/2019-20/85, dated 12.05.2020.
 - I Semester B. E/ B. Tech / B. Arch Students shall compulsorily undergo **Induction Program** for 01 Weeks.
 - The classroom sessions for all the semesters would be in **ONLINE mode/blended mode** until further orders.
 - The Institute needs to function for **six days** a week with additional hours (**Saturday is a full working day**).
 - The faculty/staff shall be available to undertake any work assigned by the university.
 - If any of the above dates are declared to be a holiday then the corresponding event will come into effect on the next working day.
 - (#) Notification regarding the Calendar of Events relating to the conduct of **University Examinations** will be issued by the Registrar (Evaluation) from time to time.
 - Academic Calendar may be modified based on guidelines/directions issued in the future by MHRD/UGC/AICTE/State Government.
 - Revised Academic Calendar is also applicable for **Autonomous Colleges**.
 - The MBA students are permitted to carry out **project work** in blended mode (ONLINE/OFFLINE). More emphasis on OFFLINE mode wherever feasible.

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2.2.1.4: University Calendar of Events (Sep 2020 – Mar 2021)

Academic calendar of events of Institute for ODD semester 2021:

 S.J.C. Institute of Technology, Chickballapur CALENDAR OF EVENTS FOR THE ACADEMIC YEAR 2020-2021 (ODD SEMESTER) FOR B.E, MBA & M.Tech Accredited by NBA (ECE, ME & CSE) & NAAC and QS – I Gauge (Gold Rating)											
Week No.	Month	Week Days							EVENTS		
		Mon	Tue	Wed	Thu	Fri	Sat	Sun			
1.	SEP	31	1	2	3	4	5	6	31 st AUG – Staff Council Meeting, 1 st SEP – Commencement of Classes for III, V, VII BE, III M.Tech & MBA Students		
2.	SEP	7	8	9	10	11	12	13	2 nd SEP – HODs Meeting, 3 rd SEP – Class Teachers and Proctors meeting		
3.	SEP	14	15	16	17	18	19	20	12 th SEP – Mahalaya Amavasya		
4.	SEP	21	22	23	24	25	26	27	21 st to 30 th SEP – Organization Study Viva Voce Exam		
5.	SEP/OCT	28	29	30	1	2	3	4	2 nd OCT – Gandhi Jayanthi, 1 st to 5 th OCT – Tutorial I		
6.	OCT	5	6	7	8	9	10	11	9 th to 12 th OCT – Continuous Internal Evaluation I, 6 th OCT – Announcement of Attendance IA – I, 7 th OCT – HODs Meeting		
7.	OCT	12	13	14	15	16	17	18	15 th to 17 th OCT – VII Sem BE Project Phase I Review I		
8.	OCT	19	20	21	22	23	24	25	20 th OCT – Submission of CIE – I Marks, 23 rd OCT – Progress Report Dispatch CIE – I, 25 th OCT – Mahanavami, Ayudha Pooja		
9.	OCT/NOV	26	27	28	29	30	31	1	26 th OCT – Vijaya Dashami, 30 th OCT – Eid Mited, 31 st OCT – Maharshi Valmiki Jayanthi, 1 st NOV – Kannada Rajyotsava		
10.	NOV	2	3	4	5	6	7	8	28 th OCT – Class Teachers and Proctors meeting		
11.	NOV	9	10	11	12	13	14	15	2 nd to 5 th NOV – Tutorial II, 4 th NOV – Announcement of Attendance CIE – II, 4 th NOV – HODs Meeting		
12.	NOV	16	17	18	19	20	21	22	6 th to 9 th NOV – CIE II		
13.	NOV	23	24	25	26	27	28	29	14 th NOV – Naraka Chaturdashi		
14.	NOV/DEC	30	1	2	3	4	5	6	16 th NOV – Balipadyami, 17 th NOV – Submission of CIE – II Marks, 20 th NOV – Progress Report Dispatch CIE – II		
15.	DEC	7	8	9	10	11	12	13	26 th to 28 th NOV – VII Sem BE Project Phase I Review II		
16.	DEC	14	15	16	17	18	19	20	2 nd DEC – Announcement of Attendance IA – II, 2 nd DEC – HODs Meeting, 3 rd DEC – Kanakadasa Jayanthi		
17.	DEC	21	22	23	24	25	26	27	30 th to 2 nd DEC – Tutorial III, 4 th to 7 th DEC – CIE III, 2 nd DEC – Class Teachers and Proctors meeting		
18.	DEC/JAN	28	29	30	31	1	2	3	8 th to 12 th – Internal Lab Assessment		
19.	JAN	4	5	6	7	8	9	10	15 th DEC – Submission of CIE – III Marks, 16 th DEC – Progress Report Dispatch IA – III		
20.	JAN	11	12	13	14	15	16	17	16 th DEC – Class Teachers and Proctors Meeting		
21.	JAN	18	19	20	21	22	23	24	17 th DEC – Last working Day for III, V, VII BE, III M.Tech & MBA Students		
22.	JAN	25	26	27	28	29	30	31	21 st to 31 st DEC – Practical Exam for III, V, VII BE Students & III M.Tech students, 25 th DEC – Christmas		
27 th July 2020 – Commencement of ODD Semester BE, 3 rd Semester MBA / 3 rd August – Commencement of ODD Semester for III Semester M.Tech									4 th to 23 rd JAN – Theory Exams for III, V, VII BE, III M.Tech & MBA Students		
Note: VII Semester B. E students shall have to undergo Internship for a period of four Weeks									25 th JAN to 8 th FEB – Project Viva Voce		
VISION: SJCIT is Committed to Quality Education, Training and Research									VISION: Augmenting the supply of Competent Engineers and Managers • Building Engineers and Managers with Values, Vision and Versatility • Developing and Disseminating New Knowledge and Insights.		
Dr. B. Rangaswatha Academic Incharge									Dr. K M Radhikumar Principal		
MEETINGS: Orange									HOLIDAYS: Red		
									TEST & PROJECT REVIEWS: Blue		

Figure 2.2.1.5 Academic Calendar of Events of Institute for ODD semester

S J C INSTITUTE OF TECHNOLOGY – DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING
Calendar of Events of Even Semester B.E 2020-21

Week No	SUN	MON	TUE	WED	THUR	FRI	SAT
W 01	APR 18	APR 19	APR 20	APR 21	APR 22	APR 23	APR 24
W 02	APR 25	APR 26	APR 27	APR 28	APR 29	APR 30	MAY 01
W 03	MAY 02	MAY 03	MAY 04 Webinar – Cross Platform Mobile Application Development – GNS Tech	MAY 05	MAY 06 Webinar-Industrial Skill Development & Internship Program – Tequed Labs	MAY 07	MAY 08
W 04	MAY 09	MAY 10	MAY 11	MAY 12	MAY 13	MAY 14	MAY 15
W 05	MAY 16	MAY 17	MAY 18	MAY 19	MAY 20	MAY 21	MAY 22
W 06	MAY 23	MAY 24 Online Boot Camp - NAIN	MAY 25	MAY 26	MAY 27	MAY 28 Test 1 – Online Mode	MAY 29
W 07	MAY 30	MAY 31	JUN 01	JUN 02	JUN 03	JUN 04 Mid Sem Student Feedback	JUN 05
W 08	JUN 06	JUN 07	JUN 08	JUN 09	JUN 10	JUN 11	JUN 12
W 09	JUN 13	JUN 14	JUN 15	JUN 16	JUN 17	JUN 18	JUN 19
W 10	JUN 20	JUN 21	JUN 22	JUN 23	JUN 24	JUN 25	JUN 26
W 11	JUN 27	JUN 28 Mock LIC Documentation Verification	JUN 29	JUN 30	JUL 01	JUL 02	JUL 03
W 12	JUL 04	JUL 05	JUL 06	JUL 07	JUL 08	JUL 09	JUL 10
W 13	JUL 11	JUL 12	JUL 13	JUL 14	JUL 15	JUL 16	JUL 17 Webinar – Seeding Dominant Knowledge in Academia – Manoj Kumar Lal
W 14	JUL 18	JUL 19	JUL 20	JUL 21	JUL 22	JUL 23	JUL 24
W 15	JUL 25	JUL 26	JUL 27	JUL 28	JUL 29	JUL 30	JUL 31
W 16	AUG 01	AUG 02	AUG 03	AUG 04	AUG 05	AUG 06	AUG 07
W 17	AUG 08	AUG 09 Project Report Submission Farewell function for Final Year Students	AUG 10	AUG 11	AUG 12	AUG 13	AUG 14

Figure 2.2.1.6 Department Calendar of Events for Even Semester

2.2.1.2 Initiatives to improve Instruction Methods to focus on Student Centric Learning

Classroom Teaching:

The lecture delivery by the faculty is through a set of educational technology/tools such as

- Chalk and Talk - Lecturing is done using green/black board.
- Power Point Presentation (PPT).
- Demonstration in Lab
- Usage of Charts & Models
- Assignments, Question bank and Quiz



Figure 2.2.1.7: Class Room (Chalk and talk) Teaching



Figure 2.2.1.8: Students practicing experiments in regular laboratory sessions.

- **Creative thinking to enhance student learning**

Students are assigned to design a project and its plan of work so that they can focus on developing creativity and build up confidence through hands-on projects.

- **Focused group study**

Students are divided into specific groups and are assigned specific topics related to curricular learning. These groups study the topics in detail through library books, internet, and library journals. Thereafter, the topics are presented as Seminars in the classroom in front of panel of faculties as well as their peer classmates. This will make the students confident by having healthy discussions on their topic and the students can present their topics as paper in National or International conferences, if possible.

- **Interactive classrooms**

With the help of laptop and projector, the contents from the syllabus are explained to the students. The students thereafter are given a battery of questions to be answered on spot which facilitates better learning and understanding of the topic being taught.

- **Simulation classes and labs**

Topics are explained to students in class rooms with e-content in the form of animation and working pictures from YouTube to make them understand more clearly about the concepts and mechanisms and their application in real life.

- **ICT usage**

Students are provided with knowledge and proficiency in the usage of ICTs. These ICTs enable both teachers and students to effectively involve in teaching learning process. Special training is offered to the students in the lab using ICTs on regular basis. Figure 2.2.1.9 shows the usage of ICT in one of the interactive sessions.



Figure 2.2.1.9: Interactive session with projector and audio system

- **Problem based learning: Student-directed learning**

Attempts are made to create excitement in the classroom through posing problems related to the topic and finding solutions thereby presenting and learning the topic, which ensures students do more than listening through active participation.

- **Teaching by subject experts**

Attempts are made to bring the best teacher in each subject from either Industries or reputed Institutions. They will cover either the portion in the syllabus which the students were in need of more clarity or will cover the portions beyond the curriculum mentioned by the Syllabus. This will help the students to understand the subject in depth.

- **Maintenance of Course files:**

For each course, a course file is prepared by the concerned faculty. The course file consists of following items.

- a. Teaching plan:**

The department envisages on developing and deploying Teaching plan for each of the subjects. This involves:

- Preparation of lesson plan covering the entire prescribed syllabus
- Development of study material in various formats (.doc, .pdf, .ppt, etc.)
- Discussion with senior faculty for selection of the appropriate teaching Methodology for every module: say using black board for initial introduction and concept presentation, short video / slide presentations for advanced concept presentation, etc.
- Conceptualizing the current trends by announcing themes / topics for seminars and related aspects well in advance.
- Collection and preparation of solution for at least three previous years VTU question papers.
- Preparation of a question bank for both theory and lab.
- Setting of model question papers in case of non-availability of previous university question paper – as in case of syllabus revision.
- Assignment Questions for practice of the current problems (in Maths, C Programming, etc.) and revision of the completed chapters (say in Process Instrumentation, Analytical Instrumentation, etc.).
- The distribution of the course material including the question bank among the students will be done during the semester.
- Lesson plans, course files and work diaries are maintained by each faculty for their respective courses and are reviewed periodically by HoD.
- The periodic meetings of Class Teachers, Class representatives, Course Coordinators and HoD help in taking suitable measures for the effective implementation of the academic process. The proceedings of the meetings are recorded.
- Members of IQAC consisting of Director, Principal, Dean (Academics) and concerned HoD are entrusted with the responsibility of carrying out the academic audit of the faculty members with regard to their capabilities, preparation and

performance. The academic audit is structured in a systematic and scientific way to review the academic system for improvement of quality. It is a faculty-driven model of ongoing self-reflection (introspection), peer feedback, collaboration and teamwork based on structured conversation to improve quality in teaching and learning.

- The proforma of the presentation is designed to capture not only the adequacy and competence of the faculty, but also helps to evaluate the efficiency of the techniques used in the Teaching-Learning process and also to provide suggestions for the professional development of the faculty leading to an improvement in the teaching-learning process.

b. The Course Objectives are defined for each course in line with the POs.

c. Lesson Plan: Lesson plan is prepared for each course by the faculty before the commencement of the semester and it is duly approved after a thorough scrutiny by the HoD. The lesson plan encompasses the learning outcomes and the assessment of outcomes. Figures 2.2.1.10 to 2.2.1.12 shows the sample lesson plan with COs and CO-PO matrix, Module wise content coverage, textbooks and references etc.,



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Department of Information Science & Engineering

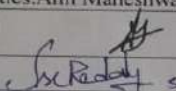
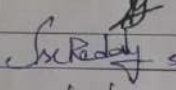
LESSON PLAN

SUBJECT TITLE	Big Data Analytics		
SUBJECT TYPE	CORE		
SUBJECT CODE	17CS82		
ACADEMIC YEAR	2021 (EVEN SEMESTER)	BATCH	2018-2021
SCHEME	CBCS scheme (Effective from the academic year 2020 -2021)		
SEMESTER & SECTION	8 th Sem. 'B' Section		
IA MARKS	40	EXAM MARKS	100
NUMBER OF LECTURE HOURS/WEEK	4	TOTAL NUMBER OF LECTURE HOURS	50
FACULTY NAME	YOGARAJA GSR	NO. OF TIMES HANDLED	3 rd time
COURSE LEARNING OBJECTIVES: This course will enable students to			
1. Understand Hadoop Distributed File system and examine MapReduce Programming			
2. Explore Hadoop tools and manage Hadoop with Ambari			
3. Appraise the role of Business intelligence and its applications across industries			
4. Assess core data mining techniques for data analytics			
5. Identify various Text Mining techniques			
Course Outcomes: At the end of this course, students are able to:			
CO1	Master the concepts of HDFS and MapReduce Framework.		
CO2	Investigate Hadoop related tools for Big Data Analytics and perform basic Hadoop Administration.		
CO3	Recognize the role of Business Intelligence, Data warehousing and Visualization in decision making.		
CO4	Infer the importance of core data mining techniques for data analytics.		
CO5	Compare and contrast different Text Mining Techniques.		
CO6	Identify the need of application big data.		

CO-PO MATRIX

	CO-PO Mapping												CO-PSO Mapping	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2
CO1	2	2	1	2	-	-	-	-	-	-	-	3	1	2
CO2	2	1	3	2	-	-	-	-	-	-	-	2	2	2
CO3	2	2	1	2	-	-	-	-	-	-	-	2	1	2
CO4	1	1	-	-	-	-	-	-	-	-	-	2	2	1
CO5	-	2	1	1	-	-	-	-	-	-	-	-	2	-
Avg.	-	2	1	1	1	-	-	2	1	-	2	1	2	-
1: Slightly 2: Moderately 3: Substantially														

Figure 2.2.1.10: Sample Lesson Plan with COs and CO-PO matrix

MODULE – 3							
Lecture #	Topic	Mode of Delivery (Pls Tick ✓)				Date of Delivery	COs Covered
		1	2	3	4		
1	Business Intelligence Concepts and Application	✓				10/6	C03
2	Business Intelligence Concepts and Application	✓				11/6	C03
3	Data Warehousing	✓				12/6	C03
4	Data Warehousing Cont..	✓				12/6	C03
5	Data Warehousing Cont..	✓				13/6	C03
6	Data Mining	✓				18/6	C03
7	Data Mining Conti..	✓				24/6	C03
8	Data Visualization	✓				24/6	C03
9	Data Visualization Conti..	✓				25/6	C03
10	Data Visualization Conti..	✓				25/6	C03
Textbook : Data Analytics. Anil Maheshwari 1 st edition McGraw Hill Education 2017							
Faculty: 		#HOURS		Allotted	Taken		
HoD:  5/7/21				10	8		
Remarks		Executed as per plan					

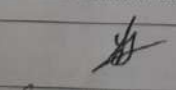
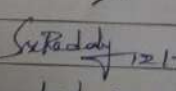
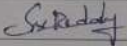
MODULE – 4							
Lecture #	Topic	Mode of Delivery (Pls Tick ✓)				Date of Delivery	COs Covered
		1	2	3	4		
1	Decision Trees	✓				1/7	C04
2	Decision Trees	✓				1/7	C04
3	Regression	✓				2/7	C04
4	Regression	✓				2/7	C04
5	Artificial Neural Networks	✓				5/7	C04
6	Artificial Neural Networks	✓				5/7	C04
7	Cluster Analysis	✓				5/7	C04
8	Cluster Analysis	✓				6/7	C04
9	Association Rule Mining	✓				6/7	C04
10	Association Rule Mining	✓				8/7	C04
Textbook : Data Analytics. Anil Maheshwari 1 st edition McGraw Hill Education 2017							
Faculty: 		#HOURS		Allotted	Taken		
HoD:  12/7/21				10	9		
Remarks		Executed as per plan.					

Figure 2.2.1.11: Sample Lesson Plan with details on each Module

MODULE – 5							
Lecture #	Topic	Mode of Delivery (Pls Tick ✓)				Date of Delivery	COs Covered
		1	2	3	4		
1	Text Mining	✓				9/7	CO5
2	Text Mining	✓				9/7	CO5
3	Naïve-Bayes	✓				10/7	CO5
4	Analysis, Support	✓				10/7	CO5
5	Analysis, Support	✓				11/7	CO5
6	Vector Machines	✓				11/7	CO5
7	Vector Machines	✓				12/7	CO5
8	Web Mining	✓				12/7	CO5
9	Web Mining	✓				13/7	CO5
10	Social Network Analysis	✓				13/7	CO5

Textbook : Data Analytics. Anil Maheshwari 1st edition McGraw Hill Education 2017

Signatures	Faculty: 	#HOURS	Allotted	Taken
	HoD:  19/1/21		10	10
Remarks	Executed as per plan			

Text Books:
 1. Hadoop 2 Quick-Start Guide: Learn the Essentials of Big Data Computing in the Apache Hadoop 2 Ecosystem. Douglas Eadline 1st edition Pearson Education 2016
 2. Data Analytics. Anil Maheshwari 1st edition McGraw Hill Education 2017

Reference Books
 1. Hadoop: The Definitive Guide. Tom White 4th edition O'Reilly Media 2015
 2. Professional Hadoop Solutions. Boris Lublinsky, Kevin T. Smith, Alexey Yakubovich
 3. Hadoop Operations: A Guide for Developers and Administrators. Eric Sammer 1st edition O'Reilly Media 2012, 1st edition 2014

(Note: Mode of Delivery: 1-Black Board 2-PPT 3-Video 4-Demo/Hands-on)

INTERNAL/ASSIGNMENT/QUIZ SCHEDULE

TEST and QUIZ		COs and Portions Covered		ASSIGNMENT	
Test# and Quiz#	DATE	CO	Modules	Assignment#	DATE
T1 & Q1	28/5/21	CO1 & CO2	1 & 2	A1	12/7/21
T2 & Q2	29/6/21	CO2 & CO3	2 & 3	A2	12/7/21
T3 & Q3	15/7/21	CO4 & CO5	4 & 5	A3	12/7/21

Figure 2.2.1.12: Sample Lesson Plan with details on text and reference books

d. Question Bank:

Question banks are prepared for each topic in the course based on the course objectives and considering the nature of the university question papers. The previous question papers of University are also maintained in the course files. The question banks will be shared to the students then and there on need basis. Figures 2.2.1.13a, 2.2.1.13b and 2.2.1.13c shows the sample question banks.



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Chickballapur – 562 101

Department of Information Science & Engineering

QUESTION BANK

SUBJECT TITLE	Big Data Analytics		
SUBJECT TYPE	CORE		
SUBJECT CODE	17CS82		
ACADEMIC YEAR	2020-2021	BATCH	2017
SCHEME	CBCS scheme		
SEMESTER	VIII Sem 'B' Section		
FACULTY NAME and DESIGNATION	YOGARAJA GSR ASSISTANT PROFESSOR		

Module -1			
Q. No.	Questions	Bloom's LL	COs
1	What is HDFS. Give its importance.	L1	CO1
2	List the different commands in HDFS	L1	CO1
3	With a neat diagram, describe process placement during Map Reduce	L1	CO1
4	Extract diagram various system roles in an HDFS development	L2	CO1
5	Summaries different basics steps Map Reduce Parallel Data Flow.	L2	CO1
6	Discuss the concept with a neat diagram a. Block Replication b. Name Node High Availability	L2	CO1
7	Articulate Components of HDFS	L3	CO1
8	Complete with diagram Map Reduce data flow	L3	CO1
9	Illustrate With a Python script for Mapper and Reducer	L3	CO1
10	Examine a Word Count java program.	L4	CO1

Figure 2.2.1.13a: Sample Question Bank

<i>Module -2</i>			
<i>Q. No.</i>	<i>Questions</i>	<i>Bloom's LL</i>	<i>COs</i>
1	With suitable diagram Describe the structure of YARN Applications and frameworks.	L1	CO2
2	What are the 3 types of oozie jobs? Summaries Oozie workflows with neat diagrams.	L1	CO2
3	Describe the Apache Flume to Acquire data streams with neat diagrams.	L1	CO2
4	Explain, How to create and manage databases in HIVE?	L2	CO2
5	Illustrate basic operations in the HBase shell	L2	CO2
6	How to manage Hadoop services using Ambari.	L2	CO2
7	Demonstrate basic HDFS Administration	L3	CO2
8	Illustrate basic Hadoop YARN Administration	L3	CO2
9	Defend how to manage Hadoop services using Ambari.	L5	CO2
10	Differentiate the Apache Sqoop import and export methods with neat diagrams.	L4	CO2
<i>Module -3</i>			
<i>Q. No.</i>	<i>Questions</i>	<i>Bloom's LL</i>	<i>COs</i>
1	What is the purpose of data warehouse? Describe the design key elements for DW.	L1	CO3
2	Draw the flow of BIDM cycle. Explain strategic and operational decisions	L1	CO3
3	Define is data visualization .Identify the different types of charts	L1	CO3
4	Discuss how to evaluate data mining results, explain with confusion matrix..	L2	CO3
5	List and explain BI Applications. What is Confusion Matrix	L2	CO3
6	Explain the architecture and design of DW?	L2	CO3
7	List and explain BI Applications.	L2	CO3
8	Demonstrate why should organizations invest in Business Intelligence Solutions? Explain the two kinds of decisions.	L3	CO3
9	Differentiate supervised and unsupervised learning techniques?	L4	CO3
10	Demonstrate the data visualization techniques? When would you use tables or graphs?	L3	CO3

Figure 2.2.1.13b: Sample Question Bank

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Question Bank

<i>Module -4</i>			
<i>Q. No.</i>	<i>Questions</i>	<i>Bloom's LL</i>	<i>Cos</i>
1	What is a splitting variable? Describe three criteria for choosing a splitting variable	L1	CO4
2	Write the advantages & disadvantages of k-means algorithm	L1	CO4
3	List and Explain the steps to build ANN	L1	CO4
4	Differentiate between C4.5,CART,CHAID decision tree algorithm	L4	CO4
5	How does Apriori Algorithm work. Describe with an example	L2	CO4
6	Explain with a dataset how to construct the decision tree.	L2	CO4
7	Construct decision trees for given datasets	L3	CO4
8	Build a pseudo code for making decision trees along with an example.	L3	CO4
9	Demonstrate the design principles of artificial neural network.	L3	CO4
10	Illustrate association rules are represented.	L3	CO4
<i>Module -5</i>			
<i>Q. No.</i>	<i>Questions</i>	<i>Bloom's LL</i>	<i>COs</i>
1	What are advantages & disadvantages of naive-Bayes algorithm.	L1	CO5
2	Mention the 3 Process steps of Text mining	L1	CO5
3	What is support vector machine. Explain its model	L1	CO5
4	Summarize three different types of web mining with appropriate flow diagram	L2	CO5
5	Discuss the Nave-Bayes Model.	L2	CO5
6	Explain with a neat diagram text mining process	L2	CO5
7	Compare text mining and data mining techniques	L4	CO5
8	Describe SVM model with a neat diagram	L2	CO5
9	Illustrate the web mining architecture with neat diagram.	L3	CO5
10	Differentiate applications of social network analysis	L4	CO5

Figure 2.2.1.13c: Sample Question Bank

e. Assignment Questions list and test question papers along with key solutions are included in the course files. Figures 2.2.1.14a and 2.2.1.14b show the sample assignment questions.

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Assignment



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SJC INSTITUTE OF TECHNOLOGY

Chickballapur – 562 101

Department of Information Science & Engineering ASSIGNMENT

SUBJECT TITLE	Big Data Analytics		
SUBJECT TYPE	CORE		
SUBJECT CODE	17CS52		
ACADEMIC YEAR	2020-2021	BATCH	2017
SCHEME	CBCS scheme		
SEMESTER	8th Sem 'B' Section		
FACULTY NAME and DESIGNATION	YOGARAJA GSR ASSISTANT PROFESSOR		

Module -1

Q. No.	Questions	Bloom's LL	COs
1	Demonstrate with a neat diagram various system roles in an HDFS development	L3	CO1
2	Demonstrate Components of HDFS	L3	CO1
3	List the different basic steps MapReduce Parallel Data Flow. Demonstrate with diagram MapReduce data flow.	L3	CO1
4	Examine With a Python script for Mapper and Reducer	L4	CO1
5	Examine a WordCount.java program.	L4	CO1

Module -2

Q. No.	Questions	Blooms LL	COs
1	With suitable diagram demonstrate the structure of YARN Applications and frameworks.	L3	CO1
2	Demonstrate Basic HDFS Administration	L3	CO1
3	Demonstrate Basic Hadoop YARN Administration	L3	CO1
4	Defend how to manage Hadoop services using Ambari.	L5	CO1
5	Differentiate the Apache Sqoop import and export methods with neat diagrams.	L4	CO1

Figure 2.2.1.14a: Sample Assignment Questions

<i>Module -3</i>			
<i>Q. No.</i>	<i>Questions</i>	<i>Bloom's LL</i>	<i>COs</i>
1	List and explain BI Applications.	L2	CO2
2	Explain the architecture and design of DW?	L2	CO2
3	Demonstrate why should organizations invest in Business Intelligence Solutions? Explain the two kinds of decisions.	L3	CO2
4	Differentiate supervised and unsupervised learning techniques?	L4	CO2
5	Demonstrate the data visualization techniques? When would you use tables or graphs?.	L3	CO2

<i>Module -4</i>			
<i>Q. No.</i>	<i>Questions</i>	<i>Bloom's LL</i>	<i>COs</i>
1	Explain with a dataset how to construct the decision tree.	L2	CO3
2	Use a pseudo code for making decision trees.	L3	CO3
3	Differentiate the advantages & disadvantages of k-means algorithm	L4	CO3
4	Demonstrate the design principles of artificial neural network.	L3	CO3
5	Illustrate association rules are represented.	L3	CO3

<i>Module -5</i>			
<i>Q. No.</i>	<i>Questions</i>	<i>Bloom's LL</i>	<i>COs</i>
1	Explain with a neat diagram text mining process	L2	CO4
2	Describe SVM model with a neat diagram	L2	CO4
3	Differentiate advantages & disadvantages of naive-Bayes algorithm.	L4	CO4
4	Illustrate the web mining architecture with neat diagram.	L3	CO4
5	Differentiate applications of social network analysis	L4	CO4

Figure 2.2.1.14b: Sample Assignment Questions

f. Quiz questions: The Quiz questions will be collected and kept in the course file. As per the curriculum, the faculties will conduct minimum two quizzes in the class and document them. Figures 2.2.1.15a and 2.2.1.15b shows the sample quiz questions

Name: _____	Date: _____
MES Module 1, Test 1, 18/5/2021, 1:45 PM TO 2:15 PM	
Answer all the 18 questions, duration is 1 Hour and Maximum marks is 30	
1. The major rules of RISC design philosophy are <i>points: 1</i> ☐ Shorter instruction length, decode in a single stage, large set of registers, data processing is applied to memory contents only ☐ Shorter instruction length, decode in a single stage, large set of registers, data processing is applied to register only ☐ Shorter instruction length, decode in a single stage, small set of registers, data processing is applied to register only ☐ Shorter pipeline length, decode in a single stage, large set of registers, data processing is applied to registers only	
2. The ARM design philosophy is <i>points: 1</i> ☐ Some set of instruction with variable execution clock cycles, preprocessed shifting, 64sbit instruction along with 32 bit instructions, condition based execution. ☐ Some set of instruction with fixed execution clock cycles, preprocessed shifting, 16bit instructions along with 32 bit instructions, condition based execution. ☐ Some set of instruction with variable execution clock cycles, preprocessed multiplication and accumulation, 16bit s along with 32 bit instructions, condition based execution. ☐ Some set of instruction with variable execution clock cycles, preprocessed shifting, 16bit instructions along with 32 bit instructions, condition based execution.	
3. An embedded system hardware consists of <i>points: 1</i> ☐ Processor, on-chip bus, memory controller, serial UART, interrupt controller ☐ Processor, bus, ALU, serial UART, interrupt controller ☐ Processor, on-chip bus, memory controller, serial UART, operating system ☐ Micro Processor, bus, memory controller, serial UART, interrupt controller	
4. The last 3 active registers of ARM are used for <i>points: 1</i> ☐ Storing popping and pushing memory address, storing the address to return for branch instruction, storing the address of the next instruction to execute ☐ Storing popping and pushing memory address, storing the address of subroutine, storing the address of the next instruction to execute ☐ Storing popping and pushing memory address, storing the address to return for branch instruction, storing the saved program status ☐ Storing popping and pushing memory address, storing the address to return for branch instruction, storing the status of current program	
5. The bits of the CPSR include <i>points: 1</i> ☐ N,Z,C,V.....I,R,T ☐ N,Z,C,V.....I,F,T ☐ N,Z,V,C.....I,F,T ☐ All	

Figure 2.2.1.15a: Sample Quiz Questions

Name: _____	Date _____

ADE Class Test1 Module 1

Answer all 20 questions each question carry one mark and submit before 9:45 am.

1. What is a gate? *points: 1*

- ☐ Is circuit with input and output.
- ☐ Is a digital circuit
- ☐ Is a digital circuit having n inputs but only one output
- ☐ None of the above

2. _____ is a basic gate. *points: 1*

- ☐ NAND
- ☐ NOR
- ☐ BOTH
- ☐ NONE

3. _____ is a universal gate. *points: 1*

- ☐ NOT
- ☐ AND
- ☐ OR
- ☐ NAND

4. $A' B' + A' B'$ = _____ *points: 1*

- ☐ $2 A' B'$
- ☐ $(A' B') ^2$
- ☐ 0
- ☐ $A' B'$

5. $A' (A'+A)$ = _____ *points: 1*

- ☐ A
- ☐ A'
- ☐ 0
- ☐ 1

Figure 2.2.1.15b: Sample Quiz Questions

2.2.1.3 Interactive Learning

The usage of Interactive Learning in the Teaching Learning Process by faculty has found to be effective in making the student stay focused in the class, improving their problem-solving ability, enhancing their analytical thinking and so on. At SJCIT, there is a support structure in place to train the faculty to deploy the interactive learning in the courses that they handle. Basically, an orientation program for newly inducted faculty handled by senior faculty tries to incorporate the Teaching – Learning Methodology found to be effective over a period of time. In this program, the faculties are trained in the following concepts

- Review of previous class material at the start of class.
- Ask questions directed to smaller groups of students so as to motivate them to come up with the answer.
- Problem Solving: Solve one problem and make students solve the next while moving around the class.
- A large problem is broken into steps with a few being solved/ completed by the teacher and asking the student groups to attempt the others. The groups should generally be given enough time to think about what they have been asked to do and begin formulating a response but not necessarily enough to reach closure Summarizing the major points in the lecture just concluded/ explanation up to a point by select students
- Peer to peer learning to solve given problem enabling group learning.
- Use of ICT – ppts, videos, simulator packages (say circuit modelling and simulation of output in Pspice), taking development /sectional models to the class for better visualization are regularly incorporated.
- In the laboratories, the following practice / system is mandatory.
 - Teachers are well versed with all the respective lab experiments. This is ensured by the respective HoDs and from the feedback from peers. Also in the laboratories, the following system is in place.
 - Students come prepared with the knowledge of the experiment to be performed. Prior explanation by faculty in the instruction class and lab manuals distributed beforehand supports this activity.
 - During the lab conduction, the students demonstrate the output to the faculty which is another illustration of interactive learning. They also draw suitable inferences about the experiment which enhances their analytical thinking ability.
 - Viva voce after the conduction of every experiment is a compulsory which supports their recall and clarity in the concepts.

2.2.1.4 Collaborative Learning

The array of skills that a student acquires when exposed to collaborative learning is fast, pertaining to teamwork, decision making skills, time management skill, conflict management skills, interdependence, self-assessment (individual accountability) to development of leadership and communication skills. The students at SJCIT undergo cooperative learning at various points spread over their entire study period.

2.2.1.5 Methodologies to support weak students and encourage bright students:

Guidelines to identify and monitor the weak students:

The weak students are identified from their participation in classroom discussion, performance in the assessment tests, participation in classroom seminars, questioning & answering ability, university result analysis, etc. The Class Teacher and Student Mentors/Counsellors along with course faculty regularly conduct meetings regarding progress of the students and are responsible for identifying students who are having below 75% attendance and score less than 50% marks in three or more subjects in internals. Under the HoDs guidelines, the Mentor/Counsellor assess the progress of such students and consider them as academically weak students and same is also intimated to their parents. Figure 2.2.1.16 shows the process of identifying and monitoring the weak and bright students.

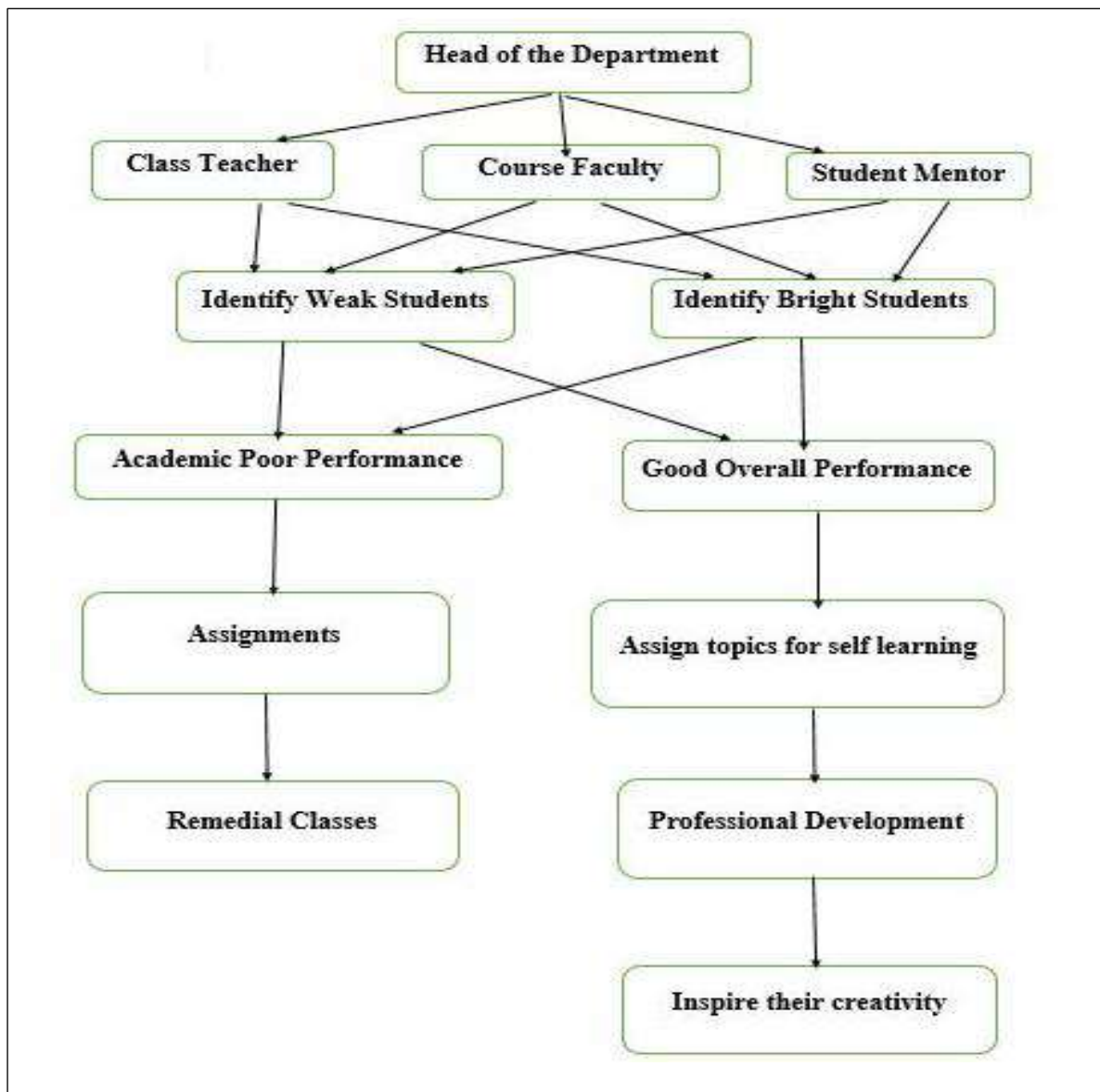


Figure 2.2.1.16: Process of identifying and monitoring the weak and bright students

Mentoring System: Guidelines for weak students:

Identification Criteria	Actions
Students scoring less than 50% marks in Internal Assessment and having attendance < 75%	1. Student Mentor/Counselor follow-up their progress regularly. Advising students to attend the classes/labs regularly and prepare better for the internals by interacting with concerned course faculty 2. Intimating their parents through Call or SMS to advice their wards and also to meet the class teachers as well as the HoD for further course of Actions
Diploma (lateral entry) students, who entered with poor fundamental knowledge	1. Conduction of remedial classes 2. Conduction of special classes on weekends as well as in the evenings 3. Conduction of special laboratory classes
Students who fail in semester examinations	1. Conduction of extra classes 2. Boosting their morale with personal attention

Table B 2.2.1.1a: Weak Students V/S Actions

Sl. No.	USN	Name	Grievances	Action and Impact	Counselor/ Class Teacher
1	1SJ15IS081	Rishabh adhana	Irregular to classes & Poor Performance in internals	Meeting arranged with parents, advised to take the academics seriously and was given assignments and extra tests to cope up.	Chethan H V
2	1SJ15IS118	Thulasi A	Poor Performance in internals	Meeting arranged with parents, advised to take the academics seriously and was given assignments and slowly improved	Shwetha G R/ Chethan H V
3	1SJ16IS068	Prajwal Gowda R	Irregular to classes	Meeting arranged with parents, advised to take the academics seriously and was given assignments and extra tests to cope up.	Nandini S/ Yogaraja G S R
4	1SJ16IS102	Thanuja R Yadav	Poor Performance in internals	Meeting arranged with parent, advised to take the academics seriously and was given assignments and slowly improved	Susheelamma K H/ Yogaraja G S R
5	1SJ17IS057	Preetham Gowda	Irregular to classes & Poor Performance in internals	Meeting arranged with parents, advised to take the academics seriously and was given assignments and slowly improved	Nagesh / Asha C V
6	1SJ17IS084	Tejashwini P	Poor Performance in internals	Meeting arranged with parents, advised to take the academics seriously and was given assignments and slowly improved	Prathiba/ Asha C V

Table B 2.2.1.1b: Sample Weak Students with Actions and Impact

SL. NO	USN	NAME	Performance In University Exams-Semester Wise (CGPA)					
			III	IV	V	VI	VII	VIII
1.	1SJ17IS002	Amarttya Banerjee	3.78	4.14	3.31	6.81	6.96	8.50
2.	1SJ17IS025	Kalyan Sarkar	2.44	2.93	2.31	6.15	6.38	8.85
3.	1SJ17IS026	Kavya N V	6.67	4.75	4.23	7.16	7.08	8.50
4.	1SJ17IS037	Monika M	4.22	3.29	2.85	5.92	7.13	8.35
5.	1SJ17IS038	Mounika	6.81	4.50	4.42	7.4	8.21	8.90
6.	1SJ17IS056	Prathisha M N	6.29	6.29	3.62	5.8	6.42	8.50
7.	1SJ17IS057	Preetham Gowda	3.70	2.14	2.62	7	6.12	8.20

Figure 2.2.1.16b: Students showing the improvement in Academics after counselling

S.J.C. Institute of Technology
Department of Information Science and Engineering

IV SEM (EVEN) BE STUDENT LIST-2019 Section : 'A' & 'B'

Attendance for extra classes(Object Oriented Concepts) from(Feb2019-May2019)

USN	NAME	11/3	18/3	25/3	2/4	9/4	10/4	22/4	24/4	2/5	6/5	22/5
1SJ17IS002	Amartty Banerjee	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
1SJ17IS006	Anirban	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
1SJ17IS010	Asmitha	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
1SJ17IS023	Himabindu	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
1SJ17IS025	Kalyan Sarkar	Kaly	Kaly	Kaly	AB	Kaly	Kaly	AB	Kaly	Kaly	Kaly	Kaly
1SJ17IS026	Kavya N V	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
1SJ17IS028	Komalraj D R	Raj	Raj	Raj	Raj	Raj	AB	Raj	Raj	Raj	Raj	Raj
1SJ17IS035	Manoj R	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME
1SJ17IS037	Monika M	Moni	Moni	Moni	Moni	Moni	Moni	Moni	Moni	Moni	Moni	Moni
1SJ17IS038	Mounika S	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
1SJ17IS043	Navya L	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
1SJ17IS052	Pavani S	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
1SJ17IS056	Prathisha	Prath	Prath	Prath	Prath	AB	AB	Prath	AB	Prath	Prath	AB
1SJ17IS057	Preetham Gowda	Pre	Pre	Pre	Pre	Pre	Pre	Pre	Pre	Pre	Pre	Pre
1SJ17IS061	Pruthvi Raj C K	P	P	P	P	P	P	P	P	P	P	P
1SJ17IS066	Rajesha N R	Raj	Raj	Raj	Raj	Raj	Raj	Raj	Raj	Raj	Raj	Raj
1SJ17IS070	Raushan Kumar	Rau	Rau	AB	Rau	AB	Rau	Rau	Rau	Rau	Rau	AB
1SJ16IS052	Namitha	Nit	Nit	Nit	Nit	Nit	AB	Nit	AB	Nit	AB	Nit
1SJ16IS072	Priyanka	Priya	Priya	Priya	Priya	Priya	Priya	Priya	Priya	AB	Priya	AB
1SJ16IS094	Srivani	Sri	Sri	Sri	Sri	Sri	AB	Sri	Sri	AB	Sri	Sri

Head of the department Subject coordinator

Figure 2.2.1.17: Attendance taken for the remedial classes

Guidelines to identify Bright students:

The bright students are identified from their participation in classroom discussion, performance in the assessment tests, quizzes, participation in classroom seminars, questioning, answering ability and university result analysis etc.

Methods to Encourage Bright Students:

- Encouraging them to participate in symposia, workshops and seminars to gain knowledge on the latest developments.
- Motivating them to take up in-house and industry/organization related projects in the latest topics under the guidance of the faculty members.
- Supporting them to lead the students association team which organizes various activities viz. paper presentation, poster presentation, technical events etc.

Identification Criteria	Actions
Students secured First Class with Distinction (FCD) in their semester exams	1. Encouraging them to take up mini-projects and participate in National/ International/Inter-college events. 2. Motivating them to get University ranks.
Top 10 students of each class	1. Motivating them to solve more assignments / laboratory problems and previous year University exam question papers. 2. Helping them to get internships. 3. Assigning a mentor to motivate them in preparing and publishing a paper, plan for higher studies with good score in GATE/CAT/GRE/TOEFL etc.,
Students securing ranks at University level	Distribution of Gold medals/Cash prizes.

Table B 2.2.1.2: Bright students V/S Actions

Students Toppers List 2015-19 Batch

Jai Sri Gurudev S J C Institute of Technology, Chickballapur Department of ISE			
Toppers List			
Batch :2015 To 2019			
SL NO	NAME	USN	AGGREGATE CGPA
1.	SHILPA K R	1SJ15IS090	8.22
Batch :2016 To 2020			
SL NO	NAME	USN	AGGREGATE CGPA
1.	CHANDRA REDDY GARI SRAVANI	1SJ16IS023	8.75
Batch : 2017 To 2021			
SL NO	NAME	USN	AGGREGATE CGPA
1.	SANGHAVI M N	1SJ17IS072	8.90

Figure 2.2.1.18a: Students Toppers List



Figure 2.2.1.18b: Certificate of Appreciation given to best outgoing students

2.2.1.6 Conduction of Experiments

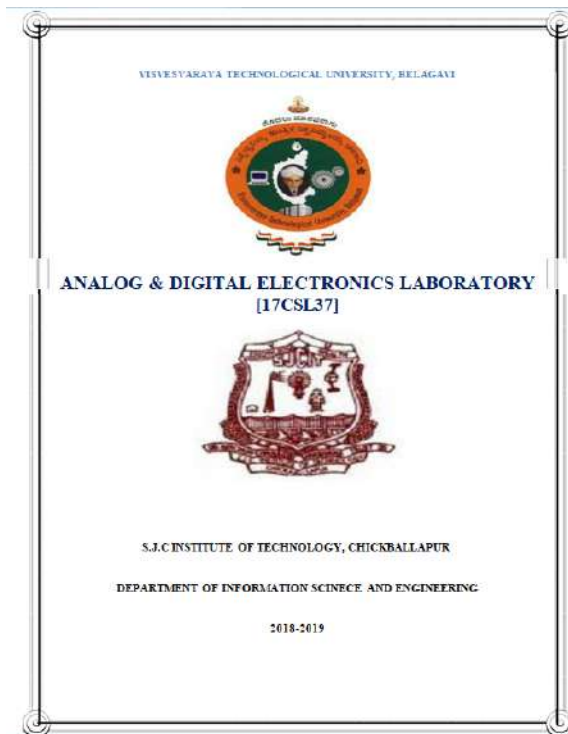
Continuous Assessment is divided into two components

1. Evaluation in every lab session
2. Internal Assessment Test

Continuous Evaluation is done by the faculty in every lab session for 15 marks, Internal Assessment test is conducted for 10 marks based on rubrics and the average marks considered for awarding final internal assessment work.

Regular laboratory class conduction:

- The entire class is divided into 3 batches of size around 20-24 students
- Instructions are given for conduction of each experiment in the theory classes and also in their regular laboratory classes
- Detailed laboratory manual is prepared in advance and made available to the students well in advance
- The schedule of experiments will be displayed to the students in advance, students are advised to come prepared for every lab session.
- In case of software experiment, each student is provided with a separate computer, which is preloaded with the required software.
- In case of hardware experiment, the students are sub-divided into smaller groups of size around two-three.
 - This will help them to discuss on the experiment in their peer level and demonstrate the knowledge in a better way
- Each student is evaluated based on the following criteria in every laboratory classes:
 - Observation book
 - Record
 - Conduction of experiment and interpretation of results
 - Viva – voce
- The viva-voce question bank covering all possible questions related to the experiments is supplied along with the detailed manual.
- Each laboratory session is handled by a team of three teachers and a non-teaching faculty in the rank of programmer or laboratory assistant cadre.
- Usually the teacher who is teaching the theory course having attached laboratory is made as Lab In-charge and is responsible for preparing the manual and to give instructions in the laboratory as well as in the class rooms. Other co-faculty members will guide/assist students to carry out experiments.
- At the end of the semester, each student is evaluated for 15 marks based on the cumulative performance on writing record book and observation book, answering viva-voce, involvement in conduction of experiment etc.,
- Two internal tests, one during middle of the semester and the other at the end of the semester is conducted to evaluate the performance of the students. The average/best performance in the tests is considered for 10 marks.
- Each student is evaluated for a total of 25 marks in non-CBCS scheme and 20 marks in CBCS scheme. This is recorded and uploaded to University.
- Figures 2.2.1.19 to 2.2.1.23 show the sample snapshots of laboratory attendance register, lab manual and record book



Analog & Digital Electronics Lab

CBCS Scheme

CONTENTS

S.L. No.	Contents	Page No.
1	Syllabus	2
	Hardware Part	
2	1a) Op-Amp as Schmitt trigger	4
3	2a) Op-Amp as relaxation oscillator	7
4	3) Multivibrator using 555 timer	9
5	4) Adder and Subtractor	13
6	5a) EVM method to realize an expression using 8:1 MUX	17
7	6) Code conversion	19
8	7) Parity generator and parity checker	23
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10	9a) Synchronous up-counter using J-K FF	28
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12	11) Ramp output waveform using DAC0800	34
	Software/Simulation Part	
13	1b) Simulation of Op-Amp as Schmitt trigger	38
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Department of ISE, SJCIT

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Analog & Digital Electronics Lab

CBCS Scheme

Syllabus**Course objectives:**

This laboratory course enables students to get practical experience in design, assembly and evaluation/testing of

- Analog components and circuits including Operational Amplifier, Timer, etc.
- Combinational logic circuits.
- Flip - Flops and their operations
- Counters and Registers using Flip-flops.
- Synchronous and Asynchronous Sequential Circuits.
- A/D and D/A Converters]

Descriptions (if any)

Any simulation package like Multisim / P-spice /Equivalent software may be used.

Faculty-in-charge should demonstrate and explain the required hardware components and their functional Block diagrams, timing diagrams etc. Students have to prepare a write-up on the same and include it in the Lab record and to be evaluated.

Laboratory Session-1: Write-upon analog components; functional block diagram, Pin diagram (if any), waveforms and description. The same information is also taught in theory class; this helps the students to understand better.

Laboratory Session-2: Write-upon Logic design components, pin diagram(if any), Timing diagrams, etc. The same information is also taught in theory class; this helps the students to understand better.

Note: These TWO Laboratory sessions are used to fill the gap between theory classes and practical sessions. Both sessions are to be evaluated for 20 marks as lab experiments.

Laboratory Experiments: RBT Level: L5, L6

1. a) Design and construct a Schmitt trigger using Op-Amp for given UTP and LTP values and demonstrate its working.
b) Design and implement a Schmitt trigger using Op-Amp using a simulation package for two sets of UTP and LTP values and demonstrate its working.
2. a) Design and construct a rectangular waveform generator (Op-Amp relaxation oscillator) for given frequency and demonstrate its working.
b) Design and implement a rectangular waveform generator (Op-Amp relaxation oscillator) using a simulation package and demonstrate the change in frequency when all resistor values are doubled.
3. Design and implement an Astable multivibrator circuit using 555 timer for a given frequency and duty cycle.
4. Design and implement Half adder, Full Adder, Half Subtractor, Full Subtractor using basic gates.
5. a) Given a 4-variable logic expression, simplify it using Entered Variable Map and realize the simplified logic expression using 8:1 multiplexer IC.
b) Design and develop the Verilog/VHDL code for an 8:1 multiplexer. Simulate and verify its working.

Department of ISE, SJCIT

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2017-18

Analog & Digital Electronics Lab

CBCS Scheme

6. a) Design and implement code converter I) Binary to Gray II) Gray to Binary Code using basic gates.
7. Design and verify the Truth Table of 3-bit Parity Generator and 4-bit Parity Checker using basic Logic Gates with an even parity bit.
8. a) Realize a J-K Master / Slave Flip-Flop using NAND gates and verify its truth table.
b) Design and develop the Verilog / VHDL code for D Flip-Flop with positive-edge triggering. Simulate and verify its working.
9. a) Design and implement a mod-n (n<8) synchronous up counter using J-K Flip-Flop ICs and demonstrate its working.
b) Design and develop the Verilog / VHDL code for mod-8 up counter. Simulate and verify its working.
10. Design and implement an asynchronous counter using decade counter IC to count up from 0 to n (n<=9) and demonstrate on 7-segment display (using IC-7447).
11. Generate a Ramp output waveform using DAC0800 (Inputs are given to DAC through IC74393 dual 4-bit binary counter).

Activate
Go to Setti

Analog & Digital Electronics Lab

CBCS Scheme

Program Outcomes	
PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes

PSO-1: Apply the knowledge of data structures, database systems, system programming, networking, web development and AI & ML techniques in engineering the software.
 PSO-2: Exhibit solid foundations and advancements in developing software / hardware systems for solving contemporary problems.

Analog & Digital Electronics Lab

CBCS Scheme

Course Outcomes

1. Use various Electronic Devices like Cathode ray Oscilloscope, Signal generators, Digital Trainer Kit, Multimeters and components like Resistors, Capacitors, Op amp and Integrated Circuit.
2. Design and demonstrate various combinational logic circuits.
3. Design and demonstrate various types of counters and Registers using Flip-flops
4. Use simulation package to design circuits.
5. Analyze the working and implementation of DACs and ADCs

CO-PO Mapping Table (in the scale of 3)												CO-PSO Mapping Table						
CO/PO	1	2	3	4	5	6	7	8	9	10	11	12	CO/PSO	1	2	3	4	5
C307.1	2	3	3	3	2					2	2	3	C307.1	3	2			
C307.2	3	3	3	2	2					2	2	3	C307.2	3	1			
C307.3	2	3	3	3	2					1	3	2	C307.3	2	2			
C307.4	3	2	3	2	1					2	2	3	C307.4	3	3			
C307.5	3	3	2	3	1					2	2	2	C307.5	3	2			

Figure 2.2.1.20: Front sheets of Laboratory Manual**Rubrics for Lab****1. FOR 20 MARKS (2015 NEW SCHEME)**

Sl. No.	DESCRIPTION	MARKS
1.	CONTINUOUS EVALUATION	12
	a. Observation write up & punctuality	2.0
	b. Conduction of experiment and output	4.0
	c. Viva voce	2.0
	d. Record write up	4.0
2.	INTERNAL TEST	8.0

2. FOR 40 MARKS (2017 NEW SCHEME)

Sl. No.	DESCRIPTION	MARKS
1.	CONTINUOUS EVALUATION	25
	a. Observation write up & punctuality	5.0
	b. Conduction of experiment and output	8.0
	c. Viva voce	4.0
	d. Record write up	8.0
2.	INTERNAL TEST	15.0

Figure 2.2.1.21: Laboratory Evaluation Rubrics

Sri Adichunchanagiri Shikshana Trust (R.)

SJC INSTITUTE OF TECHNOLOGY

Affiliated to Vivekanandya Technological University, Belgaum & Approved by AICTE, New Delhi
(Accredited NAAC and ISO 9001 : 2015 Certified)
P.B. No. 20, B.B. Road, Chickballapur - 562 101, Karnataka

ESTD 1986

PRACTICAL RECORD

Name: Vandana
Branch: Ise Sem: 6
USN: 15J16IS107
Subject: ST Lab

SJC INSTITUTE OF TECHNOLOGY
CHICKBALLAPUR - 562 101

Laboratory Certificate

This is to certify that

Mr. VANDANA C R
bearing USN 15J16IS107 Sem 6 Branch Ise has
satisfactorily completed the Practical Experiments
of SOFTWARE TESTING Laboratory, Prescribed by
the Vivekanandya Technological University for the year 2019

Mark Obtained: 70
Total Marks: 25

Head of the Department
Prof. & Head
Department of Information Science & Engg.
SJC Institute of Technology
Chickballapur-562101.

Signature of the Teacher incharge
Date: 13/6

SJC INSTITUTE OF TECHNOLOGY

Semester: 6/B USN: 15J16IS107 Name: VANDANA C R

Sl.no	Title of program	A	B	C	D	TOT	Sign
1	Triangle Problem using BVA	2	4	2	4	10	A7
2	Commission Problem using BVT	2	4	2	4	10	A7
3	Program to implement the NextDate function using BVT	2	4	2	3	11	A7
4	Triangle Problem using ECT	2	4	2	3	11	A7
5	Commission Problem using Equivalence class Testing	2	4	2	4	12	A7
6	NextDate Program using Equivalence class Testing	2	4	2	4	12	A7
7	Triangle Problem using Decision Table	2	4	2	4	12	A7
8	Commission Problem using Decision Table	2	4	2	4	12	A7
9	Commission Problem using Boundary Testing	2	4	2	4	12	A7
10	Binary Search algorithm using Basis Path	2	4	2	4	12	A7
11	Quick Sort Algorithm using Basis path	2	4	2	4	12	A7
12	Grading Procedure using Basis Path	2	4	2	4	12	A7

Figure 2.2.1.23: Practical record book with particulars of the experiments performed

2.2.2. Quality of Internal Semester Question papers, Assignments and Evaluation (20)

Internal Assessment test marks as per VTU regulations are 25 for theory and lab subjects. The internal assessment marks for theory is based on three tests, once in every month conducted as per the calendar of events.

The Department Internal Assessment Test Committee consisting of HoD, Coordinators and two-three senior Professors oversee the Internal Assessment (IA) test conduction process.

- IA test time table is prepared one week in advance and displayed on the notice boards. IA test coordinators define the template/format and pattern of question papers in line with the institution guidelines covering Bloom's learning levels with appropriate action verbs and indicating the course outcomes against each question.
- Course coordinators along with the course faculty prepare the question papers for every course as per the template covering the syllabus (usually 1 - 1 ½ module for every test).
- Test coordinators collect IA test question papers from course coordinators/faculty well in advance and are subjected to scrutiny.
- Internal Assessment test scrutiny committee is constituted which will review the question paper against the set standards and intimate the concerned course coordinator/faculty in case of discrepancies. The committee consists of: HoD as Chairperson, 2-3 Professors as members and IA test Coordinators
- Scrutinized question papers will get printed by the IA test coordinators with utmost confidentiality and kept under the custody of IA test coordinators
- Invigilation duties allocation and seating arrangements for students are made by the test coordinators in a highly democratic and transparent way.
- On the day of the test, the question papers are distributed to the invigilators 5 minutes before the commencement of the test.
- The students write the IA tests in standard bluebooks supplied by the college, which are maintained by the department for at least one year after the announcement of the university results and are available for verification.
- Internal Squad is constituted to ensure the seriousness and smooth conduction of the Tests
- The scheme and solution of question paper is maintained by Course Coordinator/faculty and IA test coordinators
- After 3-4 days of each IA test, progress reports which consist of test marks and attendance status are sent to parents through SMS and also announced on the notice boards. Students are allowed to check the correction and sign on the bluebooks.
- Follow up on the quality of question papers, transparency in evaluation, marks entry, measures to take up on content and quality is done at dept. level as well as institution level.
- Individual subject teachers conduct surprise test/quiz and also give assignments for the students to monitor their learning levels. This helps faculty to identify the gaps and address the problems immediately.

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Internal Test Question paper format- CBCS Scheme

Name of the Staff: BHANUMATHI S, VIMALA DEVI R
Date: 15/03/2019

Signature: *[Signature]*

Reviewer's Signature: *[Signature]*

NOTE: Only the following information's to be given to the students

S.J.C. Institute of Technology
Department of Information Science and Engineering
Test: I

Subject Name & Code: Design & Analysis of Algorithms[17CS43]
Semester: IV A & B
Max Marks: 30
Duration: 90minutes

Answer the following questions by selecting one full question from each part.

Question Number		Marks	COs	Levels
1	A. Define an algorithm. Discuss the criteria of an algorithm with an example.	6	CO1	L2
	B. Prove that: If $t_1(n) \in O(g_1(n))$ and $t_2(n) \in O(g_2(n))$, then $t_1(n) + t_2(n) \in O(\max\{g_1(n), g_2(n)\})$	4	CO2	L3
OR				
2	A. Explain asymptotic notation, Big O, big Omega, big theta notations.	6	CO1	L2
	B. Illustrate mathematical analysis of recursive algorithm for towers of Hanoi.	4	CO2	L3
	A. Describe an algorithm for checking whether all elements in a given array are distinct or not. Derive its worst complexity.	5	CO3	L2
	B. Express the following assertions using asymptotic notations a) $n(n-1)/2$ b) $6 \cdot 2^n + n^2$ c) $100n + 5$	5	CO2	L2
OR				
4	A. Describe a recursive algorithm for finding the maximum and minimum element from a list.	5	CO3	L2
	B. Express the following assertions using asymptotic notations. a) $6n + 2n$ b) $n!$ c) $n + n \log n$	5	CO2	L2
5	A. Describe quicksort algorithm and illustrate the tracing of quicksort algorithm for the following set of numbers. 25, 10, 72, 18, 40, 11, 64, 58, 32, 9	10	CO1	L3
OR				
6	A. Describe recursive algorithm for binary search and also bring out its efficiency.	10	CO1	L3

NOTE : The choice question should satisfy same COs and levels.

Figure 2.2.2.1a: Sample question paper submitted by the faculty with COs and Bloom's learning levels.

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SJCIT

Internal Test Question paper format – 2015 Scheme

Name of the staff: Aravinda Thejas Chandra

Date: 24/09/2019 Signature: *Aravinda*

Reviewer's Signature: *Aravinda* 24.9.2019

NOTE: Only the following information's to be given to the students.

S.J.C. Institute of Technology
Department: Information Science & Engineering
Test : I
Semester: VII Section: A
Subject Name & Code: Web Technology & its Applications -15CS71
Instructions
ANSWER 3 FULL QUESTIONS

Duration: 90 minutes **Max Marks: 30**

i).....
ii).....

Question Number		Marks	CO	Levels
1	1 a) List and explain the advantages of semantic HTML markup. With an example explain the structure of HTML5 document.	5M	CO1	L1
	b) List and explain different CSS selectors with examples.	5M	CO1	L1
	OR			
	2. a) List and explain various HTML5 semantic elements with examples.	5M	CO1	L1
2	b) List and explain 3 types of list used in HTML with examples.	5M	CO1	L1
	3 a) Create an HTML form to accept student name, password, USN, DOB, Sex, email-ID, telephone number and comments from student. Use appropriate form elements.	5M	CO2	L3
	b) Write a javascript Program embedded in HTML5 that demonstrates handling all keyboard events. Use appropriate html forms.	5M	CO3	L3
	OR			
	4 a) Create an HTML table to list 8 subjects internal and external marks with proper headings. Subject name and subject code is to be included. All html table elements should be used.	5M	CO2	L3

Figure 2.2.2.1b: Sample question paper submitted by the faculty with COs and Bloom's learning levels.

Figures 2.2.2.1a to 2.2.2.1b shows the sample question paper submitted by the faculty with COs and Bloom's learning levels.

Figures 2.2.2.2 and 2.2.2.3 shows the sample question papers, got scrutinized by the question paper scrutinizing committee. Figure 2.2.2.4 gives the sample scheme and solution for valuation. Figure 2.2.2.5 shows the scrutinizing committee remarks in the register about the action taken on question papers.

SJCIT

Internal Test Question paper format- CBCS Scheme

Name of the staff: L. Vindya

Date: 10.06.2020

Signature: _____

Reviewer's Signature: _____

NOTE: Only the following information is to be given to the students

S.J.C. Institute of Technology
Department of Information Science & Engineering
Test : III

Subject Name & Code: Cryptography, Network Security, and Cyber Law, 17CS61

Semester : VI : 'A'

Duration: 60 minutes

Max Marks: 30

Q. No.	Questions	Marks	CO	Level
1.	List and Discuss various types of vulnerabilities with common cyber attacks. <i>Illustrate</i>	10M	CO1	L1, L2
	OR			
	Define Cyber Security. <i>Demonstrate</i> Explain the motives of cyber attack and guiding principles of security.	10M	CO1	L1, L2
2.	With a neat sketch, Illustrate the working principle of Diffie-Hellman key exchange protocol. determine the secret key shared by two parties by considering $p=131, g=2$ (assume $a=24, b=17$)	10M	CO3	L3
	OR			
	Define hash function. <i>Articulate</i> Explain the construction of generic cryptographic hash and with a neat sketch, Illustrate the process of computing hash function using SHA-1 algorithm.	10M	CO5	L3
3.	Describe the duties of subscribers. Briefly explain penalties and adjudication in IT Act.	10M	CO5	L2
	OR			
	Explain Digital signature Certificates. Discuss offences defined as per IT act 2000. (any 4). <i>Include one more co. To make changes.</i>	10M	CO5	L1, L2

Secretary

Figure 2.2.2.2: Sample question paper, got scrutinized by the Question paper Scrutinizing committee

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DEPARTMENT : INFORMATION SCIENCE & ENGINEERING

Scheme & Solutions

Test-I

Semester: IV Subject Title: Design & Analysis of Algorithms Subject Code: 17CS43

Question Number	Solution	Marks Allocated
1. a	An algorithm is defined as finite sequence of unambiguous instructions followed to accomplish a given task. Criteria i) Input - Each algorithm should have zero or more inputs. ii) Output - Correct results with atleast one output has to be produced. iii) Definiteness - Each instruction should be clear and unambiguous. iv) Effectiveness - The instructions should be simple & transform the given input to desired output. v) Finiteness - The algorithm must terminate after a finite sequence of instructions. Algorithm GCD(m,n) <pre> // computes GCD(m,n) // Input: m and n positive integers // Output: GCD of m and n while n ≠ 0 do r ← m % n m ← n n ← r end while return m </pre>	$\frac{1}{2} M$ $\frac{1}{2} \times 5 = 2\frac{1}{2} M$ 3 M
b.	consider four arbitrary numbers a_1, a_2, b_1, b_2. If $a_1 \leq b_1$ and $a_2 \leq b_2$ then $a_1 + a_2 \leq 2 \max\{b_1, b_2\}$	1 M

Figure 2.2.2.3: Sample Scheme and Solution for Evaluation

2.2.3. Quality of Student Projects (25)

Final Year Project Work Group:

Project Coordinators and Faculty members educate students carry out project works in different domains/areas of their interest. Coordinators send circular for identifying the project works in their respective domains such as (not limited to)

- Data Mining and Warehousing, Big Data Analytics
- Internet of Things
- Artificial Intelligence and Machine Learning
- NLP and Image Processing
- Computer Networks and Mobile Applications development
- Web Technology
- Distributed Systems and Social networks
- Network Security
- Cloud Computing

The department encourages students to undertake relevant, achievable, time bound projects either in the college or at the industry to solve problems in any of the above domains with social impact. Students can form group/team on their own, consisting of minimum 2 to maximum 4 members.

Project Work Identification:

- The students are required to do a thorough literature survey on their area of interest, formulate the problem statement with a brief synopsis on the intended project work
- The students are encouraged to consult experts from industry/ research labs/ Government organizations to carry out their project work through proper channel.

Continuous Monitoring:

- Students have to submit the synopsis of the project work to the coordinators for Scrutiny
- The project work coordinators and the scrutiny committee will scrutinize the synopsis and give suggestions towards the improvements in strengthening the synopsis.
- Based on synopsis contents and areas of interest, the internal guides will be allocated to each project team.
- Some students have shown interest in undertaking projects at Public/Private sectors. In this case, HoD provides Letter of Reference to the concerned sector. A teacher of the department functions as Internal Guide to such students and the scientist/researcher at the concerned sector functions as External Guide.

- Every week, the students should meet their concern guide and update their project work progress and have to take signature from guide, coordinator and HoD.
- The students/batch must give presentation on the project in front of the project work review committee as scheduled in Phase-1, Phase-2.
- All the suggestions to students/project batch in every presentation and demo given by the project work review committee needs to be incorporated before the submission of final project report

Project work Review Schedule:

Description	Schedule
Submission of Synopsis	Beginning of VII semester (September)
Allocation of Guide and Preliminary Screening Seminar	Two weeks after start of VII semester (October)
Project Phase 1 - Review	End of VII semester(November-December)
Project Phase II - Review	Middle of VIII semester (March-April)
Final Presentation and Demonstration	End of VIII semester (April-May)
Submission of the Draft report to the guide	End of VIII semester (April-May)
Exhibit the project In College project Exhibition and internal Evaluation	First week of May
Submission of the final project report	Third week of May
External Viva-voce	June month

Table B 2.2.3.1: Project Work Review Schedule

Project work Evaluation:

- **Internal Evaluation:** The project work and the report will be evaluated by internal committee at Phase-1, Phase-2.
- **External Evaluation:** The project work and the report will be evaluated by internal and external examiners appointed by the University.
- The external examiner will be from other VTU affiliated Institutions.
- The examiners will take presentation and demonstration followed by Viva-Voce on the project work carried out by students. The students need to defend their project work. Based on the presentation and Viva-Voce, the marks will be awarded for the students, which will be sent to University.

Rubrics for Project Internal Evaluation:

Rubrics for Phase1

Rubric	Agenda	Marks
Rubric #R1	Problem Identification and definition	10
Rubric #R2	Literature Review	10
Rubric #R3	Significance and relevance work	05
Rubric #R4	Review1 Presentation	15
Rubric #R5	Objectives and Methodology of project	10
Rubric #R6	Plan of execution	05
Rubric #R7	Review2 Project Seminar	20
Rubric #R8	Phase1 Project Synopsis Report	25
Overall Weightage		(Sum of R1, R2, R2, R4, R5, R6,R7,R8)

Table B 2.2.3.2: Rubrics for Final Semester Project Internal Evaluation

Rubrics for Phase2

Rubric	Agenda	Marks
Rubric #R1	Plan of Execution	05
Rubric #R2	Progress of work	10
Rubric #R3	Interaction with Guide, Coordinators and HOD while carrying over Project	05
Rubric #R4	Design	20
Rubric #R5	Implementation and Testing	10
Rubric #R6	Presentation and Questionnaire's	10
Rubric #R7	Report Preparation	15
Rubric #R8	Final Project Demonstration	25
Overall Weightage		(Sum of R1, R2, R2, R4, R5, R6,R7,R8) =100

Table B 2.2.3.3: Rubrics for Final Semester Project Internal Evaluation

- Projects are broadly classified as

1. **Industry projects:** Under this category, the project work is carried out in an industry or an external organization with identified internal and external guides. Around 75% of the projects are done at the college. Around **20-25%** of the projects are done at the Industries/Institutes like ISRO, IBM, IISc, DRDO, ADE, CAIR, Sonata, Thought works, Amazon etc.,

2. **In-house projects:** Under this category, the project work is carried out under the supervision of a faculty from the department. Around **75-80%** of the projects are done at the college.

Table B 2.2.3.3 gives the types and relevance of the projects and their contribution towards attainment of POs and PSOs.

Academic year	CAYm2 2018-19	CAYm1 2019-20	CAY 2020-21	Attainment of POs and PSOs
Total number of projects	28	24	24	PO1- PO12, PSO1, PSO2
In-house projects	28 (100%)	24 (100%)	24 (100%)	PO1- PO12, PSO1, PSO2

Table B 2.2.3.3 Types and Relevance of the Projects and their contribution towards attainment of POs and PSOs

List of Projects (2017 - 2021) Batch

Batc h No.	USN	Name of the Student	Project Title	Domain/Are a
1.	1SJ17IS067 1SJ17IS072 1SJ17IS078 1SJ17IS080	RAKSHITHA B S SANGHAVI M N SNEHA C REDDY SONALI P N	Rainfall prediction using Machine Learning and Neural Networks	Machine Learning
2.	1SJ17IS045 1SJ17IS049 1SJ17IS054	NEHA NITHYASHREE C PAVITHRA V M	Smart Trash Distinguishable Dustbin: A Biodegradable and Non-Biodegradable Waste Differentiable Sensing Dustbin, And Alarm Indicator of Completely Filled Dustbin Using AI Sensors.	Artificial Intelligence
3.	1SJ17IS056 1SJ17IS052 1SJ17IS059	PRATHISHA M N PAVANI PRIYANKA N	Abnormal Event Detection in Videos Using Spatiotemporal Auto encoder	IOT
4.	1SJ17IS036 1SJ17IS031	MEGHANA B R MADHUSHREE L	Implementing CCTV-Based Attendance Taking Support system using Deep Face Recognition	Machine Learning

	1SJ17IS041 1SJ17IS038	NAMITHA REDDY M MOUNIKA S		
5.	1SJ17IS013 1SJ17IS026 1SJ17IS027 1SJ17IS029	DHANALAKSHMI K KAVYA N V KAVYA SURESH GOUDA LAHARI NAIDU S	Predictive Analysis of IPL Match Winner using Machine Learning Techniques	Machine Learning
6.	1SJ17IS034 1SJ17IS033 1SJ17IS039 1SJ17IS037	MANASA R MANASA K C N PRIYANKA MONIKA M	COVID-19/SARS B-Cell Epitope Prediction	Machine Learning
7.	1SJ17IS001 1SJ17IS020 1SJ17IS022 1SJ17IS030	AISHWARYA RAJU HARSHITH M HEMANTH M LEKHADEVARAJ	Monitoring COVID-19 social distancing with person detection using Image Processing	Image Processing
8.	1SJ16IS052 1SJ17IS047	NAMITHA CN NETHRAVATHI	Tsunami Prediction System using IOT Technology	IOT
9.	1SJ17IS004 1SJ17IS043 1SJ16IS072 1SJ17IS091	AMRUTHA M NAVYA L PRIYANKA C VIVEK S	Real-time American Sign Language Recognition with Convolutional Neural Network	Machine Learning
10	1SJ17IS062 1SJ18IS400 1SJ18IS401 1SJ14IS002	RACHANA C R GANA SHREE R SAMREENNAZZ AFREENSABA	Smart water management platform: IOT-based precision irrigation for agriculture	IOT
11	1SJ17IS015 1SJ17IS046 1SJ17IS024 1SJ17IS042	DIVYA D M NEHALA G IMPANA NAMRATA DAS	Design and analysis of IOT based air quality monitoring system	IOT
12	1SJ17IS003 1SJ17IS017 1SJ17IS028 1SJ17IS035	AMITH S A GOKUL C KOMALRAJ D R MANOJ R	A Simple Chat Application using Biometric Encryption and Authentication	Network Security
13	1SJ17IS011 1SJ17IS021 1SJ17IS023	BHAVANI V K HARSHITHA D A HIMABINDU N	Detection of Disease in Cotton Leaf using Artificial Neural Networks	Machine Learning
14	1SJ17IS081 1SJ17IS079 1SJ17IS088	SRUSHTI ANAND SNEHA.G YASHASWINI C	Real Time Eye Blink Password Authentication	Network Security
15	1SJ17IS065 1SJ17IS069 1SJ17IS002 1SJ17IS025	RAHUL N ANKOLA RAUNAK RAJ DUBEY AMARTYA BANERJEE KALYANSARKAR	An IOT Approach to Accident Intensity Detection and Reporting using Cloud Server.	IOT
16	1SJ17IS061 1SJ17IS050 1SJ17IS066 1SJ17IS070	PRUTHVI RAJ C K PAVAN KALYAN S RAJESHA N R RAUSHAN KUMAR	Object detection, tracking and alert system for visually impaired persons using Image Processing	Image Processing

17	1SJ17IS008 1SJ17IS009 1SJ17IS012 1SJ17IS044	APOORVA M ARSHIYA SHARIFF CHAITHRA M S NAYANASHREE K M	Data analytics and ML : Bank transactions over a long period of time	Machine Learning
18	1SJ17IS068 1SJ17IS077 1SJ17IS082 1SJ17IS087	RANJITHA A SIREESHA G V SUSHMA H M VINAYA SHREE P V	Real time driver advisory model - Intelligent transportation system using RFID	IOT
19	1SJ17IS090 1SJ17IS076 1SJ17IS057 1SJ17IS064	VENU GOPAL M S SHIVA PRASAD C PREETHAM GOWDA RAHUL M	Smart Home Security System Using IOT	IOT
20	1SJ17IS005 1SJ17IS007 1SJ16IS087 1SJ17IS073	ANIKET SINGH ANMOL KUMARI SHRAVANIKUMARI .G SARA AYMAN	Emotion based Music player	Machine Learning
21	1SJ17IS083 1SJ16IS108 1SJ17IS051 1SJ17IS055	SWAPNA T. M VARSHA AR PAVANA R S PRAKRUTHI HN	Traffic and accident prediction for images and videos using deep learning techniques	Machine Learning
22	1SJ17IS084 1SJ17IS085 1SJ17IS074	TEJASWINI P TEJASWINI MN SHALINI S	Using Keystroke Authentication Typing Errors Pattern as Non-Repudiation in Computing Forensics	Network Security
23	1SJ16IS025 1SJ16IS070	CHETAN K S PRAVEENA H D	Auto Detect and Recognize Vehicle's License Plate Using Artificial neural network	Machine Learning
24	1SJ16IS105 1SJ16IS115	UDAY M N VISHU KUMAR S	Semantics of Data Mining Services in Cloud Computing	Data Mining

Table B2.2.3.4 List of Projects (2017 -2021)**List of Projects (2016 - 2020) Batch**

Batch No.	USN	Name of the Student	Project Title	Domain/Area
1	1SJ16IS062 1SJ16IS078 1SJ15IS127 1SJ15IS105	PAVAN B N RONITH GOWDA M R RAKESH A SRIVATSA A	Filling Html Forms Using Voice Commands	Web Technology
2	ISJ16IS056 ISJ16IS031 ISJ16IS013 ISJ16IS037	PAVAN B N RONITH GOWDA M R RAKESH A SRIVATSA A	Student Data Retrieval using Image Processing.	Image Processing

3	ISJ16IS016 ISJ16IS030 ISJ16IS036 ISJ16IS048	BYREGOWDA K.R H M AJITH KARTHIK GOWDA H.S MANOJ M	Vehicle Recognition System Using Deep Learning for Fraud and Theft Detection	Deep Learning
4	1SJ16IS041 1SJ16IS034 1SJ16IS035 1SJ16IS021	LAKSHMI N KALPANA B KANCHANA R REDDY CHAITRA K M	. Automated System for Identification and Reckoning of Livestock.	Web Technology
5	1SJ16IS040 1SJ16IS044 1SJ16IS101 1SJ16IS012	LAKSHMI KANTH N V INDU M SWETHA M BHANU V	Affective Eeg Based Person Identification using Deep Learning Approach.	Deep Learning
6	1SJ16IS002 1SJ16IS027 1SJ14IS001 1SJ16IS051	ACHYUTH N S DHANANJAY S ABISHEK GOWDA B K MRUDULA P B	Determination of Fake News Using IBM's Waston And Block Chain	Web Technology
7	1SJ16IS001 1SJ16IS004	ABHISHEK B AKASH MANDAL	The Smart Identification of Crops by Soil Testing	IOT
8	1SJ16IS043 1SJ16IS053 1SJ16IS024 1SJ16IS045	LOHITH V NAVEEN KUMAR N CHANNABASAVA H MANASA C M	Maintaining Integrity of Medical Records Using Blockchain Technology	Network Security
9	1SJ16IS058 1SJ16IS010 1SJ16IS096 1SJ16IS060	NISCHAY KUMAR B. G. ANIL SUMANA S SARALAYA NIVEDITHA R PRASAD	Trend Analysis of Advanced Persistent Threat Techniques Using Natural Language Processing	NLP
10	1SJ16IS059 1SJ16IS042 1SJ16IS008	NISHITHA V LAKSHMI V ANUSHA M	Machine Learning Analysis of Speech Detects Anxiety And Depression in Early Childhood.	Machine Learning
11	1SJ16IS102 1SJ16IS110 1SJ16IS081 1SJ16IS065	TANUJA R YADAV VIDYASHREE M D SAMEENA TAJ PAVITHRA V	An Efficient Search Scheme Over Encrypted Data on Cloud	Cloud Computing And Security
12	1SJ16IS006 1SJ16IS022 1SJ16IS038 1SJ16IS088	AMRUTHA K J CHANDANA M KUMUDA N SHRAVYA M	Secret Image Sharing Based on Encrypted Pixels.	Network Security
13	1SJ16IS103 1SJ16IS077 1SJ16IS032 1SJ16IS033	TEJASWINI N REDDY BHARGAVI U JAYASHREE S K M RACHANA	Quality Assurance Of Stocks Using Machine Learning	Machine Learning

14	1SJ16IS111 1SJ16IS114 1SJ15IS113 1SJ15IS103	VIKAS K M VISHNU M S SWAGATH S SRINIVASA S G	Flower Identification Using Deep Learning	Deep Learning
15	1SJ15IS026 1SJ15IS126 1SJ16IS020 1SJ16IS017	HARSHITHA H MADHUSHREE S CHAITHRA S S CHAITANYA B	Smart Blood Bank System and Detection of Dengue Fever with Platelets Count Using Image Processing Technique and Embedded System	Image Processing
16	1SJ16IS023 1SJ16IS009 1SJ16IS028	CHANDRA REDDYGARI SRAVANI ANVITHA BELIRAY P DIVYA D R	Heart Disease Prediction Using Machine Learning	Machine Learning
17	1SJ16IS003 1SJ16IS055 1SJ16IS019 1SJ16IS039	AISHWARYA Y NIDA SULTHANA CHAITHRA S R KUSUMANJALI S	A Predictive Data Feature Exploration Based Air Quality Prediction Approach	Machine Learning
18	1SJ16IS082 1SJ16IS075 1SJ16IS080 1SJ16IS100	SAMYUKTHA B RAMYASHREE DM SAHANA G SUSHMITHA	Design Of Measurement Methods Against Bandwidth Inflation Attacks.	Network Security
19	1SJ16IS005 1SJ16IS068 1SJ16IS063 1SJ16IS083	AKHIL CHOWDHARY MV PRAJWAL GOWDA R PAVAN KUMAR V SANTOSH N	Prediction Of Stock Market Variation Using Time Variant Data.	Web Technology
20	1SJ16IS005 1SJ16IS068 1SJ16IS063 1SJ16IS083	RACHITH N RAO SUNITHA M PALLAVI K PAVITHRA B R	Multiclassification Of Brain Tumor Images Using Deep Neural Network	Neural Network
21	1SJ16IS098 1SJ16IS090 1SJ16IS091 1SJ16IS107	SUPRIYA G M SHWETHA M SINDHU K V VANDANA C R	Security System For DNS Using Cryptography	Networking & Security
22	1SJ16IS069 1SJ16IS104 1SJ16IS007	PRATHIBHA N S THANUSHREE MANANYA	Detecting SQL Injection Attacks And Vulnerability Inside DBMS.	Networking & Security
23	1SJ16IS116 1SJ15IS046 1SJ16IS093 1SJ16IS109	Y VARALAKSHMI MADHUSHREE S SOWMYA S M VEDHA N GOWDA	Greenhouse Monitoring System Using Deep Learning And Bot Notifications Services Using Ml(IOT)	Machine Learning
24	1SJ16IS047 1SJ16IS113 1SJ16IS106 1SJ16IS112	MANOJ GOWDA R VINAYGOWDA A V VAIBHAV M VINAYAK S M	Monitoring And Warning For Digital Twin Driven Mountain Geological Disaster.	IOT
25	1SJ16IS026 1SJ16IS089 1SJ16IS092 1SJ16IS099	CHINTANA N REDDY SHRUTHI N SOWMYA SAJJAN SURABHI K	Visualizing Image By Enhanced Image Segmentation For Computer Aided Diagnosis	Image Processing

26	1SJ15IS098 1SJ15IS102 1SJ15IS092 1SJ15IS114	SMRITI GURURAJ SRINITHA H S SHIVRAJ SWAPNA K A	Drowsiness Detection Of Drivers Using Image Processing	Image Processing

Table B2.2.3.5 List of Projects (2016 -2020)**List of Projects (2015 - 2019) Batch**

Batch no.	USN	Name of the Student	Project Title	Domain/Area
1	1SJ15IS111 1SJ15IS096 1SJ15IS064 1SJ15IS073	SUSHMA V SHRIYA KUMARI POULAMI SAHU RACHANA .R	Automatic Medicine Vending Machine	IOT
2	1SJ15IS032 1SJ15IS035 1SJ15IS036 1SJ15IS006	JYOTHI K KHASHAKI AISHWARYA R KRISHNA KANHAIYA AMAN KR MISHRA	Smart Traffic Control System	IOT
3	1SJ15IS013 1SJ15IS061 1SJ15IS055 1SJ15IS057	CHANDINI N NITHYA G MUNIRAJU B NEELES BHARGAV	Credit Card Fraud Detection Using Adaboost and Majority Voting	Network Security
4	1SJ15IS002 1SJ15IS003 1SJ15IS016 1SJ15IS021	ABHISHEK KARMAKAR ADITHYA NAWADA NAWADA DEEPAK KUMAR S GAJENDRA	Gamification for Talent Acquisition	Web Technology
5	1SJ15IS115 1SJ15IS112 1SJ15IS101 1SJ15IS082	SWATHI S V SUSHMITA JENA SUSHMITA JENA SPOORTHI M ROUNAQ FATHIMA	Text Extraction In Video Using Corner Metric and Laplacian Filtering	Image Processing
6	1SJ15IS084 1SJ15IS109 1SJ14IS083 1SJ14IS108	SAHANA M SUPRIYA J SOWJANYA T VIDYASHREE K	A Secure And Dynamic Multi-Keyword Ranked Search Scheme Over Encrypted Cloud Data	Cloud Computing & Security
7	1SJ15IS083 1SJ15IS117 1SJ15IS121 1SJ15IS124	SAHANA M SUPRIYA J SOWJANYA T VIDYASHREE K	Learners Exchange	Web Technology
8	1SJ15IS110 1SJ15IS086 1SJ15IS089 1SJ15IS079	SURAJ A R SAMARTH T G SHAILESH KUMAR B M REVANTH V C	An Efficient and Privacy Biometric Identification Scheme in Cloud Computing with Blockchain	Cloud Computing & Security
9	1SJ15IS095 1SJ15IS078 1SJ15IS075 1SJ15IS076	SHREYAS N RAMESH T RAKSHITH M RAKSHITH M	Person Information Report System	Web Technology

10	1SJ15IS004 1SJ15IS019 1SJ15IS034	AKSHITHA J DIVYA K S KAVYA H L	Smart Covenance Through Big Data: Digital Transformation Of Public Agencies	Big Data
11	1SJ15IS056 1SJ15IS033 1SJ15IS051 1SJ15IS039	NAMRATHA G A JYOTHI R P MEGHANA MOHAN LAKSHMI Y M	A Novel Scheduler for Task Scheduling Using Machine Learning	Machine Learning
12	1SJ15IS018 1SJ15IS042 1SJ15IS058 1SJ15IS059	DEEPTHI.S LIKHITHA.D NETRA.L NISHA.N	An Efficient MSB Prediction-Based Method for High Capacity Reversible Data Hiding In Encrypted Images.	Ne1twork Security
13	1SJ15IS069 1SJ15IS070 1SJ15IS071	PRIYADARSHINI M N PRIYANKA K V PRUTHVI V M	Fine-Grained Two Factor Protection Mechanism for Data Sharing In Cloud Storage	Cloud Computing &Security
14	1SJ15IS065 1SJ15IS066 1SJ15IS080 1SJ15IS074	PRAPULLA M PRATHIBA M C REVANTH Y R RAKESH GOWDA K	IOT Based Anti-Poaching Alarm System for Trees in Forest Using Wireless Sensor Network	IOT
15	1SJ15IS014 1SJ15IS024 1SJ15IS025 1SJ15IS029	CHARAN S HARSHITHA G L HARSHITHA H S INDUSHREE M	Wavelet Transfrom to Improve Accuracy of A Prediction Model for Overall Survial Time of Brain Tumor Patients Based on MRI Images	Image Processing
16	1SJ15IS062 1SJ15IS038 1SJ15IS041	PALLAVI N LAHIKA FATHIMA S LAVANYA M S	Build Recommendation System for Movielens Dataset	Web Technology
17	1SJ15IS008 1SJ15IS017 1SJ15IS015 1SJ15IS037	ANIRUDH P DEEPAN R CHETHAN BG KRUPA S	Online Study Portal With Chatbot	Web Technology
18	1SJ15IS093 1SJ15IS091 1SJ15IS119 1SJ15IS120	SHRAVANI SRINIVAS S SHIRISHA D TOUSIFA TAJ USHA RANI R	A Power-of-Two Choices Based Algorithm for Fog Computing	Cloud Computing
19	1SJ15IS104 1SJ15IS088 1SJ15IS100 1SJ15IS118	SRIVALLI N L SHAIK AFSHAN TASLEEM SOWMYASHREE G THULASI A	Andorid Based Advanced Attendance Vigilance System Using Wireless Network With Fusion Of Biometric Fingerprint	Mobile Computing& Security
20	1SJ15IS009 1SJ15IS012 1SJ15IS043 1SJ15IS053	ANKITHA K S CHANDANA G K LIKITHA B MEGHANA S	Image Based Authentication Using Zero Knowledge Protocol	Image Processing & Security
21	1SJ15IS067 1SJ15IS068 1SJ15IS087 1SJ15IS090	Preetha V Priya K S Sandhya Tejaswini S Shilpa K R	Block Chain Enabled E- Voting	Network Security
22	1SJ15IS081 1SJ15IS097 1SJ15IS106	Rishabh Adhana Shubham Pandey Subhasish Dash	General TCP State Interference Model From Passive Measurements	Computer Networks

23	1SJ15IS047 1SJ15IS049 1SJ15IS054 1SJ15IS023	Mahantesh Shivanand Mathad Manohar B M Monish R H Kishor Kumar H B	Invigilator Scheduling	Web Technology
24	1SJ15IS040 1SJ15IS045 1SJ15IS060 1SJ15IS085	Lavanya J M M Gouri Nithya N Sailikhitha	Efficient Quantum Information Hiding for Remote Medical Image Sharing	Image Processing & Security
25	1SJ15IS011 1SJ15IS022 1SJ15IS027 1SJ15IS050	Chandan V Girish C S Harshitha J M Meghana Kumar K J	Towards Deadline Guaranteed Cloud Storage Services	Cloud Computing
26	1SJ15IS028 1SJ15IS031 1SJ15IS044 1SJ15IS063	Hemashree S Joshitha C R Liny Cheeran Poornashree H K	Bus Navigation System With Effective Data Transmission and Wireless Communication	Wireless Communication
27	1SJ15IS122 1SJ15IS123 1SJ15IS094	Varun Gokhale Vineesh P Venu Shreyas M	Data Mining of Reviews Using Natural Language Processing	Natural Language Processing
28	1SJ15IS072 1SJ15IS077 1SJ15IS107 1SJ15IS125	Pushpa V Rakshitha C Sucharitha J Yashawini G	Drops: Division & Replication of Data in Cloud for Optimal Performance and Security	Cloud Computing & Security

Table B2.2.3.6 List of Projects (2015 - 2019) Batch**Working Prototypes and Enhancing the Relevance of Projects:**

- Department has conducted National Level Project Exhibition to show case the project of our students.
- The best projects identified from the project exhibition will be sent to different colleges/institute for participation in exhibition.
- The internal guide will help the students to publish their work in national/ international conference and journal.
- The best project of the department will be awarded cash prize.

SJC Institute of Technology

Department of Information Science and Engineering

VIII Sem B.E Student Project Evaluation Report- 2020-21

Project Title. Implementing CCTV Based Attendance Taking support system using Deep Face Recognition

Sl. No	Student Name	USN
1	Meghana. B. R	1SJ1718036
2	Madhushree. L	1SJ1718031
3	Namitha Reddy. M	1SJ1718041
4	Mounika. S	1SJ1718038

Sl. No	Date	Summary and Discussion	Signature		
			Guide	Project Coordinator	HOD
1.	25/5/21	Discussed about plan of execution		A/c	
2.	2/6/21	Progress of work monitored		A/c	
3.	9/6/21	Design Diagrams		A/c	
4.	16/6/21	Detailed Design Discussed		A/c	
5.	25/6/21	Front end discussed.		A/c	
6.	10/7/21	Started coding		A/c	
7.	17/7/21	Module wise code verified.		A/c	
8.	24/7/21	Testing Done.		A/c	
9.	30/7/21	Project Demo.		A/c	
10.	5/8/21	Presentation		A/c	

Project Coordinator

HOD, ISE

Figure 2.2.3.4: Sample Student project Evaluation Report

SJC Institute of Technology
Department of Information Science and Engineering
Phase II VIII Sem B.E Internal Project Evaluation
Batch- 2020-21

Group: G14 Date: 9/8/2021
 Student Name: Meghana B.R USN: 1SJ1718036
 Title of the Project: Implementing CCTV Based Attendance Taking support system using Deep Face Recognition

Sl. No	Particulars	Max Marks	Guide	Panel	
			Obtained marks	Coordinator1	Coordinator2
1	Plan of Execution	05	05	5	5
2	Progress of work	10	10	9	10
3	Interaction and discussion with Guide and Coordinators	05	05	5	5
4	Design	20	20	19	20
5	Implementation and Testing	10	10	9	10
6	Presentation and query	10	10	9	10
7	Report Preparation	15	15	14	15
8	Final Project Demonstration	25	25	25	25
Total		100	100	95	100

Final Marks (Average) 98

Remarks: The Project was presented well. Some modification suggested were Implemented.

	Guide	Coordinator1	Coordinator2
Name	chandra shetharajm	Aravinda Thijas chandla	Sabin.T.T
Signature			

Figure 2.2.3.5: Final Internal Marks Evaluation with split-ups

Best Student Projects:

The department encourages the students to participate in technical Expo/Project showcasing event conducted by the Institute. The evaluation committee consists of industry experts, academia expert and internal experts. The best project will be selected by said evaluation team based on Originality, Organization of Project report, Technical Content (Significant Contributions), Presentation, Relevance and Clarity of drawings, graphs and tables, Experimental Results / Discussions, Clarity in Language and References (adequacy and correct citation).

Year 2020 – 2021

SI No	USN	NAME	Project Title	Guide Name
1	1SJ17IS081	Srushti Anand	Real Time Eye Blink Password Authentication	AravindaThejas Chandra
	1SJ17IS079	Sneha.G		
	1SJ17IS088	Yashaswini C		
2	1SJ17IS036	Meghana B R	Implementing Cctv-Based Attendance Taking Support System Using Deep Face Recognition	Chandra Shekar J M
	1SJ17IS031	Madhushree L		
	1SJ17IS041	Namitha Reddy M		
	1SJ17IS038	Mounika S		

Table B2.2.3.7 Best Student Projects List – 2020-2021 batch**Year 2019 –2020**

SI No	USN	NAME	Project Title	Guide Name
1	1SJ16IS002	Achyuth N S	Determination Of Fake News Using Ibm's Watson And Block Chain	Nagaraja G
	1SJ16IS027	Dhananjay S		
	1SJ14IS001	Abishek Gowda B K		
	1SJ16IS051	Mrudula P B		
2	1SJ16IS058	Nischay Kumar	Trend Analysis Of Advanced Persistent Threat Techniques Using Natural Language Processing	Satheesh Chandra Reddy
	1SJ16IS010	B. G. Anil		
	1SJ16IS096	Sumana S Saralaya		
	1SJ16IS060	Niveditha R Prasad		

Table B2.2.3.8 Best Student Projects List – 2019-2020 batch

Year 2018 –2019

Sl No	USN	NAME	Project Title	Guide Name
1	1SJ15IS067	Preetha V	Block Chin Enabled E –Voting	Aravinda Thejas Chandra
	1SJ15IS068	Priya		
	1SJ15IS087	Sandhya Tejaswini S		
	1SJ15IS090	Shilpa K R		
2	1SJ15IS117	S Chandana	Learners Exchange	Nagaraja G
	1SJ15IS121	T Nandini		
	1SJ15IS124	Usha		
	1SJ15IS110	Vinutha S		

Table B2.2.3.9 Best Student Projects List – 2018-2019 batch**Student Project works carried out in various Domains:**

Sl. No	Domain	Number of Projects		
		2020-21	2019-20	2018-19
1.	AI/Machine Learning	11	10	01
2.	IOT	07	02	03
3.	Cloud Computing	-	-	07
4.	Big Data /DM	01	-	01
5.	Network Security	03	06	03
6.	Web Technology	-	04	06
7.	Computer Networks/Mobile App	-	-	03
8.	Image Processing	02	04	04

Table B 2.2.3.10 Student Projects categorized on various domains

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Department: Information Science and Engineering
Sub: Project Phase-I Project Work Code: ISISP78

-2019

Project Synopsis and Project Seminar Evaluation - Review-I

Sl. No	Date of Evaluation	Project Title	USN	Name	Evaluator Details	Components / Criteria of Evaluation				Total (40)	AVG	Sign
						1	2	3	4			
G1	10/10/2019	FILLING HTML FORMS USING VOICE COMMANDS	ISJ16IS062	PAVAN B N	1. Susheelamma K H	10	10	5	15	40	36	AFC P.L
					2. Aravinda Thejas Chandra	7	7	3	13	30		
					3. Badrinath K	9	9	5	14	37		
			ISJ16IS078	RONITH GOWDA M R	1. Susheelamma K H	10	10	5	15	40	36	AFC P.L
					2. Aravinda Thejas Chandra	7	7	3	13	30		
					3. Badrinath K	9	9	5	14	37		
			ISJ15IS127	RAKESH A	1. Susheelamma K H	10	10	5	15	40	36	AFC P.L
					2. Aravinda Thejas Chandra	7	7	3	13	30		
					3. Badrinath K	9	9	5	14	37		
			ISJ15IS105	SRIVATSA A	1. Susheelamma K H	10	10	5	15	40	36	AFC P.L
					2. Aravinda Thejas Chandra	7	7	3	13	30		
					3. Badrinath K	9	9	5	14	37		
G2	10/10/2019	STUDENT DATA RETRIEVAL USING IMAGE PROCESING.	ISJ16IS056	NIKILA K	1. G R SHWETHA	9	9	4	14	36	36	AFC P.L
					2. Aravinda Thejas Chandra	9	9	4	14	36		
					3. Badrinath K	9	9	4	14	36		

Figure 2.2.3.11: Sample of Project Evaluation form-Phase I Review I

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Department: Information Science and Engineering
Sub: Project Phase-I Project Work Code: ISISP78

-2019

Project Synopsis and Project Seminar Evaluation - Review-II

Sl. No	Date of Evaluation	Project Title	USN	Name	Evaluator Details	Components / Criteria of Evaluation				Total (60)	AVG (60)	Sign
						1	2	3	4			
G1	14/11/2019	FILLING HTML FORMS USING VOICE COMMANDS	ISJ16IS062	PAVAN B N	1. Susheelamma K H	10	5	20	25	60	54	AFC P.L
					2. Aravinda Thejas Chandra	7	3	15	20	45		
					3. Badrinath K	9	4	18	25	56		
			ISJ16IS078	RONITH GOWDA M R	1. Susheelamma K H	10	5	20	25	60	54	AFC P.L
					2. Aravinda Thejas Chandra	7	3	15	20	45		
					3. Badrinath K	9	4	18	25	56		
			ISJ15IS127	RAKESH A	1. Susheelamma K H	10	5	20	25	60	54	AFC P.L
					2. Aravinda Thejas Chandra	7	3	15	20	45		
					3. Badrinath K	9	4	18	25	56		
			ISJ15IS105	SRIVATSA A	1. Susheelamma K H	10	5	20	25	60	54	AFC P.L
					2. Aravinda Thejas Chandra	7	3	15	20	45		
					3. Badrinath K	9	4	18	25	56		
G2	14/11/2019	STUDENT DATA RETRIEVAL USING IMAGE PROCESING.	ISJ16IS056	NIKILA K	1. G R SHWETHA	9	5	18	25	57	56	AFC P.L
					2. Aravinda Thejas Chandra	8	5	18	23	54		
					3. Badrinath K	9	5	18	25	57		

Figure 2.2.3.12: Sample of Project Evaluation form-Phase I Review II

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Department: Information Science and Engineering
Sub: Project Work Code: ISISP85

Project Intermediate Evaluation – PHASE II – REVIEW – I

Sl. No.	Date of Evaluation	Project Title	USN	Name	Evaluator Details	Components / Criteria of Evaluation				Total (40)	Sign
						1	2	3	4		
G1	11/03/2020	FILLING HTML FORMS USING VOICE COMMANDS	ISJ16IS062	PAVAN B N	1. SUSHEELAMMA K H	5	10	5	20	40	S
					2. ARAVINDA THEJAS CHANDRA	5	9	5	19	37	ATC
					3. BADRINATH K	5	10	5	19	39	B
			ISJ16IS078	RONITH GOWDA M R	1. SUSHEELAMMA K H	4	9	4	19	36	S
					2. ARAVINDA THEJAS CHANDRA	4	3	4	19	36	ATC
					3. BADRINATH K	4	9	4	19	36	B
			ISJ15IS127	RAKESH A	1. SUSHEELAMMA K H	5	10	5	20	40	S
					2. ARAVINDA THEJAS CHANDRA	5	9	5	19	37	ATC
					3. BADRINATH K	5	10	5	19	39	B
			ISJ15IS105	SRIVATSA A	1. SUSHEELAMMA K H	4	9	4	19	36	S
					2. ARAVINDA THEJAS CHANDRA	4	8	4	18	34	ATC
					3. BADRINATH K	4	9	4	19	36	B
ISJ16IS056	NIKILA K	1. G. R. SHWETHA	4	9	5	20	38	ATC			
		2. ARAVINDA THEJAS CHANDRA	4	9	4	20	37	ATC			
		3. BADRINATH K	4	9	4	19	36	B			
ISJ16IS031	HARSHITHA P	1. G. R. SHWETHA	4	9	4	19	36	B			
		2. ARAVINDA THEJAS CHANDRA	4	9	4	19	36	B			
		3. BADRINATH K	4	9	4	19	36	B			

Figure 2.2.3.13: Sample of Project Evaluation form-Phase II Review I

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Department: Information Science and Engineering
Sub: Project Work Code: ISISP85

PROJECT END EVALUATION – PHASE II REVIEW – II

Sl. No.	Date of Evaluation	Project Title	USN	Name	Evaluator Details	Components / Criteria of Evaluation				Total (60)	Sign
						1	2	3	4		
G1	10/5/2020	FILLING HTML FORMS USING VOICE COMMANDS	ISJ16IS062	PAVAN B N	1. SUSHEELAMMA K H	10	10	15	25	60	S
					2. ARAVINDA THEJAS CHANDRA	9	9	22	22	52	ATC
					3. BADRINATH K	9	9	15	25	58	B
			ISJ16IS078	RONITH GOWDA M R	1. SUSHEELAMMA K H	9	9	14	24	56	S
					2. ARAVINDA THEJAS CHANDRA	9	9	22	22	52	ATC
					3. BADRINATH K	9	9	14	24	56	B
			ISJ15IS127	RAKESH A	1. SUSHEELAMMA K H	10	10	15	25	60	S
					2. ARAVINDA THEJAS CHANDRA	9	9	22	22	52	ATC
					3. BADRINATH K	9	9	15	25	58	B
			ISJ15IS105	SRIVATSA A	1. SUSHEELAMMA K H	9	9	14	24	56	S
					2. ARAVINDA THEJAS CHANDRA	9	9	22	22	52	ATC
					3. BADRINATH K	9	9	14	24	56	B
ISJ16IS056	NIKILA K	1. G. R. SHWETHA	9	9	14	25	57	ATC			
		2. ARAVINDA THEJAS CHANDRA	8	8	22	23	51	ATC			
		3. BADRINATH K	8	9	14	25	56	B			
ISJ16IS031	HARSHITHA P	1. G. R. SHWETHA	9	9	14	25	57	ATC			
		2. ARAVINDA THEJAS CHANDRA	8	8	22	23	51	ATC			
		3. BADRINATH K	8	9	14	25	56	B			

Figure 2.2.3.14: Sample of Project Evaluation form-Phase II Review II

VTU SPONSORED PROJECT DETAILS 2020-21:

Title of the project	Branch	Name of the guide	Students	Sanctioned amount
Real Time Eye Blink Password Authentication	ISE	Aravinda Thejas Chandra	Srushti Anand Sneha.G Yashaswini C	₹ 5,000
Implementing CCTV-Based Attendance Taking Support system using Deep Face Recognition	ISE	Chandra shekar J M	Meghana B R Madhushree L Namitha Reddy M Mounika S	₹5,000

Table 2.2.3.13: Funded Project details**2.2.4. Initiatives related to Industry Interaction (15)**

The department invites experts from industry for invited/expert lectures that benefited our students and staff. These lectures/talks result in lively discussion imparting current state of the art knowledge to our students and staff.

➤ Partial delivery of appropriate courses by Industry Experts:

- **Organized webinar on** “Universal Storage of Electronic Records using Block chain Mr. Raghavendra Kulkarni Vice President-Technology, Agasthya Technologies, Bangalore on 26/7/2020 for 6th Sem, ISE students
- **Arranged Hands on Training on** “DevOps” by Mr. Shivakumar, Robert Bosch, from 2/3/2019 to 14/4/2019, for 6th Sem ISE
- **Conducted Agile Scrum Training** by Mr. Venkatesh Kempa Reddy, Bangalore Free Lancer on 11th to 13th May 2018 for 3rd sem, ISE
- **Organized hands on training** on Angular JS, NodeJS, & Web API by Mr. Janardhan HV, CEO Hirecraft Technologies, Bengaluru from 18/6/2018 To 26/08/2018 for 8thSem, ISE students

➤ Initiatives and Implementation details of Industry - Institute Interaction

WIPRO LTD, Bengaluru has provided J2EE training and certification for faculty Members. Mr. Abdul Khadar Assistant Professor, Dept. of ISE delivered J2EE training to the students of different departments in the college. As a result of this, good number of students were got placed at WIPRO Ltd.

SJCIT being located in Chickballapur, 50 Kms from IT hub Bangalore, our students have the great opportunity to interact with the Industry people on the following occasions:

During the International Conference –Industry Specialists were invited to Chair the Sessions as well as to give keynote speech. Brain storming sessions like panel discussions were held to help the students to understand the Industry requirements and the current happenings.

Technical Talks by Industrial Experts – Regularly inviting the Industry Experts to come and deliver the Technical Talks to the students in different platforms like Inauguration of the

Semesters Inauguration of the First year classes Guest lectures

Talks at the time of Orientation program – There will be orientation program for the students as soon as they reported at the beginning of the semester classes. At that time, we will educate them about the do's and don'ts. Generally, we will invite an Industry Expert at the time to interact with the students in the class as they will motivate them in performing better.

Project Exhibition-JVTM is an inter-collegiate technical project exposure to cater for final year students to display their project work. In this occasion, industry experts will be invited for better assessment of the projects.

COE (Centre of Excellence) is an initiative by ISE department to impart latest skill sets like, AI, ML and NLTK among the students. Under COE initiative, several corporate experts will be invited for technical talks on the above said subjects, for enriching the knowledge of students for better placement.

MOU with Industries:

- UI Path
- Tequed Labs
- Hirecraft
- Talent Micro Innovations Pvt Ltd
- Neridio Data Systems Pvt Ltd

Technical Talks from Industry Experts:

Sl. No	Resource Person	Topic	Date	Audience
1	Mr. Venkatesh Kempa Reddy, Bangalore Free Lancer	Agile Scrum Training	18/04/2018 to 20/ 04/2018	3 rd Sem, ISE
2	Mr. Janardhan HV, CEO Hirecraft Technologies, Bangalore	Logic Building with C	7/4/2018 to 29/4/2018	3 rd Sem, ISE
3	Mr. Janardhan HV, CEO Hirecraft Technologies, Bangalore	“Hands-on Training on Angular JS, NodeJS, & Web API”	18/6/2018 to 26/08/2018	8 th Sem, ISE
4	Mr. Sanjay & Mr Bharath Interone Pvt Ltd	Hands on Training on “Full Stack Development”	05/10/2019 to 15/11/2019	6 th Sem, ISE
5	Mr. Shivakumar Tech lead , Robert Bosch	Hands on Training on “DevOps”	2/3/2019 to 14/4/2019	6 th Sem ISE
6	Raghavendra Kulkarni Vice President-Technology Agasthya Technologies,	Universal Storage of Electronic Records using Block Chain	26/7/2020	95 Students of 6 th Sem, ISE

	Bangalore			
7	Mr. Kamalnayan Upadhyay Team Lead, Alsrom Pvt, Ltd, Bangalore	“Cracking Job Interviews & Achieving Success in Life”	10/11/2020	119 Students of 8 th Sem, ISE
8	Miss. Vinutha S, Developer at Izinga Software, Bangalore.	“Cracking Job Interviews & Achieving Success in Life”	25/11/2020	125 Students of 8 th Sem, ISE

Table B 2.2.4.1 Technical talks delivered by Industry Experts**Outcomes of Initiatives Related to Industry Interactions:**

- The interactions develop students’ awareness on job functions in the industries, attitude to adapt to industrial environment, practical and relevant knowledge, skills and competencies etc.
- Integration of industrial trainings and other inputs from industry and involvement of industrial experts provides great impact with teaching-learning process
- Collaborations, discussions and decision making process produce mutual agreements and understanding of the real conditions in the work place, industrial functioning and its expectations.
- Industry Institute Interaction is beneficial to institute to generate resources, improve quality of faculty. On the other hand it is beneficial for industry to access the latest technological and management developments, keep their workforce skill updated, get fresh and well trained technical personnel, get their research work done through institute collaborative research opportunity.

Industry Institute Interactions - Faculty Training Programs

Faculty	Training Details
Prof. Abdul Khadar A	“Python for Data Science” Training July 7 th – 18 th Aug 2018 Stratus Labs, Sahakara Nagar, Bangalore
Prof. Abdul Khadar A	“Python for Data Science” Training Sept 15 th :28 th Oct 2018 Stratus Labs, Sahakara Nagar, Bangalore

Table 2.2.4.1: Industry Institute Interactions**2.2.5. Initiatives related to Industry Internship/Summer Training (15)****A. Industrial Training/Tours for students:**

- Department is regularly arranging industrial visit to our students once in a year/semester to different companies to improve the practical knowledge of students and also to get better knowledge about the latest technologies.

Name of the Company/Industry and Date	Visitors	Purpose
TCS- 20/10/2020	5 Sem students accompanied by faculty members	To see and study the working environment and processes at Industry
TCS- 24/9/2019	5 Sem students accompanied by faculty members	
TCS- 20/4/2018	5 Sem students accompanied by faculty members	

Table B 2.2.5 Industrial Visits



Figure 2.2.5a Internship and Industrial visits

B. Internship:

• At the end of every semester or in vacation time, students are allowed to carry out internship in reputed industries/companies to get practical exposure from industries. The **duration is 1 Month**. It helps the students to bridge the gap between the subject studied and industry need. Table 2.2.5.1 provides the details of internships during the assessment years.

Implementation Details and Impact Analysis:

- The department (faculty coordinators) and Placement cell strongly encourages the students to undergo internship during vacation.
- If the students are unable to get internship in Industry, then the department/faculty will help the students to get internship letters at industry.
- The faculty coordinator will collect all the information related to the internship to know the performance of the students during that period.
- The feedback from the students is collected and analysed.
- The student should submit the internship certificate to the department once he/she complete the internship.

List of Students carried out Internships during the year 2021:

SL. NO	STUDENT NAME AND USN	PAID/UN PAID	COMPANY AND PLACE	DURATION
1	AISHWARYA RAJU 1SJ17IS001	Un Paid	Technologies Global PvtLtd,Bangalore	1 month
2	AMARTTYA BANERJEE 1SJ17IS002	Un Paid	Technologies Global PvtLtd,Bangalore	1 month
3	AMITH.S A 1SJ17IS003	Un Paid	TequedLabs,Bangalore	1 month
4	AMRUTHA M 1SJ17IS004	Un Paid	TechnoflySolution,Bangalore	1 month
5	ANIKET SINGH 1SJ17IS005	Un Paid	K-AKA Technologies Service,Bangalore	1 month
6	ANMOL KUMARI 1SJ17IS007	Un Paid	Third Eye Innovation PvtLimited,Bangalore	1 month
7	APOORVA M 1SJ17IS008	Un Paid	VMD Technologies, Bangalore	1 month
8	ARSHIYA SHARIFF 1SJ17IS009	Un Paid	VMD Technologies, Bangalore	1 month
9	BHAVANI V K 1SJ17IS011	Un Paid	Shield Technologies, Bangalore	1 month

10	CHAITHRA M S 1SJ17IS012	Un Paid	VMD Technologies, Bangalore	1 month
11	DHANALAKSHMI .K 1SJ17IS013	Un Paid	Shield Technologies, Bangalore	1 month
12	DIVYA D M 1SJ17IS001	Un Paid	TequedLabs,Bangalore	1 month
13	GOKUL C 1SJ17IS017	Un Paid	TequedLabs,Bangalore	1 month
14	HARSHITH M 1SJ17IS020	Un Paid	TequedLabs,Bangalore	1 month
15	HARSHITHA D A 1SJ17IS021	Un Paid	VMD Technologies, Bangalore	1 month
16	HEMANTH M 1SJ17IS022	Un Paid	Verzeo,Bangalore	1 month
17	HIMABINDU N 1SJ17IS023	Un Paid	VMD Technologies, Bangalore	1 month
18	IMPANA 1SJ17IS001	Un Paid	TequedLabs,Bangalore	1 month
19	KALYAN SARKAR 1SJ17IS025	Un Paid	Technologics Global PvtLtd,Bangalore	1 month
20	KAVYA N V 1SJ17IS026	Un Paid	Shield Technologies, Bangalore	1 month
21	KAVYA SURESH GOUDA 1SJ17IS027	Un Paid	Shield Technologies, Bangalore	1 month
22	KOMALRAJ D R 1SJ17IS028	Un Paid	TequedLabs,Bangalore	1 month

Table 2.2.5.1 a: Internship details – 2021

List of Students carried out Internships during the year 2020

Sl.No	STUDENT NAME AND USN	Paid/Unpaid	Company and Place	Duration
1	ABHISHEK B 1SJ16IS001	Unpaid	Alpha Technologies,	1 month
2	ACHYUTH N S 1SJ16IS002	Unpaid	Alpha Technologies,	1 month
3	AISHWARYA Y 1SJ16IS003	Unpaid	Alpha Technology, Bangalore	1 month
4	AKASH MANDAL 1SJ16IS004	Unpaid	Infosys, Bangalore	1 month
5	AKHIL CHOWDHARY M V 1SJ16IS005	Unpaid	Hashvatech Global Pvt Ltd	1 month
6	AMRUTHA K J 1SJ16IS006	Unpaid	Rank Technologies - Ruby on Rails, Bangalore Development Company	1 month
7	ANANYA R 1SJ16IS007	Unpaid	Alpha Technology , Bangalore	1 month
8	ANUSHA M 1SJ16IS008	Unpaid	Livewire, Bangalore	1 month
9	ANVITHA BELIRAY P 1SJ16IS009	Unpaid	Alpha Technology, Bangalore	1 month
10	B G ANIL 1SJ16IS010	Unpaid	Alpha Technology, Bangalore	1 month
11	BHAGNURE RADHESHYAM 1SJ16IS011	Unpaid	InfiData technologies,	1 month
12	BHANU V 1SJ16IS012	Unpaid	Infosys , Bangalore	1 month
13	BHUMIKA B C 1SJ16IS013	Unpaid	Alpha technology, Bangalore	1 month
14	BYRE GOWDA K R 1SJ16IS016	Unpaid	Livewire, Bangalore	1 month
15	CHAITANYA B 1SJ16IS017	Unpaid	Livewire, Bangalore	1 month
16	CHAITHRA S R 1SJ16IS019	Unpaid	Infosys, Bangalore	1 month
17	CHAITHRA S S 1SJ16IS020	Unpaid	Alpha technology, Bangalore	1 month
19	CHAITRA K M 1SJ16IS021	Unpaid	Rank Technologies - Ruby on Rails, Bangalore Development Company	1 month
20	CHANDANA M 1SJ16IS022	Unpaid	alpha technology, Bangalore	1 month
21	CHANDRA REDDY GARI SRAVANI 1SJ16IS023	Unpaid	Alpha Technology, Bangalore	1 month
22	CHANNABASAVA H 1SJ16IS024	Unpaid	Alpha Technology , Bangalore	1 month
23	CHINTANA N REDDY 1SJ16IS026	Unpaid	Hashvatech Global Pvt Ltd, Bangalore	1 month
24	DHANANJAY S 1SJ16IS027	Unpaid	Alpha Technology, Bangalore	1 month

Table 2.2.5.1 b: Internship details – 2020

List of Students carried out Internships during the year 2019

Sl.No	STUDENT NAME AND USN	Paid/Unpaid	Company and Place	Duration
1	ABHISHEK KARMAKAR 1SJ15IS002	Unpaid	Hirecraft Technologies, Bangalore	1 month
2	ADITHYA NAWADA 1SJ15IS003	Unpaid	Hirecraft Technologies, Bangalore	1 month
3	AKSHITHA J 1SJ15IS004	Unpaid	Nano Robotics Embedded Technologies, Bangalore.	1 month
4	DIVYA K S 1SJ15IS019	Unpaid	Bloom Consulting Services, Bangalore	1 month
5	LAVANYA J 1SJ15IS040	Unpaid	Nano Robotics Embedded Technologies, Bangalore.	1 month
6	INDUSHREE M 1SJ15IS029	Unpaid	Nano Robotics Embedded Technologies, Bangalore.	1 month
7	JOSHITHA CR 1SJ15IS031	Unpaid	Nano Robotics Embedded Technologies, Bangalore.	1 month
8	KAVYA H.L 1SJ15IS034	Unpaid	Bloom Consulting Services, Bangalore	1 month
9	LAKSHMI YM 1SJ15IS039	Unpaid	Acinonyx Technologies Private Ltd, Bangalore	1 month
10	M M GOURI 1SJ15IS045	Unpaid	Nano Robotics Embedded Technologies, Bangalore.	1 month
11	MANOHAR BM 1SJ15IS049	Unpaid	Hashva Tech Global Pvt Ltd, , Bangalore	1 month
12	MUNIRAJU B 1SJ15IS055	Unpaid	Nano Robotics Embedded Technologies, Bangalore.	1 month
13	NAMRATHA GA 1SJ15IS056	Unpaid	Nano Robotics Embedded Technologies, Bangalore.	1 month
14	NITHYA N 1SJ15IS060	Unpaid	Nano Robotics Embedded Technologies, Bangalore.	1 month
15	PRAPULLA M 1SJ15IS065	Unpaid	Nano Robotics Embedded Technologies, Bangalore.	1 month
16	PRATHIBHA M 1SJ15IS066	Unpaid	Acinonyx Technologies Private Ltd, Bangalore	1 month
17	PREETHA V 1SJ15IS067	Unpaid	TechCiti Technologies Private Ltd., Bangalore	1 month
18	PRIYADARSHINI MN 1SJ15IS069	Unpaid	Acinonyx Technologies Private Ltd,Bangalore	1 month
19	PRIYANKA K 1SJ15IS070	Unpaid	Acinonyx Technologies Private Ltd, Bangalore	1 month
20	PRUTHVI VM 1SJ15IS071	Unpaid	Acinonyx Technologies Private Ltd, Bangalore	1 month
21	RACHANA R 1SJ15IS073	Unpaid	Nano Robotics Embedded Technologies, Bangalore.	1 month

Table 2.2.5.1c: Internship details – 2019

CRITERIA 3

**Course Outcomes and Program
Outcomes**

CRITERION 3	COURSE OUTCOMES AND PROGRAM OUTCOMES	120

3.1 Establish the correlation between the courses and the Program Outcomes (POs) and Program Specific Outcomes (PSOs) (20)

Program Outcomes	
PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Problem analysis: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	Life Long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes	
PSO1	Apply the knowledge of data structures, database systems, system programming, networking, web development and AI & ML techniques in engineering the software.
PSO2	Exhibit solid foundations and advancements in developing software / hardware systems for solving contemporary problems.

3.1.1. Course Outcomes (COs) (SAR should include course outcomes of one course from each semester of study, however, should be prepared for all courses and made available as evidence, if asked) (05)

Note: Number of Outcomes for a Course is expected to be around 6.

a) The following tables B3.1.1.1 to B3.1.1.8 list the Course Outcomes of one course from each semester of study for the batch 2017-21 (CAY).

At the end of the course, the students will be able to:

Course /COs	Course Outcomes
C101.1	Use partial differentiative to calculate rates of change of multivariable functions and nth derivatives.
C101.2	Analyze position, velocity and acceleration in two three dimensions using the calculus of vector valued functions
C101.3	Solve first order ordinary differential equations Newton's law of cooling
C101.4	Use matrices technique for solving systems of linear equations in the different areas of linear algebra
C101.5	Demonstrate the solving of first order differentials .
C101.6	Demonstrate the solving of system of linear equations.

Table B 3.1.1.1: Course Outcomes of Engineering mathematics-17MAT11 (First Semester)

Course /COs	Course Outcomes
C113.1	Illustrate the basics of C programming and s/w and h/w components.
C113.2	Demonstrate the programming constructs of C language.
C113.3	Illustrate the usage of various data structures in real life problems.
C113.4	Design and develop modular programming skills.
C113.5	Illustrate utilization of memory using pointer technology.
C113.6	Identify the basic concepts of pointers and data structures.

Table B 3.1.1.2: Course Outcomes of Programming in C and Data Structures-17PCD23 (Second Semester)

Course /COs	Course Outcomes
C202.1	Interpret the construction and characteristics of JFETs and Operational Amplifier circuits and their applications
C202.2	Analyze Combinational Logic circuits, Simplification of Algebraic Equations using Karnaugh Maps and Quine McClusky Techniques.
C202.3	Design Decoders, Encoders, Digital multiplexers, Adders and Subtractors, Binary comparators, Latches and Master-Slave Flip-Flops.
C202.4	Design Synchronous and Asynchronous Sequential Circuits
C202.5	Design registers and Counters, A/D and D/A converters
C202.6	Implement logic circuits using HDL models

Table B 3.1.1.3: Course Outcomes of Analog & Digital Electronic - 17CS32 (Third Semester)

Course /COs	Course Outcomes
C212.1	Illustrate object-oriented concepts using C++
C212.2	Apply fundamental concepts of OOPs in JAVA
C212.3	Implement JAVA programs using java JDK environment
C212.4	Develop Multithreaded and event handling programs
C212.5	Illustrate usage of JAVA packages and interfaces
C212.6	Implement event driven GUI using Applets and swings

Table B 3.1.1.4: Course Outcomes of Object-Oriented Concepts - 17CS42 (Fourth Semester)

Course /COs	Course Outcomes
C305.1	Interpret enumerations and collections in java
C305.2	Build programs using collection framework.
C305.3	Illustrate and develop string handling methods in java
C305.4	Apply servlets to develop web application
C305.5	Demonstrate database access using JDBC API
C305.6	Design reusable software components using JSP

Table B 3.1.1.5: Course Outcomes of Advanced Java & J2EE - 17CS553 (Fifth Semester)

Course /COs	Course Outcomes
C313.1	Discuss test cases for any given problem
C313.2	Compare the different testing techniques
C313.3	Illustrate the problem using suitable testing model
C313.4	Understand the appropriate technique for the design of flow graph
C313.5	Design and develop appropriate document for the software artefact.
C313.6	Demonstrate various testing methods on real time application

Table B 3.1.1.6: Course Outcomes of Software Testing– 17IS63 (Sixth Semester)

Course /COs	Course Outcomes
C403.1	Apply the knowledge of supervised, unsupervised and Reinforcement Learning Strategies for Machine Learning.
C403.2	Apply Probability and Statistical approaches related to machine learning.
C403.3	Investigate and interpret data with valid conclusions for supervised and unsupervised Models for machine learning Techniques
C403.4	Design a model using machine learning to solve a problem.
C403.5	Develop and implement a ML model on real time applications
C403.6	Evaluate various models of Machine Learning

Table B 3.1.1.7: Course Outcomes of Machine Learning - 17CS73 (Seventh Semester)

Course /COs	Course Outcomes
C412.1	Interpret the concepts of HDFS and MapReduce Framework.
C412.2	Investigate Hadoop related tools for Big Data Analytics and perform basic Hadoop Administration.
C412.3	Identify the role of Business Intelligence, Data warehousing and Visualization in decision making.
C412.4	Infer the importance of core data mining techniques for data analytics.
C412.5	Compare and contrast different Text Mining Techniques.
C412.6	Identify the need of application big data.

Table B 3.1.1.8: Course Outcomes of Big Data Analytics - 17CS82 (Eighth Semester)

b) The following tables B3.1.1.9 to B3.1.1.16 list the Course Outcomes of one course from each semester of study for the batch 2016-20 (CAYm1).

At the end of the course, the students will be able to:

Course /COs	Course Outcomes
C101.1	Use partial differentiative to calculate rates of change of multivariable functions and nth derivatives.
C101.2	Analyze position, velocity and acceleration in two three dimensions using the calculus of vector valued functions
C101.3	Solve first order ordinary differential equations Newton's law of cooling
C101.4	Use matrices technique for solving systems of linear equations in the different areas of linear algebra
C101.5	Demonstrate the solving of first order differentials

Table B 3.1.1.9: Course Outcomes of Engineering mathematics-15MAT11 (First Semester)

Course /COs	Course Outcomes
C113.1	Use partial differentiative to calculate rates of change of multivariable functions and nth derivatives.
C113.2	Analyze position, velocity and acceleration in two three dimensions using the calculus of vector valued functions
C113.3	Solve first order ordinary differential equations Newton's law of cooling
C113.4	Use matrices technique for solving systems of linear equations in the different areas of linear algebra
C113.5	Demonstrate the solving of first order differentials

Table B 3.1.1.10: Course Outcomes of Programming in C and Data Structures-15PCD23 (Second Semester)

Course /COs	Course Outcomes
C202.1	Explain the working of JFETs and MOSFETS, Op-Amps, Combinational Logic, Adders, Decoders, Encoders, Muxes, Flip-Flops, Shift Registers, Counters, DACs and ADCs.
C202.2	Implement of K-Maps, Quine Mc-Clusky technique, Combinational logic circuits, Op-Amps, Adders and Subtractors, latches, Flip-Flops, Shift registers, Counters.
C202.3	Analyze the performance of JFETs and MOSFETS, Op-Amps, Adders, Muxes, Flip-Flops, Shift Registers, Counters, any sequential circuit, DACs and ADCs.
C202.4	Design Non-Linear Amplifier, Relaxation Oscillator, Current-To-Voltage converter, Voltage-To-Current Converter, arithmetic and logic unit, design synchronous and asynchronous counters, mod-n counters
C202.5	Analyze , Design and implement the combinational and sequential circuits. Present a seminar on an advanced concept from syllabus with application

Table B 3.1.1.11: Course Outcomes of Analog & Digital Electronic - 15CS32 (Third Semester)

Course /COs	Course Outcomes
C212.1	Explain the object-oriented concepts and JAVA.
C212.2	Develop computer programs to solve real world problems in Java.
C212.3	Develop simple GUI interfaces for a computer program to interact with users, and to Understand the event-based GUI handling principles using Applets and swings.
C212.4	Conduct practical experiments for demonstrating features of Java using eclipse.

Table B 3.1.1.12: Course Outcomes of Object-Oriented Concepts - 15CS42 (Fourth Semester)

Course /COs	Course Outcomes
C305.1	Interpret the need for advanced Java concepts like enumerations and collections in developing modular and efficient programs
C305.2	Build client-server applications and TCP/IP socket programs
C305.3	Illustrate database access and details for managing information using the JDBC API
C305.4	Describe how servlets fit into Java-based web application architecture
C305.5	Develop reusable software components using Java Beans

Table B 3.1.1.13: Course Outcomes of Advanced Java & J2EE - 15CS553 (Fifth Semester)

Course /COs	Course Outcomes
C313.1	Derive test cases for any given problem
C313.2	Compare the different testing techniques
C313.3	Classify the problem into suitable testing model
C313.4	Apply the appropriate technique for the design of flow graph.
C313.5	Create appropriate document for the software artefact.

Table B 3.1.1.14: Course Outcomes of Software Testing– 15IS63 (Sixth Semester)

Course /COs	Course Outcomes
C403.1	Identify the problems for machine learning by selecting the either supervised, unsupervised or reinforcement learning
C403.2	Illustrate and apply the theory of probability and statistics related to machine learning
C403.3	Analyze the concept learning, ANN, Bayes classifier, k nearest neighbor, Q Learning
C403.4	Apply the ML algorithms and predictions to Data Science with Numpy, Pandas and Matplotlib
C403.5	Present the acquire knowledge as seminar with Communication and presentation skill and document it

Table B 3.1.1.15: Course Outcomes of Machine Learning - 15CS73 (Seventh Semester)

Course /COs	Course Outcomes
C412.1	Master the concepts of HDFS and MapReduce framework
C412.2	Investigate Hadoop related tools for Big Data Analytics and perform basic Hadoop Administration
C412.3	Recognize the role of Business Intelligence, Data warehousing and Visualization in decision making
C412.4	Infer the importance of core data mining techniques for data analytics
C412.5	Compare and contrast different Text Mining Techniques

Table B 3.1.1.16: Course Outcomes of Big Data Analytics - 15CS82 (Eighth Semester)

3.1.2 CO-PO & CO-PSO matrices of courses selected in 3.1.1 (Six matrices to be mentioned; one per semester from 3rd to 8th semester) (05)

- a) The following six tables B3.1.2.1 to B3.1.2.6 list the CO-PO and CO-PSO correlation of courses selected in 3.1.1, one course per semester from 3rd to 8th semesters for the batch 2017-21 (CAY).

17CS32	Analog & Digital Electronics (Third Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C202.1	3	3	3	2	3					3	2	3	2	3
C202.2	2	3	3	3	3					2	3	3	1	3
C202.3	2	3	3	3	2					3	2	3	2	3
C202.4	3	3	3	3	3					2	3	3	1	3
C202.5	3	3	3	3	3					3	2	3	2	3
C202.6	2	3	2	2	3					2	3	2	2	3
Avg.	2.50	3.00	2.83	2.67	2.83					2.50	2.50	2.83	1.67	3

Table B 3.1.2.1: COs-POs & COs-PSOs matrix of Analog & Digital Electronics -17CS32

17CS42	Object Oriented Concepts (Fourth Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C212.1	2	2	2	2	2							2	1	2
C212.2	3	2	2	2	2							2	2	2
C212.3	2	2	3	2	3				1			2	3	2
C212.4	2	2	3	2	2				1			2	1	2
C212.5	2	2	2	2	3				1			2	2	2
C212.6	3	2	3	2	3				1			2	3	2
Avg.	2.33	2	2.5	2	2.5				1			2	2	2

Table B 3.1.2.2: COs-POs & COs-PSOs matrix of Object-Oriented Concepts - 17CS42

17CS553	Advanced Java & J2EE (Fifth Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C305.1	3	2	2	2	2							2	2	2
C305.2	3	2	2	2	2							2	2	2
C305.3	2	3	2	2	2							2	2	3
C305.4	3	3	2	2	2				1		1	2	2	2
C305.5	2	2	2	1	1	1		1	1		1	2	2	1
C305.6	3	2	3	2	2	1			1		1	2	3	2
Avg.	2.67	2.33	2.17	1.83	1.83	1		1	1		1	2	2.16	2

Table B 3.1.2.3: COs-POs & COs-PSOs matrix of Advanced Java & J2EE - 17CS553

17IS63	Software Testing (Sixth Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C313.1	2	2	1	1	2							1	2	2
C313.2	1	1	2		2							1	3	2
C313.3	3	2	2	1	2							1	2	2
C313.4	3	1	1	1	2							2	3	2
C313.5	2	1		1	2							1	2	2
C313.6	3	1	1	1	2							2	2	2
Avg.	2.3	1.3	1.4	1	2	-	-	-	-	-	-	1.3	2.3	2

Table B 3.1.2.4: COs-POs & COs-PSOs matrix of Software Testing - 17IS63

17CS73	Machine Learning (Seventh Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C403.1	2	3	3	2	3							3	3	
C403.2	2	2	2	3	2							2	3	
C403.3	2	2	3	2	2							2	2	
C403.4	2	1	2	2	2							2	3	
C403.5	2	1	3	1	2					2		3	2	
C403.6	2	1	3	1	2					2		2	2	
Avg.	2.0	1.7	2.7	1.8	2.2					2		2.3	2.5	

Table B 3.1.2.5: COs-POs & COs-PSOs matrix of Machine Learning - 17CS73

17CS82	Big Data & Analytics (Eighth Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C412.1	3	2	2											1
C412.2	3	2	2	2										
C412.3	3	2	2											
C412.4	3	2	2	1									1	
C412.5	3	2	1											
C412.6	3	2	2	2									1	
Avg.	3	2	1.8	1.6									1	1

Table B 3.1.2.6: COs-POs & COs-PSOs matrix of Big Data & Analytics - 17CS82

Note:

- Enter correlation levels 1, 2 or 3 as defined below:
1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)
If there is no correlation, put “-”

b) The following six tables B3.1.2.7 to B3.1.2.12 list the CO-PO & CO-PSO correlation of courses selected in 3.1.1, one course per semester from 3rd to 8th semesters for the batch 2016-20 (CAYm1).

15CS32	Analog & Digital Electronics (Third Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C202.1	3	3	3	2	2				1	2		2	3	2
C202.2	2	2	3	3	3				2	3		3	3	3
C202.3	3	3	3	3	2				2	3		2	3	2
C202.4	2	2	2	3	3				1	3		3	3	3
C202.5	3	3	3	3	2				1	3		3	3	3
Avg.	2.6	2.6	2.8	2.8	2.4				1.4	2.8		2.6	3	2.6

Table B 3.1.2.7: COs-POs & COs-PSOs matrix of Analog & Digital Electronics -15CS32

15CS45	Object Oriented Concepts (Fourth Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C212.1	3												3	
C212.2	2	3	2										3	1
C212.3	2	2	3	1									3	1
C212.4				3	3								3	1
Avg.	2.3	2.5	2.5	2	3								3	1

Table B 3.1.2.8: COs-POs & COs-PSOs matrix of Object-Oriented Concepts - 15CS42

15CS553	Advanced Java & J2EE (Fifth Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C305.1	3	3	3										2	
C305.2	3	2	2											
C305.3	3	3	3											
C305.4	2	3	3										2	
C305.5	3	3	2										2	
Avg.	2.8	2.8	2.6										2	

Table B 3.1.2.9: COs-POs & COs-PSOs matrix of Advanced Java & J2EE - 15CS553

15IS63	Software Testing (Sixth Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C313.1	3	2											3	
C313.2	3	2											3	
C313.3	3	2											3	
C313.4	3	1	2	2	2								3	2
C313.5	3	2	2	3									3	2
Avg.	3	1.8	2	2.5	2								3	2

Table B 3.1.2.10: COs-POs & COs-PSOs matrix of Software Testing - 15IS63

15CS73	Machine Learning (Seventh Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C403.1	3	2	2						1	1		3	3	2
C403.2	3	3	3	2					1	1		2	2	3
C403.3	2	3	2	2					2	1		2	3	3
C403.4	3	2	2	2	3				1	2		3	3	2
C403.5	2	2	2						3	3		3	3	3
Avg.	2.6	2.4	2.2	2	3				1.6	1.6		2.6	2.8	2.6

Table B 3.1.2.11: COs-POs & COs-PSOs matrix of Machine Learning - 15CS73

15CS82	Big Data & Analytics (Eighth Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C412.1	3	2	1	1									2	1
C412.2	2	2	2	1									2	1
C412.3	2	2	1	1									3	2
C412.4	3	2	2	1									2	2
C412.5	1	1	1	1									1	1
Avg.	2.2	1.8	1.4	1									2	1.4

Table B 3.1.2.12: COs-POs & COs-PSOs matrix of Big Data & Analytics - 15CS82

- c) The following six tables B3.1.2.7 to B3.1.2.12 list the CO-PO & CO-PSO correlation of courses selected in 3.1.1, one course per semester from 3rd to 8th semesters for the batch 2015-19 (CAYm2).

15CS32	Analog & Digital Electronics (Third Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C202.1	3	2	3	3	3							3	2	3
C202.2	2	3	2	3	3							2	3	3
C202.3	3	3	3	3	3							3	2	3
C202.4	3	3	3	3	3							3	2	3
C202.5	2	3	1	1	2							2	1	2
Avg.	2.6	2.8	2.4	2.6	2.8							2.6	2	2.8

Table B 3.1.2.13: COs-POs & COs-PSOs matrix of Analog & Digital Electronics -15CS32

15CS45	Object Oriented Concepts (Fourth Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C215.1	3	2	3	2	2							3	3	2
C215.2	2	3	3	3	2							3	3	3
C215.3	3	3	3	3	3							3	3	2
C215.4	2	3	2	3	2							3	3	3
C215.5	3	2	3	3	3							3	3	2
Avg.	2.6	2.6	2.8	2.8	2.4							3	3	2.4

Table B 3.1.2.14: COs-POs & COs-PSOs matrix of Object-Oriented Concepts - 15CS42

15CS553	Advanced Java & J2EE (Fifth Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C305.1	3	2	3		3							3	3	3
C305.2	2	3	2	2	3							2	3	2
C305.3	1	3	3	3	3							3	3	3
C305.4	3	2	2	2	3							2	3	2
Avg.	2.3	2.5	2.5	2.3	3							2.5	3	2.5

Table B 3.1.2.15: COs-POs & COs-PSOs matrix of Advanced Java & J2EE - 15CS553

15IS63	Software Testing (Sixth Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C313.1	3	2												1
C313.2	2	2	3											3
C313.3	1	1	1	3										1
C313.4	1	1	1	3										
Avg.	1.8	1.5	1.7	3										1.7

Table B 3.1.2.16: COs-POs & COs-PSOs matrix of Software Testing - 15IS63

15CS73	Machine Learning (Seventh Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C403.1	3	2	2						1	1		3	3	2
C403.2	3	3	3	2					1	1		2	2	3
C403.3	2	3	2	2					2	1		2	3	3
C403.4	3	2	2	2	3				1	2		3	3	2
C403.5	2	2	2						3	3		3	3	3
Avg.	2.6	2.4	2.2	2	3				1.6	1.6		2.6	2.8	2.6

Table B 3.1.2.17: COs-POs & COs-PSOs matrix of Machine Learning - 15CS73

15CS82	Big Data & Analytics (Eighth Semester)													
	Program Outcomes (PO)s												PSOs	
COs	1	2	3	4	5	6	7	8	9	10	11	12	1	2
C412.1	3	3		2					2					2
C412.2	3	2		2	3				2					2
C412.3	3	2		2	2				2					2
C412.4	1		3	1					2					2
C412.5	1	3	1	1	2				2					2
Avg.	2.2	2.5	2	1.6	2.3				2					2

Table B 3.1.2.18: COs-POs & COs-PSOs matrix of Big Data & Analytics - 15CS82

313 Program level Course-PO matrix of all courses INCLUDING first year courses (10)

- a) The following table B.3.1.3.1 lists the program level Course-PO matrix of all courses including first year courses for academic year 2017-21(CAY).

Courses	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
II SEMESTER												
C113	2.4	2.4	2.4	2.0								1.6
C118	2.0	2.0	2.0	1.0	2.0							2.0
III SEMESTER												
C201	2.20	2.00	2.33	1.40	1.67							
C202	2.50	3.00	2.83	2.67	2.83					2.50	2.50	2.83
C203	2.83	2.67	2.40	2.20	2.20			1.00	1.00			1.17
C204	3.00	3.00	3.00	3.00						2.00		3.00
C205	1.50	1.00	3.00		1.25							2.17
C206	3.00	2.00	1.00	3.00								2.00
C207	2.67	2.67	2.83	2.50	2.00					1.83	2.17	2.50
C208	2.83	2.67	2.17	1.20	1.17	2.00		1.00	1.33	1.80	2.00	2.50
IV SEMESTER												
C211	2.20	2.00	2.33	1.40	1.67							
C212	2.33	2.00	2.50	2.00	2.50				1.00			2.00
C213	2.67	2.83	2.67	2.20								1.00
C214	3.00	3.00	3.00	3.00						2.00		3.00
C215	1.83	1.25	2.75	2.80	1.60	1.50	1.25	1.50	1.67	1.17	1.50	2.17
C216	2.83	2.33	2.00	1.00	2.00							
C217	2.83	2.67	2.20	1.75	1.50	1.00			3.00	1.83	1.00	2.50
C218	3.00	3.00	3.00	3.00						2.00	3.00	3.00

V SEMESTER												
C301	1.17					1.00		2.00	1.50	1.75	2.00	1.00
C302	2.40	2.25	1.67	1.80	3.00	1.00	1.00					2.00
C303	1.83	1.67	2.00	1.60	2.67		1.00	1.00	1.40			2.00
C304	2.17	2.00	2.00	2.00			1.00					1.67
C305	2.67	2.33	2.17	1.83	1.83	1.00		1.00	1.00		1.00	2.00
C306	2.00	2.33	1.67	2.00	2.50	1.50					2.00	2.00
C307	2.33	1.67	2.00	2.50	1.50					2.00	2.00	
C308	2.00	1.80	1.60	1.25	1.80							2.00
C309	2.67	1.67	2.67	2.00	2.67					3.00	3.00	2.67
VI SEMESTER												
C311	1.67	2.50	2.25	1.50	1.50	1.80		1.20				2.17
C312	2.00	2.33	2.17	1.50	2.50			1.00	1.00			1.67
C313	2.33	1.33	1.40	1.00	2.00							1.33
C314	1.00	1.00										2.00
C315	3.00	2.00	1.83	1.67								2.00
C316	2.20	2.20	1.80	1.50	1.00	1.00						2.00
C317	1.67	1.83	2.80	2.00	3.00						3.00	1.67
C318	3.00	2.17	3.00	2.00	1.67				1.00		1.00	2.33
C319	2.17	2.17	2.33	1.40	2.00	1.00	1.00		3.00	3.00	2.33	2.00
VII SEMESTER												
C401	3.00	2.33	2.00									
C402	2.67	1.83	2.00									
C403	2.00	1.67	2.67	1.83	2.17					2.00		2.33
C404	3.00	3.00	3.00	3.00	2.00							3.00
C405	2.33	2.00	2.33	1.25	3.00			1.17			1.50	2.50
C406	2.00	1.33	2.00	1.50								1.50
C407	2.17	2.00	1.67	1.75	2.50							2.00
C408	2.50	2.50	1.83		2.33							
VIII SEMESTER												
C411	2.17	2.20	1.75	2.40	1.33					2.00		1.67
C412	2.17	1.83	1.33	1.00								1.00
C413	3.00	1.00	1.00									1.00
C414	1.33	1.83	2.25	2.00	2.00	2.00						
C415	2.33	2.33	3.00	2.20	3.00	2.20		2.00	2.67	3.00	2.83	2.83
C416	2.17	2.33	1.83	2.17	2.40	2.33		2.17		2.00	2.33	2.33
C417		2.00	1.75	2.00	1.67			1.50	2.33	2.00	2.33	2.33

Table B.3.1.3.1 CO-PO Matrix**Note:**

- Enter correlation levels 1, 2 or 3 as defined below:
 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High) *If there is no correlation, put “-”*
 It may be noted that contents of Table 3.1.2 must be consistent with information available in Table 3.1.3 for all the courses.
- Similar table is to be prepared for PSOs

- b) The following table B3.1.3.2 lists the program level Course-PSO matrix of all courses including first year courses for the current academic year 2017-21 (CAY).

Courses	PSO1	PSO2
Semester II		
C113		1.0
C118		1.0
Semester III		
C201		
C202	1.70	3.00
C203	1.83	1.33
C204	3.00	3.00
C205	1.50	
C206	1.00	1.00
C207	2.50	2.17
C208	2.00	1.00
Semester IV		
C211		
C212	1.70	2.00
C213	2.30	2.00
C214	2.70	2.70
C215	2.50	
C216	2.80	2.00
C217	2.50	2.00
C218	3.00	3.00

Courses	PSO1	PSO2
Semester V		
C301		
C302		2.70
C303	2.00	1.80
C304	2.00	2.00
C305	1.70	2.70
C306	2.30	2.00
C307	1.80	1.50
C308	2.00	2.00
C309	2.70	2.00
Semester VI		
C311	1.20	
C312	1.80	2.00
C313	2.33	2.00
C314		2.00
C315	1.00	1.00
C316	1.00	
C317	2.67	
C318	2.67	2.33
C319	1.83	2.50
Semester VII		
C401	3.00	2.00
C402	1.00	1.30
C403	2.50	
C404	3.00	3.00
C405	1.80	
C406	1.00	
C407	2.30	
C408	3.00	2.00
Semester VIII		
C411	1.20	1.00
C412	2.00	1.50
C413	1.00	1.00
C414	1.80	1.20
C415	2.70	2.80
C416	2.70	
C417	1.30	1.00

Table B.3.1.3.2 COs-PSOs Matrix

c) The following table B.3.1.3.3 lists the program level Course-PO matrix of all courses including first year courses for academic year 2016-20(CAYm1).

Courses	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
II SEMESTER												
C113	2.6	2.6	2.2	2.0	2.0							2.0
C118	2.4	2.4	2.2	2.2	2.2							2.2
III SEMESTER												
C201	2.20	2.00	2.33	1.40	1.67							
C202	2.50	2.50	2.25	1.75								2.00
C203	2.25	2.25	2.67	3.00	1.00							
C204	3.00	3.00	3.00	3.00								3.00
C205	1.50	2.00	2.80	2.00								
C206	2.60	2.60	1.60	1.40								
C207	2.20	2.60	1.80	1.40								2.40
C208	3.00	2.75	2.67	2.67	2.00							
IV SEMESTER												
C211	2.40	1.80	1.67	1.50	1.67							
C212	1.40	2.00	2.00			1.00		1.00	1.00	1.00		1.00
C213	3.00	2.75	2.75	2.00								1.00
C214	2.50	2.50	2.25	1.75								2.00
C215	2.33	2.50	2.50	2.00	3.00							
C216	2.00	2.00	1.67	1.00	1.00							
C217	3.00	2.75	2.75	2.50	2.00							
C218	2.75	2.75	2.75	3.00	3.00					2.50	2.25	2.75

V SEMESTER												
C301	1.75	2.00				2.67	2.00	2.67	2.50	2.33	3.00	1.50
C302	2.00	2.00	1.67	1.00	1.00							
C303	2.75	2.00	2.33	2.33	2.00	2.00						
C304	3.00	2.60	1.40	1.40								
C305	2.80	2.80	2.60									
C306	3.00	2.00	2.00	2.00	2.00							
C307	3.00	2.00	3.00	2.00	2.00							
C308	2.00	1.75	1.67	1.67	1.67							
VI SEMESTER												
C311	3.00	3.00	2.25									
C312	3.00	2.67	2.00	2.00	1.00							
C313	3.00	1.80	2.00	2.50	2.00							
C314	2.50	1.00	1.67	2.00								
C315	3.00	2.00	2.00	2.67	2.00							
C316	1.50	1.25	2.33	2.67	1.00							
C317	2.20	1.80	1.40	1.00								
C318	3.00	2.20	3.00	2.00	1.80				1.00		1.00	2.40
VII SEMESTER												
C401	3.00	2.20	2.00									
C402	2.67	1.83	2.00									
C403	2.60	2.40	2.20	2.00	3.00				1.60	1.60		2.60
C404	3.00	2.50	1.50	1.50	2.00							
C405	3.00	1.75	2.25	2.00	3.00							
C406	2.50	3.00	2.75	2.25	2.50				3.00	2.50	2.25	3.00
C407	2.50	2.50	1.83		2.00							
C408	3.00	2.20	2.00									
VIII SEMESTER												
C411	2.20	2.50	2.00	1.60	2.33				2.00			
C412	2.20	1.80	1.40	1.00								
C413	2.75	2.25	1.50	1.33								1.50
C414	2.50	2.75	3.00	2.25	2.75						2.25	2.75
C415	2.60	2.60	3.00	2.20	3.00	2.20		2.00	2.80	3.00	2.80	3.00
C416	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00		2.50
C417	3.00		3.00		3.00			3.00	3.00	3.00	3.00	

Table B.3.1.3.3 CO-PO Matrix**Note:**

3. Enter correlation levels 1, 2 or 3 as defined below:
 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High) *If there is no correlation, put “-”*
 It may be noted that contents of Table 3.1.2 must be consistent with information available in Table 3.1.3 for all the courses.
4. Similar table is to be prepared for PSOs

- d) The following table B3.1.3.4 lists the program level Course-PSO matrix of all courses including first year courses for the academic year 2016-20 (CAYm1).

Courses	PSO1	PSO2
Semester II		
C113	2.4	2.0
C118	3.0	3.0
Semester III		
C201		
C202	2.00	2.75
C203	3.00	2.00
C204	3.00	3.00
C205	1.70	1.30
C206	1.00	1.00
C207	2.40	3.00
C208	3.00	2.00
Semester IV		
C211		
C212		2.06
C213	3.00	2.00
C214	2.00	2.75
C215	3.00	1.00
C216	2.75	1.96
C217	3.00	2.00
C218	2.25	3.00

Courses	PSO1	PSO2
Semester V		
C301		1.00
C302	2.50	1.50
C303	3.00	2.00
C304	1.00	1.00
C305	2.00	
C306	2.00	2.00
C307	3.00	2.00
C308	1.00	1.00
Semester VI		
C311	3.00	2.50
C312	1.00	1.00
C313	3.00	2.00
C314	2.00	1.00
C315	3.00	1.50
C316	1.00	1.50
C317	2.00	1.40
C318	2.60	2.40
Semester VII		
C401	3.00	2.00
C402	1.00	1.33
C403	2.80	2.60
C404	3.00	1.00
C405	3.00	2.00
C406	3.00	2.50
C407	3.00	2.00
Semester VIII		
C411	1.80	
C412	2.00	1.40
C413		1.33
C414	1.75	1.50
C415	2.80	3.00
C416	2.25	2.00
C417		2.00

Table B.3.1.3.4 COs-PSOs Matrix

e) The following table B.3.1.3.5 lists the program level Course-PO matrix of all courses including first year courses for academic year 2015-19 (CAYm2).

Courses	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
II SEMESTER												
C113	3.00	2.60	1.80	1.50								
C118	2.80	2.40	2.00	2.00	2.00							2.50
III SEMESTER												
C201	2.20	2.00	2.33	1.40	1.67							
C202	2.60	2.80	2.40	2.60	2.80							2.60
C203	2.66	2.66	2.00	2.00	2.33				2.00		2.33	3.00
C204	3.00	3.00	3.00	3.00								3.00
C205	2.00	1.50	2.33		1.00							1.50
C206	2.60	2.60	1.60	1.40								
C207	2.20	2.60	1.80	1.40								2.40
C208	2.80	2.40	3.00	2.60	2.20					2.20	2.20	2.80
IV SEMESTER												
C211	2.40	1.80	1.66	1.50	1.66							
C212	1.40	2.00	2.00	1.00		1.00		1.00	1.00	1.00		1.00
C213	2.67	2.00	2.33	1.33								
C214	2.50	2.50	2.25	1.75								2.00
C215	2.60	2.60	2.80	2.80	2.40							3.00
C216	2.00	2.00	1.67	1.00								
C217	2.25	2.00	2.00	2.00								
C218	2.75	2.75	2.75	3.00	3.00					2.50	2.30	2.80
V SEMESTER												
C301	1.75	2.00				2.67	2.00	2.67	2.50	2.30	3.00	1.50
C302	2.00	2.00	1.67	1.00								
C303	2.75	2.00	2.33	2.33	2.00	2.00						
C304	2.60	2.20	2.25	2.00								
C305	2.25	2.50	2.50	2.33	3.00							2.50
C306	3.00	2.00	3.00	2.00	2.00							
C307	1.67	1.67	2.00	1.67								
C308	3.00	3.00	3.00	3.00	2.00							
VI SEMESTER												
C311	2.20	2.50	2.00	1.60	2.33				2.00			
C312	3.00	3.00	1.00	1.00								
C313	3.00	1.80	2.00	2.50	2.00							
C314	2.50	1.00	1.67								1.00	1.00
C315	1.75	1.50	1.67	3.00								
C316	3.00	2.25	2.00	1.00								
C317	3.00	2.20	3.00	2.00	1.80				1.00		1.00	2.40
C318	3.00	3.00	3.00	3.00								3.00

VII SEMESTER												
C401	3.00	2.00	2.00									
C402	2.25	2.00	1.80	2.00	1.67							
C403	2.60	2.40	2.20	2.00	3.00				1.60		1.60	2.60
C404	1.00	2.00	1.50	1.00								
C405	1.70	2.00	2.00							1.00	2.00	
C406	3.00	1.75	2.25	2.00	3.00							
C407	2.50	3.00	2.75	2.25	2.50				3.00	2.50	2.30	3.00
C408	2.50	2.50	1.83		2.30							2.00
C409	3.00	2.50	2.50	2.00	2.00	2.00	2.00	3.00	2.00	2.16	2.00	2.00
VIII SEMESTER												
C411	2.60	2.60	2.80						1.50			
C412	2.20	2.50	2.00	1.60	2.33				2.00			
C413	2.75	2.25	1.50	1.33								1.50
C414	1.80	2.60	2.60	1.33								2.00
C415	3.00	3.00	2.67	1.00								
C416	3.00	2.50	2.50	2.00	2.00	2.00	2.00	3.00	2.00	2.16	2.00	2.00
C417	3.00		3.00		3.00				3.00		3.00	

Table B.3.1.3.5 CO-PO Matrix

f) The following table B3.1.3.6 lists the program level Course-PSO matrix of all courses including first year courses for the academic year 2015-19 (CAYm2).

Courses	PSO1	PSO2
Semester II		
C113	2.18	1.60
C118	2.50	2.90
Semester III		
C201		
C202	2.00	2.80
C203	3.00	2.33
C204	3.00	3.00
C205	3.00	2.75
C206	1.00	1.00
C207	2.40	3.00
C208	3.00	2.60
Semester IV		
C211		
C212	2.60	1.00
C213	1.33	1.00
C214	2.00	2.80
C215	3.00	2.40
C216	2.50	1.50
C217	1.50	1.00
C218	2.25	3.00

Courses	PSO1	PSO2
Semester V		
C301	1.80	1.00
C302	2.50	1.50
C303	3.00	1.50
C304		1.40
C305		2.00
C306	3.00	2.00
C307	1.00	
C308	3.00	2.00
Semester VI		
C311		1.80
C312	3.00	1.00
C313	3.00	2.00
C314	2.50	1.75
C315		1.70
C316		2.00
C317	2.60	2.40
C318	3.00	3.00
Semester VII		
C401	2.00	
C402	1.00	1.00
C403	2.80	2.60
C404	3.00	1.00
C405	2.00	
C406	3.00	2.00
C407	3.00	2.50
C408	3.00	2.00
C409	2.00	3.00
Semester VIII		
C411		1.00
C412		2.00
C413		1.30
C414	1.70	1.70
C415	1.70	1.70
C416	2.00	3.00
C417	1.00	2.00

Table B.3.1.3.6 COs-PSOs Matrix

32. Attainment of Course Outcomes (50)

32.1. Describe the assessment processes used to gather the data upon which the Evaluation of Course Outcome is based (10)

The Curriculum, Scheme and Syllabus (Subject wise) is prepared and provided by the Board of Studies, Visvesvaraya Technological University. All course outcomes are developed using Bloom's taxonomy and consequently assignments, continuous internal evaluation tests, quizzes, practical laboratory continuous assessments, mini projects, seminars, and projects are aligned to Course Outcomes addressing some levels of Bloom's taxonomy.

The following are the **assessment processes** used to gather the data for evaluation of course outcomes:

- Internal Assessment Tests
- Assignments
- Quizzes
- Laboratory work Assessments and Tests
- Mini Projects
- Internships
- Seminars
- Project works
- University Semester End Examinations

Internal Assessment Process (Non-CBCS scheme):

A. Theoretical Courses

- The Internal Assessment marks in theory papers shall be based on best of two tests out of three tests for the 2015 and 2016 batch and average of 3 tests for 2017 batch onwards, conducted on monthly basis during a semester as per the calendar of events.
- There shall be a maximum of 20 Internal Assessment Marks for 2015 & 2016 batch, and 40 marks for 2017 batch, in each theory subjects.
- Test Question papers for the corresponding course will be prepared by the respective course coordinator, scrutinized by HoD and team, then submitted to the Internal Test Coordinator well in advance.
- Test Question papers are prepared to cover the course outcomes appropriately and also considering the Blooms Taxonomy levels as to follow the process of outcome-based learning Methodology.

Rubrics for evaluation of Internal Assessment Theory:

Rubrics for Continuous Improvement Evaluation (Theory)		
	2015-19 & 2016-20 Batches	2017-21 Batch
Maximum Internal Assessment Marks	20	40
75% Test Marks	15	30
25% Marks for Assignment + Quiz / Presentation / Demos	05	10
Final Internal Assessment Marks	Average of Two Best Internal Assessment Marks	Average of All the Three Internal Assessment Marks
Minimum Marks	12	19

Table B3.2.1.0: Rubrics for Continuous Internal Evaluation Assessment Theory (CBCS scheme)

B. Laboratory work Assessments and Tests:

- Laboratory In-charge faculty members follow rubrics, which is set by the Department for evaluation of laboratory programs.
- Laboratory experiments are conducted with assessment based on rubric metrics as given in table B3.2.1.1. For every experiment, procedure is to be written, executed and demonstrated to the lab In-charges. The demonstration of the output is followed by oral viva-voce.
- Laboratory tests evaluation is as discussed in criteria 2.2.1.21
- Mini project work is carried out for some laboratory subjects in order to enable students to learn coding with or without integrated environment, presentation and report writing. Evaluation is as per the rubric provided in table B3.2.1.4

Rubrics for evaluation of Laboratory work:

Rubric	Methodology / Process Steps	Marks (20) 2015 & 2016	Marks (40) 2017
#R1	Observation Write up & Punctuality	02	05
#R2	Conduction of experiment & Output	04	08
#R3	Viva – Voce	02	04
#R4	Record write-up	04	08
#R5	Internal Test	08	15

Table B3.2.1.1: Rubrics for Laboratory work Continuous Internal Evaluation Assessment (CBCS scheme)

Evaluation Rubrics for Mini Projects**(Max marks 10)**

Sl. No.	Concept	Excellent	Good	Poor
1.	Formulation of problem (2 marks)	In depth explanation of problem statement. (2 marks)	Moderate explanation of problem statement. (1 marks)	No formulation of problem (0 marks)
2.	Design, implementation and demonstration (5 marks)	Complete knowledge about all possible concepts implemented in programs. (5 marks)	Minimal knowledge about all possible concepts implemented in programs. (3 marks)	Incompetent (1 marks)
3.	Result and documentation (3 marks)	Clear documentation according to the guidelines (3 marks)	Partial documentation (2 marks)	No documentation (0 marks)

Table B3.2.1.2: Rubrics used for continuous evaluation for Mini Projects**C. Seminar Work Evaluation:**

- The seminar on technical topics with report and presentation is a part of the curriculum for every individual student. The Department selects an experienced and senior faculty member as a Seminar coordinator who along with other faculty would assess the Technical seminar presentations by students. He / She would ensure that the students choose advanced concepts in Information Science and allied research areas with a lot of relevance and applicability.
- One seminar per student in the VIII semester is conducted as per the schedule.
- Seminar coordinators follow rubrics, which is set by the department for evaluation of seminar

Rubrics of evaluation for student technical seminars:

Rubric	Agenda	Marks (50) 2015 & 2016	Marks (100) 2017
#R1	Relevance and Understanding of the topic	10	20
#R2	Literature Survey and Observation	10	20
#R3	Report Content	15	30
#R4	Presentation with Explanation	10	20
#R5	Q & A	05	10

Table B3.2.1.3: Seminar Assessment Rubrics

Internal Assessment Process (CBCS scheme):

- The Internal Assessment marks in theory subjects shall be based on average of three tests conducted on monthly basis during a semester as per the calendar of events. There shall be three assignments to be submitted by every student and two quizzes conducted during the internal test.
- There shall be a maximum of 20 internal assessment marks in each theory and laboratory subjects. The internal assessment test marks is considered for 75% of maximum marks, 10% Marks for Quiz, and 15% marks for assignment.
- Assignment questions are formulated to prepare the students for gaining higher level of knowledge and also to ensure the attainment of COs and POs.

Rubric	Methodology / Process Steps				Marks (20) 2015 & 2016	Marks (40) 2017
#R1	Observation Write up & Punctuality				02	05
	2015 & 2016	Excellent (2)	Good (1)	Poor (0)		
	2017	Excellent (5)	Good (3)	Poor (0)		
#R2	Conduction of experiment & Output				04	08
#R3	Viva – Voce				02	04
#R4	Record write-up				04	08
#R5	Internal Test				08	15

Table B3.2.1.4: Rubrics for Laboratory Regular and Continuous Internal Evaluation Assessment (CBCS Scheme – without mini projects)

- Test question papers for each course will be prepared by the respective course coordinator, scrutinized by HoD and team, and then submitted to the internal test coordinator well in advance.
- Test question papers are prepared to cover the course outcomes appropriately and also considering the Bloom's taxonomy levels as to follow the process of outcome-based learning Methodology.
- The quizzes are conducted during first two internal assessment tests. Both the quiz and tests are compulsory and the best score among the two is considered for internal assessment marks.
- Laboratory experiments are conducted with assessment based on rubric metrics as given in table B3.2.1.4. For every experiment, procedure has to be written, executed and the output has to be demonstrated to the lab in-charges. The demonstration of the output is followed by oral tests / viva-voce.

- Mini Project is carried out for some laboratory subjects in order to enable students to learn coding with or without integrated environment, presentation and generation of report. Mini projects are included in the curriculum for semesters during 5th to 7th as a part of the laboratory work. The mini project complexity varies from simpler to advanced levels. This helps the students to have an insight of the different stages of Software Development Life Cycle and prepares them to the industry. The mini-project assessment is carried out at intermittent stages and final evaluation is based on the rubric metric.

Rubric	Methodology / Process Steps	Marks(20) 2015 & 2016	Marks (40) 2017
#R1	Observation Write up & Punctuality	02	05
#R2	Conduction of experiment & Output	02	08
#R3	Viva – Voce	02	04
#R4	Record write-up	02	08
	Internal Test Marks (05/15 Marks)	05	15
#R5	Mini Project Evaluation (07/15 Marks) i) Implementation/Demonstration/Presentation: 4/8 ii) Report Writing: 03/06	07	15

Table B3.2.1.5: Rubrics for Laboratory Regular and Continuous Internal Evaluation Assessment (CBCS Scheme – with mini projects)

- The internship activity is an initiation to provide an opportunity for the students to explore the industry ambience and adopt them to enhance their learning arena. The internship is carried out for 4 weeks duration in an industry environment or to be trained by industry personnel, which enable them to learn the latest technology and standards followed. The evaluation is based on their regular weekly interaction, demonstration of the work carried out, presentation and final exam. The rubric is used for internal assessment and evaluation of the internship work carried out by individual student.

Rubrics for Final Year Student Internship Internal Assessment Marks (Max: 50)			
	Excellent	Good	Poor
Time of Completion 20%= 10	Completed minimum 4 weeks of internship one week before scheduled review date 81% to 100% marks (10) = 7.5 to 10	Completed 4 weeks of internship within scheduled review date 50% to 80% marks (10) = 5 to 8	Completed with extra time from scheduled review date 10% to 49% marks (10) = 1 to 4.5
Presentation 30%= 15	Presentation could explain the scope of internship, acquired knowledge, planned execution, positive impact of internship with intact ppt formats 81% to 100% marks (15) = 11.5 to 15	Lagging in describing the acquired knowledge, positive impact from internship 50% to 80% marks (15) = 7.5 to 12	Lagging in intact ppt formats and without proper color codes 10% to 49% marks (15) = 1.5 to 7
Report 50%= 25	Report containing all prescribed contents, certificate from trainee, perception analysis, appropriate figures and tables, stress on advanced technologies 81% to 100% marks (25) = 19.5 to 25	Report is lagging in certificate from trainee, no stress on advanced technologies 50% to 80% marks (25) = 12.5 to 20	Report is lagging in appropriate figures and tables and has not appropriate formats 10% to 49% marks (25) = 2.5 to 12

Table B3.2.1.5a: Rubrics for Internship Assessment Evaluation

- The seminar presentation is a part of the curriculum for every individual student. The technical seminar is carried out by considering refereed journal papers which improves students understanding level about current state of the art technology. In the current CBCS scheme of curriculum, the seminar is to be carried out based on the literature survey and pre-requisites for the final semester project work as Phase – I. The oral presentation is evaluated during the 7th semester and the evaluation is based on the rubric metrics. The assessment is carried out with a panel of committee members from the department along with the coordinator and the HoD as chairperson.

Rubric	Agenda	Marks (100)
#R1	Relevance and understanding of the topic	20
#R2	Literature Survey and Technical Content	25
#R3	Presentation / Demonstration	30
#R4	Interactions – Q & A	25

Table B3.2.1.6: Rubrics for VII Semester Seminar on Project work Phase - I Internal Evaluation

D. Project Work Evaluation:

- The final year (7th & 8th semester) students need to carry out their project work as per the University regulations. The students are allowed to form batches with a team size of minimum of two and maximum of four. This activity helps students to work within a team and can build interpersonal communication skills. The synopsis of the project work is screened before finalization of the topics. The project work may be based on technical paper or journal either from IEEE, ACM transactions. The project work interaction is carried out on weekly basis with the project guide, coordinator and the HoD for continuous improvement of the quality work carried out. The project work internal evaluation is based on the rubrics and assessed with a panel of expert committee members chosen from the department along with the coordinator and the HoD. The following are the different stages involved in project work evaluation.

I. Project Identification

A. Students Group formation

- Students are allowed to form a minimum of 2 members or maximum of 4 members in a group. Project batches are formed as per the instructions given by the HoD and project coordinators as discussed in table B2.2.3.2.

B. Identify their Area of Interest/ Domain

- Students have the option to choose the areas in which they are interested to carry

out the projects. The different areas which are given by the project coordinator/Professor, like AI and Machine Learning, IoT, Image processing, Networking, Network Security, Big Data, Cloud Computing, and approved by Project Coordinator team.

- The students are required to do a thorough literature survey on their area of interest, formulate the problem statement for carrying out their project work.
- The students may consult experts from industry/ research labs/ Government organizations to carry out their project work through proper channel.

C. Synopsis submission

The students are required to submit the synopsis as per the guide lines and format given by the project coordinators and synopsis will be scrutinized by committee.

D. Preliminary screening

The students are required to give the preliminary presentation to the evaluation committee for approval of the project work. The committee will approve the project based on the understanding of the project by students and complexity/ current technology/ social relevance.

II. Allotment of Guide

A. Based on specific domain expertise

Project batches are allocated to the internal guides based on the specialization and competency skills of the Professors.

B. Display the Batches and Guide details

The students will be intimated on title of the project work and allocated guide through notice board/ E-mails/ Social media group.

III. Continuous Monitoring Process

The students are required to meet their respective guides on weekly basis and update on the progress of the project work, get feedback and guidelines for improvement regularly. This will also be monitored by project work Coordinators and HoD.

IV. Project Work Evaluation and Demonstration of working prototypes and enhancing the relevance of projects

The projects will be evaluated by the expert committee comprising guide, experts from industry and academia. The entire process of evaluation is being done through different phases.

A. Phase-I Evaluation

In Phase -1, the students have to give presentation on the progress of project work including fine tuned synopsis, literature review, problem statement, preliminary plan of design and execution, and percentage of completion of the project work.

B. Phase-II Evaluation

In Phase -2, the students have to give presentation on the progress of project work with

system design and detailed design along with demonstration of the project work. The project will be evaluated by the committee and awarded marks based on their presentation skills, team involvement, methodologies used, test cases, results analysis and documented report.

C. Report Submission

Students must document their project work in their dissertation as per the guidelines and format given by the HoD and Coordinators in line with the University regulations. The final report must be signed by the Head of the Institution, HoD and the respective guide. The copy of the project report will be placed in department library and college library.

V. External Project Evaluation

The project will be evaluated by the external and internal examiners appointed by the Visvesvaraya Technological University. The panel of examiners will take the presentation and demonstration of the project work followed by Viva-Voce and award the marks and the same will be submitted to University.

Rubrics for evaluation of Project Work:

Rubric	Review Assessment	Agenda	Review Assessment Weightage	Overall Weightage for Internal Evaluation
Rubric# R1	Project Screening & Phase -1	Project Synopsis/Proposal Evaluation – Relevance of the topic, Literature survey	10	SUM (R1, R2, R3, R4, R5, R6) = 100
Rubric# R2	Phase -2	Project Review and Evaluation during second month of 7 th sem. By internal evaluation committee – Design & Implementation	10	
Rubric# R3	Project Evaluation	Project Evaluation by an expert committee – Presentation & Questionnaires	20	
Rubric# R4	Weekly Progress Report	Weekly Progress Report and Monitoring by Guide, Coordinators & HOD	20	
Rubric# R5	GUIDE	Project Evaluation by Guide	20	
Rubric# R6	Report	Project Report Evaluation - Content and Organization	20	
External Evaluation				100
Total marks				200

Table B3.2.1.7: Project Assessment Rubrics

Rubric# R1: Project Screening & Phase -1 Evaluation**Maximum Marks: 10**

Parameters	Allocated Marks	High ≥80% Marks	Medium ≥50% and < 80% Marks	Low <50% Marks
Identification of Problem, Domain and Detailed Analysis	05	Detailed and extensive explanation of the purpose and need of the project (4-5)	Average explanation of the purpose and need of the project (2-3)	Minimal explanation of the purpose and need of the project (1)
Study of the Existing Systems and Feasibility of Project Proposal	03	Detailed and extensive explanation of the specifications and the limitations of the existing systems (3)	Moderate study of the Existing systems with minimum Information (2)	Minimal explanation of the specifications and the Limitations of the existing Systems (1)
Objectives and Methodology of the Proposed Work and initial design	02	All objectives of the proposed work are well defined; Steps to be followed to solve the defined problem are clearly specified (2)	Average justification to the objectives proposed; Steps are mentioned but unclear; without justification to objectives (1)	Objectives of the proposed work are either not identified or not well defined; Incomplete and improper specification (0)

Table B3.2.1.8a: Project Screening & Phase -1 Evaluation Rubric

Rubric# R2: Phase -2 Project Evaluation**Maximum marks: 10**

Parameters	Allocated Marks	High ≥80% Marks	Medium ≥50% and < 80% Marks	Low <50% Marks
Detailed design/ Methodology	05	Division of problem into modules and good selection of computing framework, appropriate design Methodology (4-5)	Division of problem into modules but inappropriate selection of computing framework and moderate design Methodology (2-3)	Modular approach not adopted; design Methodology poorly defined (1)
Implementation of Project Work	03	Execution frame work properly specified and being followed (3)	Execution frame work moderately specified but not being followed (2)	Execution frame work poorly specified (1)
Demonstration & Presentation	02	All objectives of the proposed work are well defined; Steps to be followed to solve the defined problem are clearly specified (2)	Average justification to the objectives proposed; Steps are mentioned but unclear (1)	Objectives of the proposed work are either not identified or not well defined (0)

Table B3.2.1.8b: Project Phase -2 Evaluation Rubric

Rubric#R3: Project Evaluation**Maximum marks: 20**

Parameters	Allocated Marks	High 80% Marks	Medium 50% and < 80% Marks	Low <50% Marks
Incorporation of suggestions	10	Changes are made as per modifications suggested during Phase-2 evaluation and new innovations added (8-10)	Moderate changes are made as per modification suggested during Phase-2 evaluation (4-6)	Suggestions during Phase-2 evaluation are not Incorporated (2)
Project Demonstration	06	All defined objectives are achieved, all modules working well and integrated, project properly demonstrated (6)	Some of the defined objectives are achieved, all modules working well and modules are not properly integrated (4)	Defied objectives not achieved with minimal functionalities among modules (2)
Presentation	04	Contents of presentation are appropriate and well delivered. Proper eye contact with audience and clear voice with good communication (4)	Contents of presentation are appropriate but not well delivered. Eye contact with few people and unclear voice (2)	Contents of presentation are not appropriate and not well delivered. Poor presentation (1)

Table B3.2.1.8c: Rubric for Project Evaluation

Rubric#R4: Weekly Progress Report and monitoring**Maximum marks: 20**

Parameters	Allocated Marks	High ≥80% Marks	Medium ≥50% and < 80% Marks	Low <50% Marks
Attendance (>85%)	10	The student has maintained minimum of 85% attendance (8-10)	The student has maintained minimum of 75% attendance (4-6)	The student has less than 75% attendance (2)
Weekly updates to the Coordinators	06	Meeting guide/coordinators/ HoD and taking signatures on regular basis (6)	Meeting guide/coordinators/ HoD and taking signatures infrequently (4)	Not meeting guide/coordinators/ HoD and taking signature on regular basis (0)
Regular Project progress updates	04	Attending all the phases of project review process and presentation of their work (4)	Attending few phases of project review process and presentation of their work (2)	Irregular for all the phases of project review process and presentation of their work (1)

Table B3.2.1.8d: Weekly Progress Report and monitoring Rubric**Rubric#R5: Evaluation by Guide****Maximum marks: 20**

Parameters	Allocated Marks	High ≥80% Marks	Medium ≥50 % and < 80% Marks	Low <50% Marks
Self-Motivation and Determination	10	Excellent self-motivation and determination (8-10)	Moderate self-motivation and determination (4-6)	Poor self-motivation and determination (2)
Technical Knowledge and Awareness related to the project	06	Extensive knowledge related to the project (6)	Fair knowledge related to the project (4)	Lacks sufficient knowledge (2)
Regularity	04	Report to the guide regularly (4)	Reports to the guide not regularly (2)	Irregular in attendance (1)

Table B3.2.1.8e: Evaluation Rubric for Guide

Rubric#R6: Project report Evaluation**Maximum marks: 20**

Parameters	Allocated Marks	High ≥80% Marks	Medium ≥50% and < 80% Marks	Low <50% Marks
Project Report	10	Project report is according to the specified format, references are appropriate (8-10)	Project report is according to the specified format, but not well prepared, references are missing (4-6)	Project report not prepared according to the specified format, references are not appropriate (2)
Description of Concepts and Technical Details	06	Complete explanation of key concepts, strong description of technical details of the project (6)	Insufficient description of technical details of the project (4)	Inappropriate explanation of key concepts, poor description of technical details of the projects (2)
Results, Conclusion and Discussion	04	Excellent presentation of Results with substantial conclusions (4)	Moderate presentation of Results with good conclusions (2)	Poor presentation of Results and conclusions (1)

Table B3.2.1.8f: Project Report Evaluation Rubric

3.2.1.1 Attainment of COs of the Course

- Attainment of COs can be measured directly and indirectly
- Direct attainment of COs can be determined from the performances of students in all the relevant assessment instruments.
- Indirect attainment of COs can be determined from the Course End Surveys.
- The exit survey form should permit receiving feedback from students on individual COs.
- Computation of indirect attainment of COs may turn out to be complex, the percentage weightage to indirect attainment can be kept at a low percentage, say 10%.

A. Direct CO attainment

- Semester End Examination (SEE) is conducted and evaluated by the affiliating University.
- The Department will have access only to the marks obtained by each student in the course.
- As the information on performance in SEE on each student in individual COs is not available, the Institution/Department has considered equal weightage for the attainment (percentage marks) of all COs of the course.
- The proportional weightages of CIE: SEE is 20:80 for 2015 & 2016 batch and 40:60 for 2017 batch.
- The number of assessment instruments used for CIE is decided by the Department and sometimes by the affiliating University.

B. Assessment Pattern

All assessment items in all CIE assessment instruments are to be tagged with

- Cognitive Level (CL)
- Course Outcome (CO)
- Marks

The following tables B3.2.1.1 and B 3.2.1.2 summarize the above assessment processes:

DIRECT ASSESMENT METHODS	
Continuous Internal Evaluation (CIE) – College Level	
Theory Courses	
Internal tests	A Qualitative Assessment based on the Course outcomes, the student’s knowledge of engineering practices, framework and problem solving techniques. A detailed scheme and solution is prepared for evaluation of the assessment.
Assignments	
Quiz	
Presentation	Students need to present a seminar on an advanced topic related to any module of the syllabus and report it with a proper document.
Project based learning	Student has to develop a project on the practical aspect of the subject and demonstrate its working.
Practical courses	
Regular/ daily Assessment	Regular laboratory class for every experiment is assessed for individual students based on the rubrics for components like Observations, Viva Voce, and Record writing.
Internal Assessment	
Mini projects	Regular laboratory class for every experiment is assessed for individual students based on the rubrics for components like Observations, Viva Voce, and Record writing.
Semester End Examination (SEE) – University Level	
Theory	Conducted and evaluated by Visvesvaraya Technological University based on the norms.
Practical	

Table B3.2.1.9 Direct Assessment Methods

INDIRECT ASSESSMENT Methods			
Survey Type	Methodology	Frequency	Review Committee
Course End Survey	Online Survey Forms + Hard Copy	At the end of the course /Semester	Head of the Department + All Teaching Faculties
Program Exit Survey	Online Survey – Google Forms	At the end of the Graduation Program	Head of the Department + Principal
Alumni Survey	Online Survey – Google Forms	After 1 – 2 years of Graduating batch & every year thereon	Head of the Department + Principal
Employer Survey	Online Survey –Google Forms	After 2 – 3 years of Graduation	Head of the Department + Principal + Placement Dept.

Table B3.2.1.10 Indirect Assessment Methods

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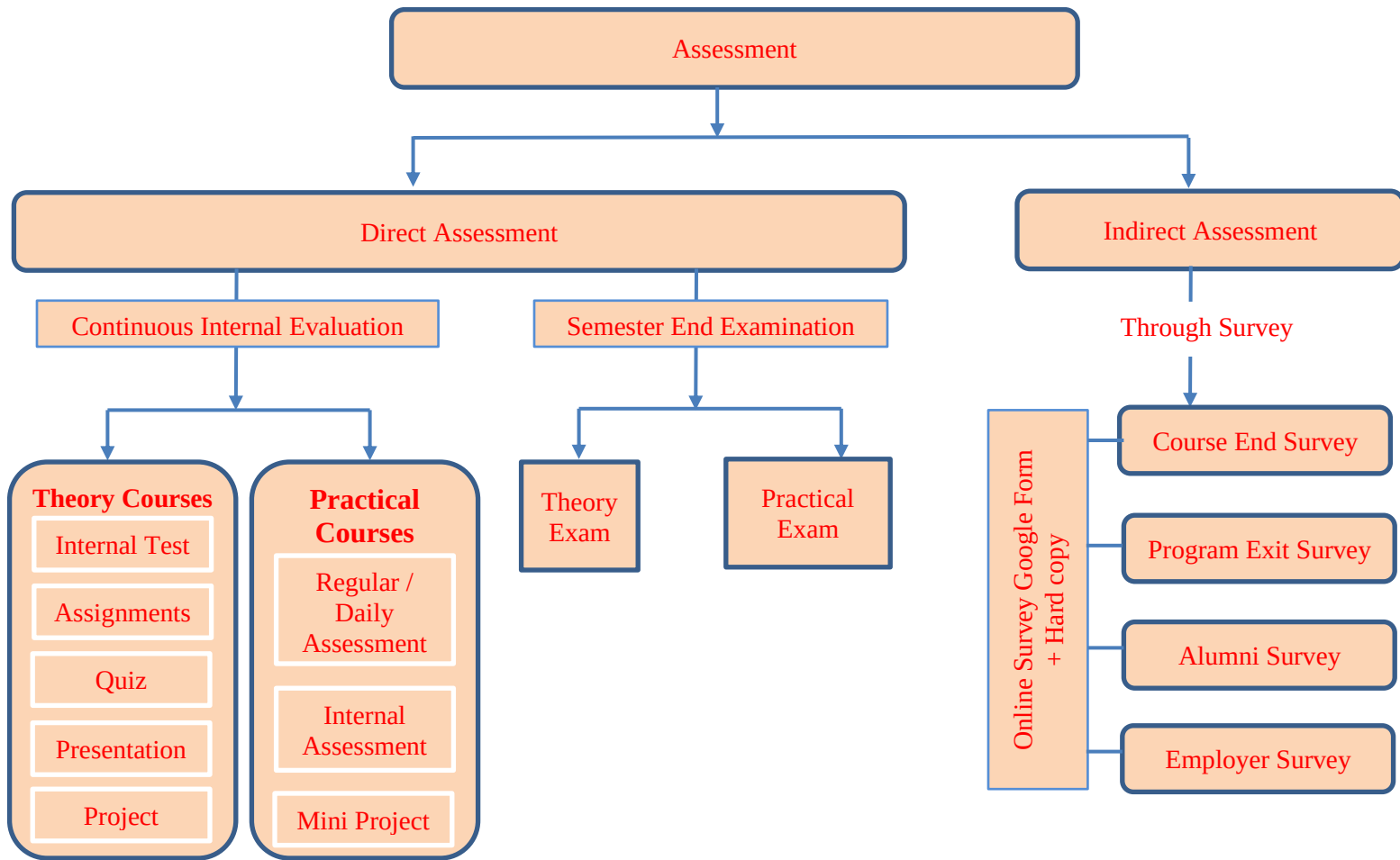
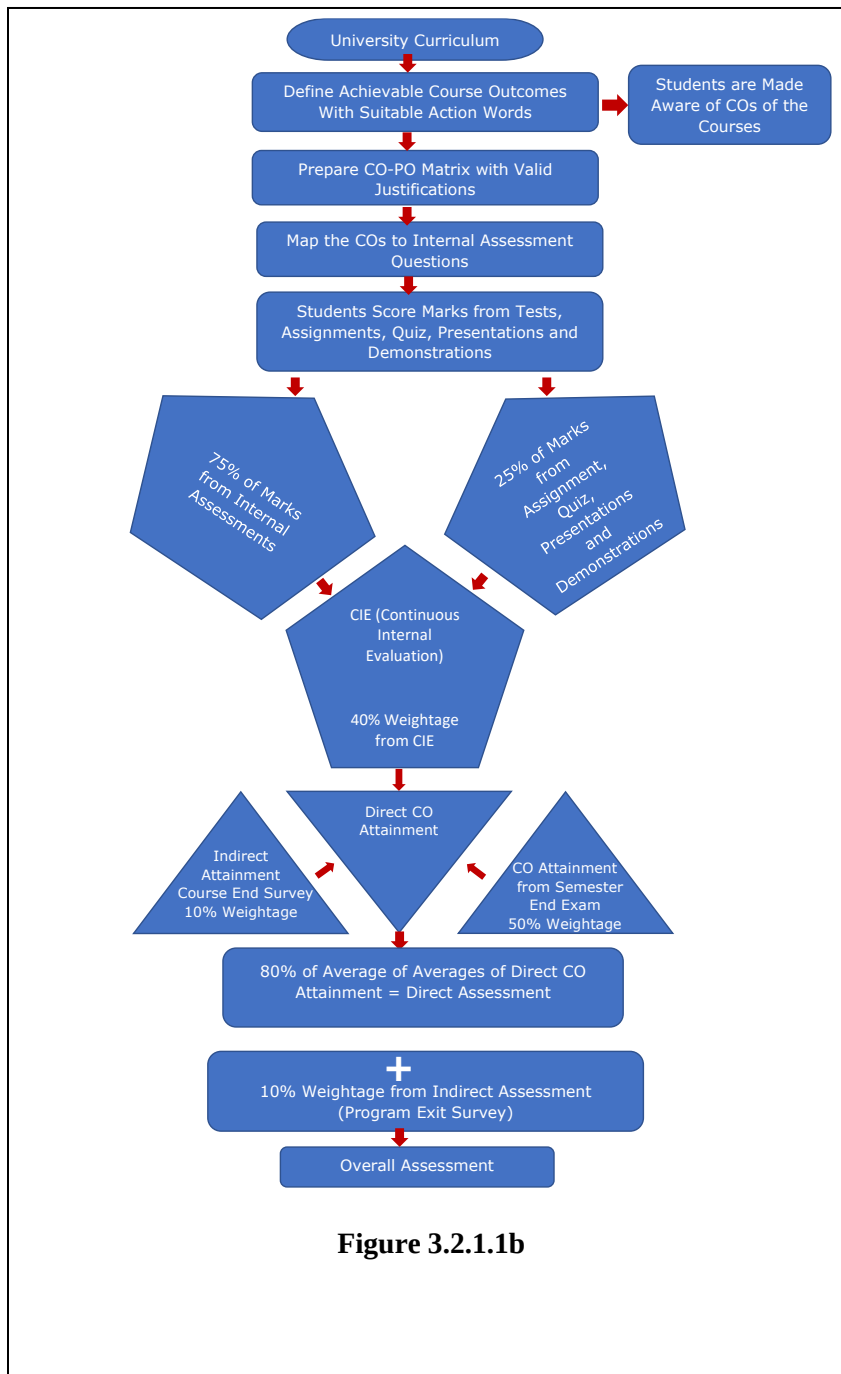
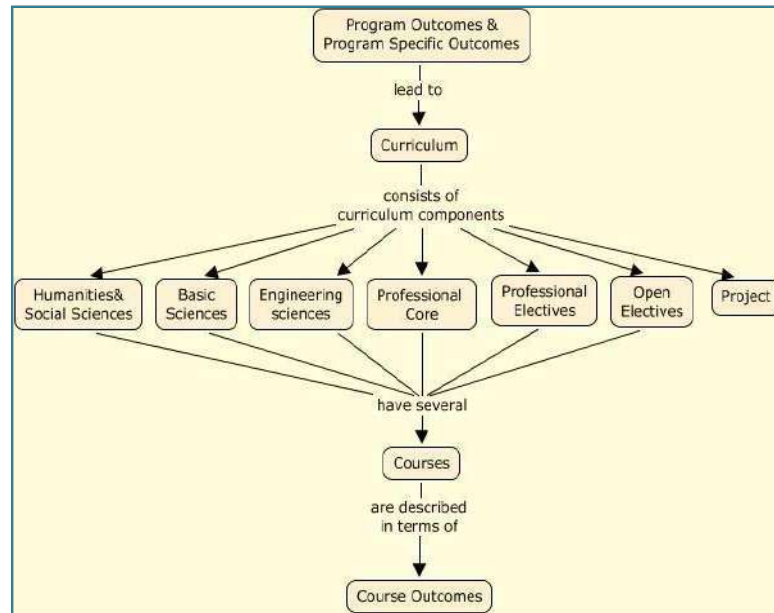


Fig 3.2.1.1a: Methods of PO-PSO Attainment Assessment

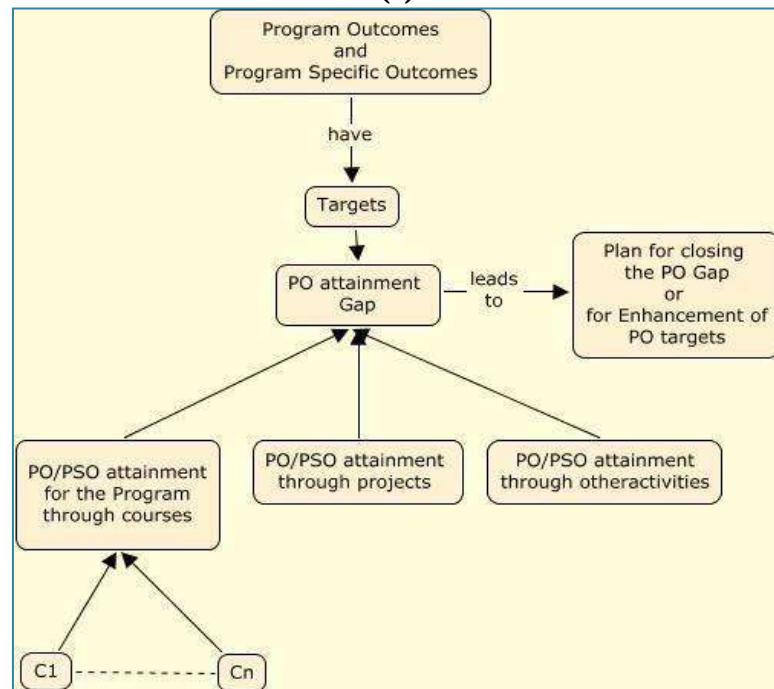


C. Model / Tool used for assessment of CO, PO and PSO:

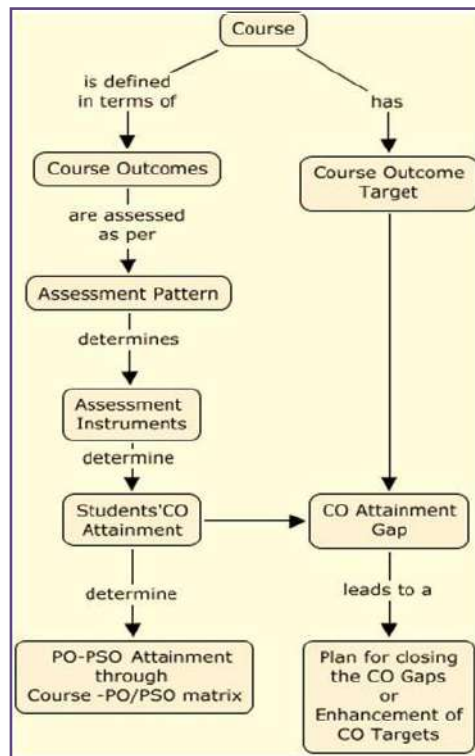
The assessment tool for the assessment of Course Outcomes (COs), Program Outcomes (POs) and the Program Specific Outcomes (PSOs) has been designed and developed based on the inputs from the coordinators from different departments, all the heads of the departments, Deans, Vice-Principal and the Principal following the basic steps as described in figure 3.2.2.1 a, b & c diagrams.



(c)



(d)



(e)

Fig 3.2.1.1a, b, c, d & e: PO-PSO Attainment through CO Attainment

The steps followed for calculating the attainment of COs, POs and PSOs are described below:

- The COs for every course is framed by the course coordinator and the concerned faculty. A maximum of six COs is considered for every course.
- The COs are mapped with the POs and PSOs for every individual course based on the three different correlation levels to form the initial CO – PO and CO – PSO correlation matrices and the levels considered are:
 1. Slightly – 1 (Low)
 2. Moderately – 2 (Medium)
 3. Substantially – 3 (High)
 4. No correlation -
- The average COs for POs and PSOs is calculated and these obtained values are considered as the base values/target values.
- The target for processing the attainment of the student's performance is formulated as shown in table B3.2.2a.
- For CBCS scheme (2015 onwards) of curriculum, along with the above assessment, two more components such as quiz and assignments are added in the attainment calculation. The threshold value of 60% remains same for these components. Those students marks that satisfy the threshold value for quiz and assignment components are tabulated against each CO.
- The SEE marks are obtained from the university results for all the courses. The target

threshold for SEE is set as 60%. This value is taken as common value across all the courses, as the average of university results, may not be available. Here, all COs are given with same weightage. The percentage scored by the individual student is counted which satisfies the threshold value and the ratio of the total count with the number of students attempted the examination is calculated. This computed value is considered as the SEE attainment of the course.

- In table B3.2.2a, the methods describing the recording of attainment are given.
- The weightage considered for CIE is 75% from internal tests score and 25% from quiz and assignments score.
- The weightage for overall COs attainment is 80% of SEE attainment and 20% of CIE attainment and the recorded attainment of course outcomes of all courses are shown in table B3.2.2b.
- The final CO attainment is calculated based on the overall attainment from CIE, SEE and Course End Survey (CES). The CES are obtained from the students after end of each course. The final CO attainment is calculated by considering 80% of overall attainment, i.e. from 70% SEE + 20% CIE and 10% of CES for 2015 and 2016 batches and 50% SEE + 40% CIE and 10% of CES for 2017 batch.
- The obtained final CO attainment is compared with the target set in the initial correlation matrix and the gap analysis is done for individual courses. The action is planned for the next academic year for the gaps, if any, and the cycle continuous.
- In case of PO and PSO attainment calculations, the final attainment of the COs are considered and multiplied with the set levels in the correlation matrices. The average obtained from all POs and PSOs are calculated as the final PO and PSO attainment at the course levels.
- The average of POs and PSOs values from all the courses of the program are considered for overall POs and PSOs attainment calculation. The *average of averages* obtained from individual course is calculated. The obtained average attainment values of POs and PSOs are considered as the **direct attainment values**.
- Further, the indirect attainment of the POs and PSOs are calculated by taking the feedback in the form of surveys like Program Exit Survey (PES), Alumni Survey, Employer Survey, etc. The survey is formulated in the similar lines of POs and PSOs with same levels of substantial – 3, moderate – 2 and slight – 1. The average of the data populated from different stakeholders is calculated and considered as the **indirect attainment values**.
- For the final attainment values of POs and PSOs, 80% of direct attainment and 20% of indirect attainment is considered.
- The finally computed POs and PSOs attainment values are subtracted from average value of individual subjects POs and PSOs which are in turn is averaged over all the 8 semester subjects from the correlation matrices of the all courses. Thus, the gap generated is used to analyze the gap for the continuous improvement process under criterion – 7.

D. The attainment calculation tool and snapshots: Internal Assessment Tests

The sample snapshots of the final summary sheet to display initial setting of targets, weightages of SEE and CIE, CO-PO-PSO mapping correlation matrix and CO/PO/PSO attainment calculations is as shown in figures from 3.2.1.2 to 3.2.1.6

(a) Internal Tests/Exams:

SJCIT/NBA/ CIE-MARKS/ 2019-20		 S J C INSTITUTE OF TECHNOLOGY Chickballapur - 562 101 Department of Information Science and Engineering										 S J C INSTITUTE OF TECHNOLOGY Chickballapur - 562 101 Department of Information Science and Engineering									
Course Title:		Data Mining and Data Warehousing										Data Mining and Data Warehousing									
Subject Code:		17CS651	Semester & Section			5 - A & B	No.Students		36		17CS651	Semester & Section			5 - A & B	No.Students		36			
Course Instructor Name:		Bhanumathi S			Course ID:		C315			Bhanumathi S			Course ID:		C315						
		Test No:1										Test No:2									
Ref-Question Number:		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		CIE Marks Entry Format For the Academic Year - 2019-20										CIE Marks Entry Format For the Academic Year - 2019-20									
Questions		1,2	3,4	5,6	A1							1,2	3,4	5,6	A2						
Main Question No.		1	2	3	4							1	2	3	4						
Mapped CO-No.		5	1	1	5							2	2	3	3						
Sl.	USN/Q-Marks	10	10	10	10							10	10	10	10						
1	1SJ17IS004	10	10	6	10							5	10	10	10						
2	1SJ17IS008	10	10	6	10							10	10	5	10						
3	1SJ17IS011	10	10	7	10							10	10	1	10						
4	1SJ17IS012	10	10	7	10							10	10	3	10						
5	1SJ17IS015	10	7	8	10							10	10	8	10						
6	1SJ17IS021	10	10	7	10							10	6	6	10						
7	1SJ17IS023	10	10	7	10							10	6	7	10						
8	1SJ17IS024	10	8	7	10							10	7	10	10						
9	1SJ17IS027	8	8	10	10							10	6	6	10						
10	1SJ17IS034	9	9	9	10							10	6	6	10						
11	1SJ17IS043	10	9	8	10							10	10	5	10						
12	1SJ17IS044	8	8	8	10							10	10	5	10						
13	1SJ17IS045	10	10	8	10							10	10	8	10						
14	1SJ17IS046	8	10	7	10							10	10	8	10						
15	1SJ17IS049	10	10	9	10							10	10	7	10						
16	1SJ17IS054	10	10	9	10							10	10	7	10						

Fig 3.2.1.2: Snapshot of Internal assessment test marks entry sheet

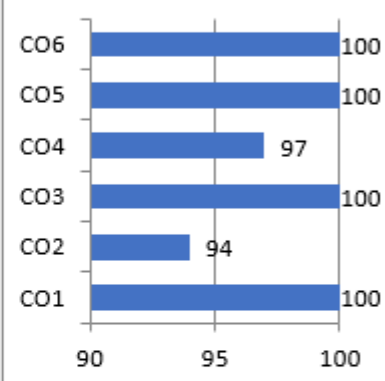
(b) CO attainment by the students:

CO Analysis from -, in the Subject: 17CS651-Based on: TYPE-1, Academic Year 2019-20								
Sl.	USN	Course Outcome Number	CO1	CO2	CO3	CO4	CO5	CO6
		Total Maximum Marks	20	20	30	20	20	10
1	1SJ17IS004	Amrutha M	Y	Y	Y	Y	Y	Y
2	1SJ17IS008	Apoorva M	Y	Y	Y	Y	Y	Y
3	1SJ17IS011	Bhavani V K	Y	Y	Y	Y	Y	Y
4	1SJ17IS012	Chaithra M S	Y	Y	Y	Y	Y	Y
5	1SJ17IS015	Divya D M	Y	Y	Y	Y	Y	Y
6	1SJ17IS021	Harshitha D A	Y	Y	Y	Y	Y	Y
7	1SJ17IS023	Himabindu N	Y	Y	Y	Y	Y	Y
8	1SJ17IS024	Impana	Y	Y	Y	Y	Y	Y
9	1SJ17IS027	Kavya Suresh Gouda	Y	Y	Y	Y	Y	Y
10	1SJ17IS034	Manasa R	Y	Y	Y	Y	Y	Y
11	1SJ17IS043	Navya L	Y	Y	Y	Y	Y	Y
12	1SJ17IS044	Nayanashree K M	Y	Y	Y	Y	Y	Y
13	1SJ17IS045	Neha	Y	Y	Y	Y	Y	Y
14	1SJ17IS046	Nehala G	Y	Y	Y	Y	Y	Y
15	1SJ17IS049	Nithyashree C	Y	Y	Y		Y	Y
16	1SJ17IS054	Pavithra V M	Y	Y	Y	Y	Y	Y
17	1SJ17IS062	Rachana C R	Y	Y	Y	Y	Y	Y
18	1SJ17IS064	Rahul M	Y	Y	Y	Y	Y	Y
19	1SJ17IS065	Rahul N Ankola	Y	Y	Y	Y	Y	Y
20	1SJ17IS066	Rajasha N R	Y	Y	Y	Y	Y	Y
21	1SJ17IS067	Rakshitha B S	Y	Y	Y	Y	Y	Y
22	1SJ17IS068	Ranjitha A	Y	Y	Y	Y	Y	Y
23	1SJ17IS070	Raushan Kumar	Y	Y	Y	Y	Y	Y
24	1SJ17IS072	Sanghavi M N	Y	Y	Y	Y	Y	Y
25	1SJ17IS073	Sara Ayman	Y	Y	Y	Y	Y	Y
26	1SJ17IS074	Shalini S	Y	Y	Y	Y	Y	Y

Fig 3.2.1.3: Sample snapshot showing CO attainments by students at CIE

(c) Attainment Calculation for Internal Assessments:

SJCIT/NBA/ CO-REPT/ 2019-20		 S J C INSTITUTE OF TECHNOLOGY Chickballapur - 562 101 Department of Information Science and Engineering							
Course Title	Data Mining and Data Warehousing					Course Code	C315		
Subject Code	17CS651	Semester	6	Section	A & B	Emp.ID	945		
Faculty Name	Bhanumathi S					No.students	36		
CO Attainment from -, in the Subject: 17CS651-Based on: TYPE-1, Academic Year 2019-20									
Sl.	CO Number	Sum	T_Std	Av-AT	TS(=3)	AT,%	Ac_AT	ATNT	
CO1	C315.1	108	36	3	36	100	3	YES	CO6 100
CO2	C315.2	106	36	3	34	94	2.8	YES	CO5 100
CO3	C315.3	108	36	3	36	100	3	YES	CO4 97
CO4	C315.4	107	36	3	35	97	2.9	YES	CO3 100
CO5	C315.5	108	36	3	36	100	3	YES	CO2 94
CO6	C315.6	108	36	3	36	100	3	YES	CO1 100



Distribution of CO Attainment from -, in Subj: 17CS651-Based on: TYPE-1, ACDY:2019-20								
Sl.	CO Number	3	%	2	%	1	%	
CO1	C315.1	36	100		0		0	CO6 100 0
CO2	C315.2	34	94	2	6		0	CO5 100 0
CO3	C315.3	36	100		0		0	CO4 97 3 0
CO4	C315.4	35	97	1	3		0	CO3 100 0
CO5	C315.5	36	100		0		0	CO2 94 6 0
CO6	C315.6	36	100		0		0	CO1 100 0

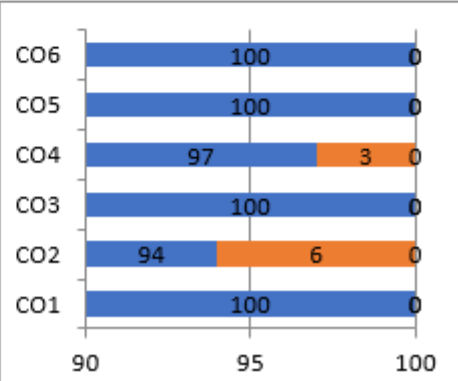


Fig 3.2.1.4: Sample course outcome attainment calculation

(d) **Final Summary Sheet to display CO-PO Mapping and CO / PO Attainment Calculations:**

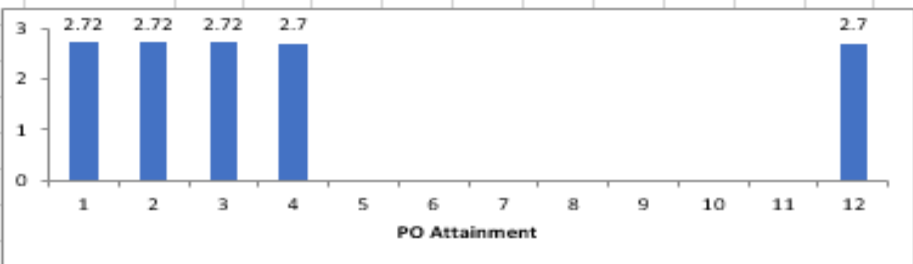
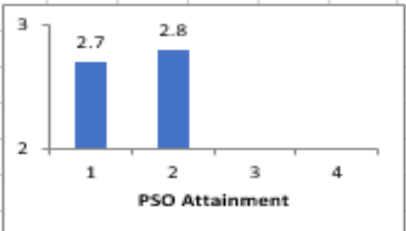
SJCIT/HBA/ CO-PO-PSO REPT/ 2019-20		S J C INSTITUTE OF TECHNOLOGY Chickballapur – 562 101 Department of Information Science & Engineering													
Course Title		Data Mining & Data Warehousing									Course Cod		C315		
Subject Code		17CS651		Semester		6		Section		A & B		Emp.ID		945	
Faculty Name		Bhanumathi S									Io.student		36		
Summary of CO attainments of Sub: 17CS651 Based on TYPE-1 Academic Year:2019-20															
CO	CID_CO	CIE			SEE			CES			TOT_Attainment				
		S_ATT	ST	ATNT	S_ATT	ST	ATNT	S_ATT	ST	ATNT	ATNT	%	Status		
CO1	C315.1	36	36	3	30	36	2.5	29	29	3	2.8	92	YES		
CO2	C315.2	34	36	2.8	30	36	2.5	29	29	3	2.7	89	YES		
CO3	C315.3	36	36	3	30	36	2.5	21	29	2.2	2.7	89	YES		
CO4	C315.4	35	36	2.9	30	36	2.5	25	29	2.6	2.7	89	YES		
CO5	C315.5	36	36	3	30	36	2.5	24	29	2.5	2.7	90	YES		
CO6	C315.6	36	36	3	30	36	2.5	22	29	2.3	2.7	90	YES		
Summary of PO attainments of Sub: 17CS651 Based on TYPE-1 Academic Year:2019-20															
PO Number	1	2	3	4	5	6	7	8	9	10	11	12			
Direct ATNT(D)	2.7	2.7	2.7	2.68								2.7			
Indirect ATNT(ID)	2.6	2.6	2.61	2.64								2.3			
Total-ATNT	2.7	2.7	2.72	2.7								2.7			
Total-ATNT (%)	91	91	91	90								90			
Rel. to Mapping	16	11	10	4.5								1.8			
															
Summary of PSO attainments in Year:2019-20															
PSO Number	1	2	3	4											
Direct ATNT(D)	2.7	2.7													
Indirect ATNT(ID)	2.5	3													
Total-ATNT	2.7	2.8													
Total-ATNT (%)	90	93													
Rel. to Mapping	1.8	0.9													
															

Fig 3.2.1.5: Sample snapshot showing the basic initialization with CO attainment(CBCS)

(e) **Final Summary Sheet to display CO-PO Mapping and CO / PO Attainment Calculations:**

Threshold Values for Attainment Calculation							Final CO Attainment										
Attainment level	3	%	2	%	1	%	(Percentage Contribution, %)										
Internal Assessment	>=	70	>=	60	>=	50	CIE	40	SEE	50							
SE Examination	>=	60	>=	50	>=	40	-		CES	10							
Statements of Course Outcomes					No.of CO's		6		Target(%)								
C315.1	Analyze Data Mining problems and implement data warehouse.							60									
C315.2	Apply appropriate data mining algorithms to solve problems.							60									
C315.3	Demonstrate association rules for a given data pattern.							60									
C315.4	Apply different classification methods and evaluate various clustering techniques.							60									
C315.5	Design data warehouse with dimensional modeling and apply OLAP operations.							60									
C315.6	Analyze different data types and preprocessing methods.							60									
Semester End Exam. (SEE) Target(%)			60		Course End Survey(CES) Target (%):				80								
CO-PO Mapping Table (In the scale of 3)												CO-PSO Mapping Table					
CO/PO	1	2	3	4	5	6	7	8	9	10	11	12	CO/PSO	1	2	3	4
C315.1	3	2	2										C315.1		1		
C315.2	3	2	2	2									C315.2				
C315.3	3	2	2										C315.3				
C315.4	3	2	2	1									C315.4	1			
C315.5	3	2	1										C315.5				
C315.6	3	2	2	2								2	C315.6	1			
Total	18	12	11	5								2	Total	2	1		

Fig 3.2.1.6: Sample snapshot showing the basic initialization with CO attainment (CBCS)

3.2.2 Record the attainment of Course Outcomes of all courses with respect to set attainment levels (40)

Following methods were adopted for recording the attainment of Course Outcomes of all courses with respect to set attainment levels:

I. University Semester End Examination (SEE) for 2015 & 2016 Batches		
Attainment Level	Criterion/Target	Scale Value
Substantial	If 60% students get 50 - 100% marks	3
Moderate	If 60% students get 45 - 49% marks	2
Slight	If 60% students get 40 - 44% marks	1
II. Continuous Internal Evaluation (CIE)		
Attainment Level	Criterion/Target	Scale Value
Substantial	If 60% students get 70 - 100% marks	3
Moderate	If 60% students get 60 - 69% marks	2
Slight	If 60% students get 50 - 59% marks	1

Table: B3.2.2a – Methods describing the recording of attainment for 2015/16 Batches

I. University Semester End Examination (SEE) for 2017 Batch		
Attainment Level	Criterion/Target	Scale Value
Substantial	If 60% students get 60 - 100% marks	3
Moderate	If 60% students get 50 - 59% marks	2
Slight	If 60% students get 40 - 49% marks	1
II. Continuous Internal Evaluation (CIE)		
Attainment Level	Criterion/Target	Scale Value
Substantial	If 60% students get 70 - 100% marks	3
Moderate	If 60% students get 60 - 69% marks	2
Slight	If 60% students get 50 - 59% marks	1

Table: B3.2.2b – Methods describing the recording of attainment for 2017 Batch

Further, **70% weightage** is given to University Semester End Examination and **20% weightage** is given to the Continuous Internal Evaluation Assessment and **10% weightage** is given to Course End Survey for 2015-19 and 2016-20 batches. And **50% weightage** is given to University Semester End Examination and **40% weightage** for Continuous Internal Evaluation Assessment and **10% weightage** is given to Course End Survey for 2017-21 batch.

COURSE CODE	CIE		SEE		CES		CO attainment level	
							((50%(SEE) +40%(CIE)+10%(CES))	
	%	LEVEL	%	LEVEL	%	LEVEL	%	LEVEL
II SEMESTER								
17PCD13/23	67	2	10	0.3	37	1.2	35	1.06
17CPL26	100	3	77	2.3	41	1.2	83	2.48
III SEMESTER								
17MAT31	75	2.26	53	1.6	100	3	68	2.04
17CS32	68	2.03	36	1.1	90	2.7	54	1.6
17CS33	77	2.3	3.	0.9	100	3	56	1.7
17CS34	77	2.3	40	1.2	100	3	61	1.8
17CS35	88	2.6	27	0.8	100	3	58	1.7
17CS36	74	2.2	20	0.6	100	3	51	1.5
17CSL37	99	2.9	77	2.3	90	2.7	86	2.6
17CSL38	100	3	63	1.9	100	3	77	2.3
IV SEMESTER								
17CS41	81	.24	53	1.6	100	3	69	2.08
17CS42	69	2.06	30	0.9	100	3	53	1.5
17CS43	78	2.3	27	0.8	89	2.6	55	1.6
17CS44	69	2.06	3.	0.9	100	3	53	1.6
17CS45	83	2.5	10	0.3	100	3	49	1.4
17CS46	32	0.95	13	0.4	100	3	30	0.88
17CSL47	100	3	87	2.6	92	2.7	93	2.8
17CSL48	96	2.8	60	1.8	100	3	78	2.3
V SEMESTER								
17CS51	89	2.6	47	1.4	100	3	69	2.06
17CS52	72	2.1	33	1	100	3	56	1.6
17CS53	85	2.5	0	0	100	3	45	1.3
17CS54	89	2.6	17	0.5	98	2.9	54	1.6
17CS553	82	2.4	60	1.8	100	3	73	2.1
17CS562	67	2	6	0.2	96	2.8	39	1.1
17CS564	73	2.1	40	1.2	91	2.7	58	1.7
17CSL57	100	3	53	1.6	100	3	77	2.3
17CSL58	100	3	93	2.8	100	3	97	2.9
VI SEMESTER								
17CS61	76	2.2	83	2.5	99	2.9	82	2.4
17IS62	69	2.06	77	2.3	100	3	76	2.2
17IS63	85	2.5	77	2.3	100	3	84	2.5
17CS64	76	2.2	93	2.8	100	3	88	2.6
17CS651	98	2.9	83	2.5	87	2.6	90	2.7
17CS653	79	2.3	70	2.1	100	3	77	2.3
17CS664	82	2.4	67	2	50	1.5	71	2.1
17ISL67	100	3	93	2.8	96	2.8	97	2.9
17ISL68	96	2.8	80	2.4	100	3	89	2.6
VII SEMESTER								
17CS71	62	1.8	27	0.8	100	3	48	1.4
17IS72	94	2.8	57	1.7	86	2.5	75	2.2

17CS73	89	2.6	43	1.3	100	3	68	2.05
17CS742	96	2.8	37	1.1	100	3	68	2.03
17CS743	99	2.9	83	2.5	83	2.48	88	2.65
17CS754	92	2.75	50	1.5	97	2.9	72	2.5
17CSL76	100	3	97	2.9	92	2.7	99	2.9
17CSL77	94	2.8	90	2.7	100	3	94	2.8
VIII SEMESTER								
17CS81	99	2.9	50	1.5	100	3	76	2.28
17CS82	98	2.9	90	2.7	91	2.7	94	2.8
17CS832	99	2.9	80	2.4	100	3	87	2.6
17CS834	73	2.2	27	0.8	100	3	53	1.5
17IS84	99	2.9	100	3	100	3	100	3
17CSI85	100	3	100	3	100	3	100	3

Table: B3.2.3 – Recorded Attainments of Course Outcomes for 2017-21 Batch

Course code	SEE		CIE		CES		CO ATTAINMENT LEVEL (20% CIE+70% SEE+10% CES)	
	LEVEL	%	LEVEL	%	LEVEL	%	Level	%
II SEMESTER								
15PCD23	1.5	50.0	2.0	66.0	3.0	98.7	1.7	58.1
15CPL26	2.0	66.7	3.0	100.0	3.0	100.0	2.3	76.7
III SEMESTER								
15MAT31	2.4	80.0	2.0	65.3	3.0	100.0	2.4	79.1
15CS32	1.5	50.0	1.8	60.0	3.0	100.0	1.7	57.0
15CS33	1.5	50.0	2.3	76.7	3.0	100.0	1.8	60.3
15CS34	1.8	60.0	1.7	55.0	3.0	100.0	1.9	63.0
15CS35	1.0	33.3	2.5	84.0	2.0	66.0	1.4	46.7
15CS36	1.3	43.3	2.0	66.0	3.0	99.3	1.6	53.5
15CSL37	2.1	70.0	3.0	100.0	1.7	56.7	2.2	74.7
15CSL38	2.6	86.7	3.0	100.0	3.0	100.0	2.7	90.7
IV SEMESTER								
15MAT41	1.7	56.7	1.7	58.0	3.0	100.0	1.8	61.3
15CS42	1.5	50.0	2.3	77.3	3.0	100.0	1.8	60.5
15CS43	1.8	60.0	2.0	66.7	3.0	100.0	2.0	65.3
15CS44	2.0	66.7	1.5	50.0	2.2	72.5	1.9	63.9
15CS45	0.4	13.3	1.8	59.2	3.0	100.0	0.9	31.2
15CS46	1.4	46.7	2.7	88.7	3.0	100.0	1.8	60.4
15CSL47	2.2	73.3	3.0	100.0	3.0	100.0	2.4	81.3
15CSL48	2.0	66.7	3.0	100.0	2.1	70.8	2.2	73.8
V SEMESTER								
15CS51	2.0	66.7	2.2	71.7	3.0	100.0	2.1	71.0

15CS52	2.1	70.0	1.4	47.3	3.0	100.0	2.1	68.5
15CS53	0.9	30.0	1.6	52.5	3.0	100.0	1.2	41.5
15CS54	1.4	46.7	1.7	55.3	3.0	100.0	1.6	53.7
15CS553	2.0	66.7	1.6	52.7	2.4	80.7	2.0	65.3
15CS562	2.2	73.3	2.3	77.5	3.0	100.0	2.3	76.8
15CS565	2.7	90.0	2.3	77.5	3.0	100.0	2.7	88.5
15CSL57	2.3	76.7	3.0	100.0	3.0	100.0	2.5	83.7
15CSL58	2.8	93.3	3.0	100.0	3.0	100.0	2.9	95.3
VI SEMESTER								
15CS61	2.2	73.3	2.3	75.0	3.0	100.0	2.3	76.3
15IS62	2.6	86.7	2.2	71.7	3.0	100.0	2.6	85.0
15IS63	2.4	80.0	1.7	57.3	3.0	100.0	2.3	77.5
15CS64	1.5	50.0	2.3	75.0	3.0	100.0	1.8	60.0
15CS651	1.5	50.0	2.1	69.2	2.9	95.8	1.8	58.4
15CS653	3.0	100.0	1.8	60.0	3.0	100.0	2.8	92.0
15CS664	0.9	30.0	2.0	66.0	1.9	64.7	1.2	40.7
15ISL67	3.0	100.0	3.0	100.0	3.0	100.0	3.0	100.0
15ISL68	2.9	96.7	3.0	100.0	3.0	100.0	2.9	97.7
VII SEMESTER								
15IS71	1.1	36.7	1.8	60.7	3.0	100.0	1.4	47.8
15CS72	2.6	86.7	2.0	66.7	2.6	86.7	2.5	82.7
15CS73	2.0	66.7	0.9	29.2	3.0	100.0	1.9	62.5
15CS743	2.4	80.0	2.4	80.8	3.0	100.0	2.5	82.2
15CS754	2.4	80.0	2.2	74.2	3.0	100.0	2.4	80.8
15CSL76	3.0	100.0	3.0	100.0	3.0	100.0	3.0	100.0
15CSL77	2.5	83.3	3.0	100.0	3.0	100.0	2.7	88.3
VIII SEMESTER								
15CS81	2.1	70.0	2.8	94.0	2.4	80.7	2.3	75.9
15CS82	3.0	100.0	2.6	88.0	3.0	100.0	2.9	97.6
15CS832	2.4	80.0	2.7	90.8	1.0	31.7	2.3	77.3
15CS834	2.2	73.3	2.8	93.3	3.0	100.0	2.4	80.0
15CS84	3.0	100.0	3.0	98.7	3.0	100.0	3.0	99.7
15CSP85	3.0	100.0	3.0	100.0	3.0	100.0	3.0	100.0

Table: B3.2.4 – Recorded Attainments of Course Outcomes for 2016-20 Batch

Course code	CIE		SIE		CES		CO ATTAINMENT LEVEL	
							(20% CIE+70% SEE+10% CES)	
	LEVEL	%	LEVEL	%	LEVEL	%	LEVEL	%
II SEMESTER								
15PCD23	1.5	50.0	2.0	66.0	3.0	98.7	2.0	66.1
15CPL26	2.0	66.7	3.0	100.0	3.0	100.0	2.8	93.3
III SEMESTER								
15MAT31	1.9	64.0	2.2	73.3	3.0	100.0	2.2	74.1
15CS32	1.8	61.3	1.1	37.0	2.7	90.0	1.4	47.2
15CS33	1.0	34.3	2.7	90.0	3.0	100.0	2.4	79.9
15CS34	1.1	35.7	3.0	100.0	3.0	100.0	2.6	87.1
15CS35	2.0	65.3	2.9	96.7	3.0	100.0	2.7	90.7
15CS36	1.6	53.3	2.4	80.0	3.0	99.3	2.3	76.6
15CSL37	3.0	100.0	3.0	100.0	3.0	100.0	3.0	100.0
15CSL38	3.0	100.0	2.8	93.3	3.0	100.0	2.9	95.3
IV SEMESTER								
15MAT41	1.7	56.7	1.7	58.0	3.0	100.0	1.8	61.3
15CS42	2.3	78.0	1.6	53.3	3.0	100.0	1.9	62.9
15CS43	1.5	48.7	2.3	76.7	3.0	100.0	2.2	73.4
15CS44	1.5	50.7	0.2	6.7	3.0	100.0	0.7	24.8
15CS45	1.1	36.7	0.1	3.3	3.0	100.0	0.6	19.7
15CS46	2.7	90.7	0.9	30.0	3.0	100.0	1.5	49.1
15CSL47	3.0	100.0	2.4	80.0	3.0	100.0	2.6	86.0
15CSL48	3.0	100.0	0.6	20.0	3.0	100.0	1.3	44.0
V Semester								
15CS51	2.7	90.0	2.0	66.7	3.0	100.0	2.2	74.7
15CS52	1.1	38.0	1.6	53.3	3.0	100.0	1.6	54.9
15CS53	2.2	71.7	1.7	56.7	1.7	57.3	1.8	59.7
15CS54	1.7	57.3	1.8	60.0	3.0	100.0	1.9	63.5
15CS553	0.9	30.7	2.0	66.7	3.0	100.0	1.9	62.8
15CS565	2.2	74.0	1.0	33.3	3.0	100.0	1.4	48.1
15CSL47	3.0	100.0	1.9	63.3	3.0	100.0	2.2	74.3
15CSL48	3.0	100.0	3.0	100.0	1.7	57.7	2.9	95.8
VI- Semester								
15CS61	0.9	28.7	2.1	70.0	2.4	81.3	1.9	62.9
15IS62	2.3	75.7	1.3	43.3	2.9	97.7	1.7	55.2
15CS63	2.1	69.3	2.3	76.7	2.9	96.0	2.3	77.1
15CS64	2.3	75.7	2.1	70.0	3.0	100.0	2.2	74.1
15CS653	1.0	32.5	2.6	86.7	3.0	100.0	2.3	77.2
15CS565	2.0	66.0	1.4	46.7	1.8	58.7	1.6	51.7
15ISL57	3.0	100.0	2.8	93.3	3.0	100.0	2.9	95.3

15ISL48	3.0	100.0	2.8	93.3	3.0	100.0	2.9	95.3
VII- Semester								
15CS71	1.3	43.3	2.1	70.0	3.0	100.0	2.0	67.7
15IS72	2.2	72.7	1.5	50.0	1.9	62.7	1.7	55.8
15CS73	1.0	32.0	1.3	43.3	3.0	100.0	1.4	46.7
15CS743	2.6	86.7	2.4	80.0	3.0	100.0	2.5	83.3
15CS744	1.8	60.0	1.6	53.3	3.0	100.0	1.8	59.3
15CS754	2.1	70.0	2.1	70.0	1.7	56.7	2.1	68.7
15CSL76	2.5	83.3	3.0	100.0	3.0	100.0	2.9	96.7
15CSL77	2.9	96.0	2.7	90.0	3.0	100.0	2.8	92.2
15CSP78		0.0	3.0	100.0	2.9	96.7	2.4	79.7
VIII- Semester								
15CS81	2.6	86.7	1.7	56.7	2.5	82.7	2.0	65.3
15IS82	2.4	78.7	2.7	90.0	3.0	100.0	2.7	88.7
15CS832	2.6	87.3	2.5	83.3	0.9	29.0	2.4	78.7
15CS833	2.5	84.7	2.7	90.0	3.0	99.3	2.7	89.9
15CS834	2.1	70.0	2.4	80.0	3.0	100.0	2.4	80.0
15CS84	2.9	96.7	3.0	100.0	3.0	100.0	3.0	99.3
15CSP85	3.0	100.0	3.0	100.0	3.0	100.0	3.0	100.0

Table: B3.2.5 – Recorded Attainments of Course Outcomes for 2015-19 Batch

3.3 Attainment of Program Outcomes and Program Specific Outcomes (50)

3.3.1 Describe assessment tools and processes used for measuring the attainment of each of the Program Outcomes and Program Specific Outcomes (10)

Non – CBCS Scheme:

Direct Assessment Tools:

To know the effectiveness of the delivery,

3.3.1.1 Continuous Internal Evaluation (CIE) or Internal Assessment (IA) is conducted on a monthly basis as per calendar or events issued for theory and laboratory subjects for 20 and 40 marks for 2015/16 and 2017 respectively.

3.3.1.2 The University will conduct Semester End Examinations (SEE) every semester for theory and laboratory for 80 and 100 marks for 2015/16 and 2017 respectively.

Indirect Assessment Tools:

3.3.1.3 Graduate / Program Exit Survey

3.3.1.4 Employer Survey

3.3.1.5 Alumni Survey

PO Attainment:

Direct attainment level of a PO & PSO is determined by taking average across all courses addressing that PO and/or PSO. Fractional numbers may be used for example 1.55.

Example:

1. It is assumed that a particular PO has been mapped to four courses C2O1, C3O2, C3O3 and C4O1
2. The attainment level for each of the four courses will be as per the examples shown in 3.2.2
3. PO attainment level will be based on attainment levels of direct assessment and indirect assessment
4. For affiliated, non-autonomous colleges, it is assumed that while deciding on overall attainment level 80% weightage may be given to direct assessment and 20% weightage to indirect assessment through surveys from students(largely), employers (to some extent). Program may have different weightages with appropriate justification.
5. Assuming following actual attainment levels:

Direct Assessment

C302 – Medium (2)

C303 – Low (1)

C401 – High (3)

C405 – High (3)

Attainment level will be summation of levels divided by no. of courses
 $(2+1+3+3)/4=9/4=2.25$

Indirect Assessment

Surveys, Analysis, customized to an average value as per levels 1, 2 & 3. Assumed level-2

6. PO Attainment level will be 80% of direct assessment + 20% of indirect assessment i.e.
 $1.80 + 0.4 = 2.20$

Note: Similarly, for PSOs

3.3.2 Provide results of evaluation of each PO & PSO (40)

3.3.2.1. Direct Assessment Results

Direct attainment level of a PO & PSO is determined by taking average across all courses addressing that PO and/or PSO

PO Direct Attainment (CAY: 2017-21 Batch):

Courses	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
II SEMESTER												
C117	1.03	1.06	1.05	1.1								1.08
C118	2.48	2.48	2.47	2.5	2.47							2.48
III SEMESTER												
C201	2.01	2.02	1.92	2.02	1.94							
C202	1.63	1.63	1.61	1.60	1.62					1.65	1.62	1.61
C203	1.68	1.69	1.67	1.71	1.78			1.60	1.60			1.69
C204	1.83	1.83	1.83	1.83						1.83		1.83
C205	1.76	1.85	1.85		1.88							1.79
C206	1.52	1.52	1.52	1.52								1.52
C207	2.60	2.60	2.60	2.60	2.60					2.60	2.60	2.60
C208	2.30	2.30	2.30	2.30	2.30	2.30		2.30	2.30	2.30	2.30	2.30
IV SEMESTER												
C211	2.06	2.08	1.90	2.06	1.96							
C212	1.57	1.58	1.58	1.58	1.57				1.60			1.58
C213	1.61	1.62	1.61	1.60								1.70
C214	1.60	1.60	1.60	1.60						1.60		1.60
C215	1.49	1.56	1.53	1.51	1.49	1.42	1.52	1.46	1.46	1.46	1.52	1.47
C216	1.75	1.76	1.78	1.80	1.80							
C217	2.63	2.63	2.63	2.60	2.60	2.60			2.60	2.64	2.60	2.60
C218	2.33	2.33	2.33	2.33						2.33	2.33	2.33
V SEMESTER												
C301	2.06					2.08		2.20	2.05	2.16	2.20	2.07
C302	1.58	1.56	1.54	1.66	1.60	1.68	1.62					1.61

C303	1.33	1.38	1.31	1.39	1.31		1.33	1.35	1.29			1.34
C304	1.65	1.65	1.65	1.60			1.60					1.64
C305	2.18	2.18	2.20	2.18	2.18	2.30		2.20	2.23		2.23	2.18
C306	1.73	1.74	1.74	1.78	1.77	1.70					2.10	1.70
C307	1.19	1.16	1.23	1.22	1.27					1.60	1.17	
C308	2.30	2.30	2.30	2.30	2.30							2.30
C309	2.90	2.90	2.90	2.90	2.90					2.90	2.90	2.90
VI SEMESTER												
C311	2.50	2.45	2.31	2.45	2.33	2.49		2.50				2.49
C312	2.28	2.29	2.27	2.31	2.27			2.20	2.38			2.31
C313	2.56	2.45	2.52	2.52	2.52							2.56
C314	2.63	2.70										2.63
C315	2.72	2.72	2.72	2.70								2.70
C316	2.32	2.32	2.32	1.97	2.32	2.30						2.32
C317	2.17	2.14	2.22	2.25	2.13						2.20	2.17
C318	2.90	2.90	2.90	2.90	2.90				2.90		2.90	2.90
C319	2.66	2.66	2.67	2.67	2.67	2.70	2.70		2.70	2.70	2.67	2.67
VII SEMESTER												
C401	1.45	1.47	1.41									
C402	2.24	2.25	2.30									
C403	2.05	2.00	2.06	2.00	2.05					2.20		2.06
C404	2.03	2.03	2.03	2.03	2.03							2.03
C405	2.69	2.68	2.68	2.68	2.70			2.69			2.67	2.68
C406	2.15	2.20	2.10	2.17								2.13
C407	2.93	2.93	2.94	2.96	2.93							2.93
C408	2.82	2.82	2.81		2.82							
VIII SEMESTER												
C411	2.28	2.28	2.27	2.28	2.30					2.30		2.28
C412	2.82	2.82	2.81	2.82								2.80
C413	2.60	2.60	2.60									2.60
C414	1.55	1.57	1.59	1.70	1.70	1.90						
C415	3.00	3.00	3.00	3.00	3.00	3.00		3.00	3.00	3.00	3.00	3.00
C416	3.00	3.00	3.00	3.00	3.00	3.00		3.00		3.00	3.00	3.00
C417		3.00	3.00	3.00	3.00			3.00	3.00	3.00	3.00	3.00

Table B.3.3.2a PO Direct Attainment (CAY: 2017-21 Batch)

PSO Direct Attainment (CAY: 2017-21 Batch):

Course	PSO1	PSO2
Semester II		
C116		1.06
C117		2.48
Semester III		
C201		
C202	1.69	1.63
C203	1.75	1.78
C204	1.83	1.83
C205	1.75	
C206	1.45	1.60
C207	2.60	2.60
C208	2.30	2.30
Semester IV		
C211		
C212	1.56	1.58
C213	1.57	1.50
C214	1.55	1.55
C215	1.54	
C216	1.75	1.80
C217	2.60	2.60
C218	2.33	2.33

Semester V		
C301		
C302		1.69
C303	1.33	1.39
C304	1.63	1.60
C305	2.20	2.19
C306	1.72	1.73
C307	1.17	1.15
C308	2.30	2.30
C309	2.90	2.90
Semester VI		
C311	2.45	
C312	2.30	2.28
C313	2.53	2.52
C314		2.63
C315	2.70	2.80
C316	2.45	
C317	2.11	
C318	2.90	2.90
C319	2.66	2.66
Semester VII		
C401	1.45	1.30
C402	2.30	3.00
C403	2.04	
C404	2.03	2.03
C405	2.68	
C406	2.17	
C407	2.94	
C408	2.82	2.83
Semester VIII		
C411	2.29	2.28
C412	2.82	2.81
C413	2.60	2.60
C414	1.57	1.60
C415	3.00	3.00
C416	3.00	
C417	3.00	3.00

Table B.3.3.2b PSO Direct Attainment (CAY: 2017-21 Batch):

PO Direct Attainment (CAY: 2016-20 Batch):

Courses	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
II SEMESTER												
C117	1.72	1.72	1.71	1.72	1.72							1.72
C118	2.3	2.3	2.3	2.3	2.3							2.3
III SEMESTER												
C201	2.36	2.35	2.33	2.34	2.32							
C202	1.26	1.23	1.23	1.23								1.25
C203	1.82	1.82	1.85	1.90	1.90							
C204	1.95	1.95	1.95	1.95								1.95
C205	1.40	1.43	1.43	1.48								
C206	1.60	1.60	1.60	1.60								
C207	2.22	2.22	2.21	2.22								2.23
C208	2.70	2.70	2.70	2.70	2.70							
IV SEMESTER												
C211	1.85	1.85	1.88	1.85	1.86							
C212	1.59	1.58	1.58			1.60		1.60	1.58	1.60		1.58
C213	1.98	1.96	1.96	1.98								2.05
C214	1.91	1.92	1.91	1.92								1.93
C215	1.14	1.12	1.08	1.38	1.50							
C216	1.78	1.80	1.84	1.75	1.90							
C217	2.40	2.40	2.40	2.40	2.40							
C218	2.20	2.20	2.20	2.20	2.20					2.20	2.20	2.20
V SEMESTER												
C301	2.13	2.13				2.15	2.13	2.15	2.12	2.12	2.13	2.13
C302	2.08	2.08	2.04	2.00	2.05							
C303	1.24	1.25	1.23	1.23	1.30	1.20						
C304	1.62	1.62	1.63	1.63								
C305	1.97	1.95	1.95									
C306	2.30	2.25	2.30	2.30	2.30							
C307	2.68	2.75	2.75	2.75	2.80							
C308	2.50	2.50	2.50	2.50	2.50							
C309	2.90	2.90	2.90	2.90	2.90							
VI SEMESTER												
C311	2.25	2.25	2.26									
C312	2.55	2.60	2.60	2.65	2.65							

C313	2.34	2.36	2.40	2.44	2.20							
C314	1.80	1.77	1.78	1.75								
C315	1.80	1.83	1.83	1.86	1.95							
C316	2.65	2.62	2.56	2.46	2.80							
C317	1.23	1.22	1.24	1.22								
C318	3.00	3.00	3.00	3.00	3.00				3.00		3.00	3.00
C319	2.90	2.90	2.90	2.90	2.90			2.90	2.90	2.90		
VII SEMESTER												
C401	1.44	1.43	1.41									
C402	2.46	2.46	2.40									
C403	1.62	1.57	1.55	1.97	2.30				1.18	1.24		1.48
C404	2.48	2.47	2.53	2.53	2.55							
C405	2.40	2.39	2.40	2.38	2.35							
C406	3.00	3.00	3.00	3.00	3.00				3.00	3.00	3.00	3.00
C407	2.70	2.70	2.70		2.70							
VIII SEMESTER												
C411	2.48	2.51	2.53	2.49	2.49				2.50			
C412	2.91	2.91	2.92	2.92								
C413	2.33	2.32	2.33	2.30								2.30
C414	2.40	2.40	2.40	2.40	2.40						2.40	2.40
C415	2.95	2.93	2.94	2.95	2.94	2.95		2.94	2.94	2.94	2.94	2.94
C416	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00		3.00
C417	3.00		3.00		3.00			3.00	3.00	3.00	3.00	

Table B.3.3.2c PO Direct Attainment (CAY: 2016-20 Batch)

Course	PSO1	PSO2
Semester II		
C116	1.73	1.72
C117	2.3	2.3
Semester III		
C201		
C202	1.25	1.26
C203	1.83	1.90
C204	1.95	1.95
C205	1.36	1.40
C206	1.60	1.60
C207	2.23	2.22

C208	2.70	2.70
Semester IV		
C211		
C212		1.58
C213	1.98	2.05
C214	1.93	1.94
C215	1.23	1.10
C216	1.79	1.83
C217	2.40	2.40
C218	2.20	2.20
Semester V		
C301		2.00
C302	2.06	2.03
C303	1.25	1.33
C304	1.62	1.63
C305	1.90	
C306	2.30	2.30
C307	2.68	2.75
C308	2.50	2.50
C309	2.90	2.90
Semester VI		
C311	2.25	2.36
C312	2.55	2.70
C313	2.34	2.40
C314	1.80	1.75
C315	1.80	1.87
C316	2.60	2.47
C317	1.22	1.24
C318	3.00	3.00
C319		2.90
Semester VII		
C401	1.44	1.37
C402	2.57	2.38
C403	1.50	1.45
C404	2.48	2.55
C405	2.40	2.35
C406	3.00	3.00
C407	2.70	2.70
Semester VIII		
C411	2.50	
C412	2.91	2.92
C413		2.30
C414	2.40	2.40
C415	2.94	2.94

C416	3.00	3.00
C417		3.00

Table B.3.3.2d PSO Direct Attainment (CAY: 2016-20 Batch)**PO Direct Attainment (CAY: 2015-19 Batch):**

Courses	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
II SEMESTER												
C117	2.47	2.57	2.60	2.63								
C118	2.80	2.40	2.00	2.00	2.00							2.70
III SEMESTER												
C201	1.46	1.33	1.55	0.93	1.10							
C202	1.06	1.04	1.08	1.09	1.07							1.06
C203	2.40	2.40	2.40	2.40	2.40				2.40		2.40	2.40
C204	2.60	2.60	2.60	2.60								
C205	2.65	2.75	2.80		2.67							2.63
C206	2.27	2.27	2.26	2.26								
C207	3.00	3.00	3.00	3.00								3.00
C208	2.90	2.90	2.90	2.90	2.90					2.90	2.90	2.90
IV SEMESTER												
C211	1.50	1.20	1.10	1.00	1.10							
C212	1.87	1.89	1.89			1.80		1.80	1.90	1.95		1.90
C213	2.19	2.20	2.20	2.20								
C214	0.76	0.73	0.73	0.73								0.75
C215	0.61	0.59	0.61	0.59	0.59							0.60
C216	1.84	1.80	1.80	1.90	1.90							
C217	2.60	2.60	2.60	2.60								
C218	1.30	1.30	1.30	1.30	1.30					1.30	1.30	1.30
V SEMESTER												
C301	2.24	2.25				2.23	2.27	2.23	2.30	2.27	2.23	2.30
C302	1.65	1.67	1.70	1.64	1.60							
C303	1.81	1.80	1.84	1.84	1.80	1.90						
C304	1.91	1.93	1.91	2.00								
C305	1.88	1.87	1.90	1.82	1.88							1.90
C306	1.48	1.50	1.50	1.50	1.60							
C307	2.20	2.20	2.20	2.20								
C308	2.87	2.80	2.80	2.80	2.80							

VI SEMESTER												
C311	1.91	1.87	1.85	1.90	1.84				1.88			
C312	1.67	1.67	1.67	1.67								
C313	2.32	2.32	2.35	2.36	2.30							
C314	2.22	2.20	2.20	2.20								
C315	2.29	2.28	2.26	2.35								
C316	1.54	1.48	1.60	1.30								
C317	2.90	2.90	2.90	2.90	2.90				2.90		2.90	2.90
C318	2.90	2.90	2.90	2.90								2.90
VII SEMESTER												
C401	2.04	2.04	2.03									
C402	1.75	1.74	1.90									
C403	1.39	1.43	1.41	1.43	1.20				1.40	1.35		1.38
C404	2.55	2.55	2.57	2.55								
C405	1.76	1.76	1.65							1.78	1.40	
C406	2.08	2.12	2.09	2.11	2.15							
C407	2.91	2.90	2.89	2.91	2.89				2.90	2.89	2.88	2.90
C408	2.78	2.78	2.79	2.77	2.79							2.78
C409	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
VIII SEMESTER												
C411	1.98	1.98	1.98						1.93			
C412	2.66	2.65	2.78	2.66	2.66				2.68			
C413	2.38	2.37	2.38	2.43								
C414	2.72	2.72	2.72	2.72					2.70	2.70		2.70
C415	1.85	1.62	1.80	1.91	1.80	1.91		1.50	1.72	1.80	1.72	1.80
C416	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
C417	2.95	2.94						3.00	3.00	3.00		

Table B.3.3.2e PO Direct Attainment (CAY: 2015-19 Batch)

Course	PSO1	PSO2
Semester II		
C113	2.53	2.55
C118	2.60	2.90
Semester III		
C201		
C202	1.09	1.07
C203	2.40	2.40
C204	2.60	2.60

C205	2.68	2.74
C206	2.30	2.30
C207	3.00	3.00
C208	2.90	2.90
Semester IV		
C211		
C212		1.90
C213	2.23	2.20
C214	0.75	0.76
C215	0.60	0.59
C216	1.84	1.90
C217	2.60	2.60
C218	1.30	1.30
Semester V		
C301		2.30
C302	1.59	1.63
C303	1.80	1.77
C304		1.92
C305	1.88	1.90
C306	1.48	1.50
C307	2.20	2.20
C308	2.87	2.80
Semester VI		
C311		1.88
C312	1.67	1.67
C313	2.32	2.35
C314	2.22	2.20
C315		2.26
C316		1.54
C317	2.90	2.90
C318	2.90	2.90
Semester VII		
C401	2.04	2.04
C402	1.67	1.85
C403	1.39	1.42
C404	2.50	2.57
C405	1.65	
C406	2.08	2.15
C407	2.90	2.88
C408	2.78	2.78
C409	3.00	3.00
Semester VIII		
C411		1.95
C412		2.68

C413		2.40
C414	2.70	2.70
C415	1.72	1.80
C416	3.00	3.00
C417		

Table B.3.3.2f PSO Direct Attainment (CAY: 2015-19 Batch)**3.3.2.2. Indirect Assessment Results**

Indirect attainment level of PO & PSO is determined based on the student exit surveys, employer surveys, co-curricular activities, extracurricular activities etc. Indirect assessment of the POs has is the mechanism of continuous assessment through various committees, structured schedule of conducting indirect assessment as well as survey instruments have been developed. The industry, the alumni and other external stakeholders were consulted while improvising on the POs prescribed by NBA.

PO Indirect Attainment (CAY: 2017-21 Batch)

Assessment Tool	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Alumni Survey	1.86	2.40	2.49	2.57	2.51	2.46	2.60	2.54	2.51	2.57	2.57	2.51
Employer Survey	2.67	2.33	2.50	2.00	2.50	2.50	2.50	2.50	2.33	2.17	2.17	2.50
Program Exit Survey	1.86	2.40	2.49	2.57	2.51	2.46	2.60	2.54	2.51	2.57	2.57	2.51
Indirect Attainment Average	2.13	2.38	2.49	2.38	2.51	2.47	2.57	2.53	2.45	2.44	2.44	2.51

Table B.3.3.2g PO Indirect Attainment**PSO Indirect Attainment (CAY: 2017-21 Batch)**

Assessment Tool	PSO1	PSO2
Alumni Survey	2.44	2.44
Employer Survey	2.14	2.25
Program Exit Survey	2.44	2.14
Indirect Attainment Average	2.34	2.28

Table B.3.3.2h PSO Indirect Attainment

**3.3.2.3. PO Attainment level = 80 % of direct assessment + 20% of indirect assessment
Program Outcomes Attainment (2017-21)**

PO / Attainment levels	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Target	2.33	2.12	2.21	1.93	2.07	1.49	1.05	1.38	1.68	2.11	2.08	2.06
Attainment	1.76	1.70	1.76	1.58	1.73	1.39	1.01	1.35	1.50	1.79	1.82	1.72

Table B.3.3.2i PO Attainment 2017-21 Batch

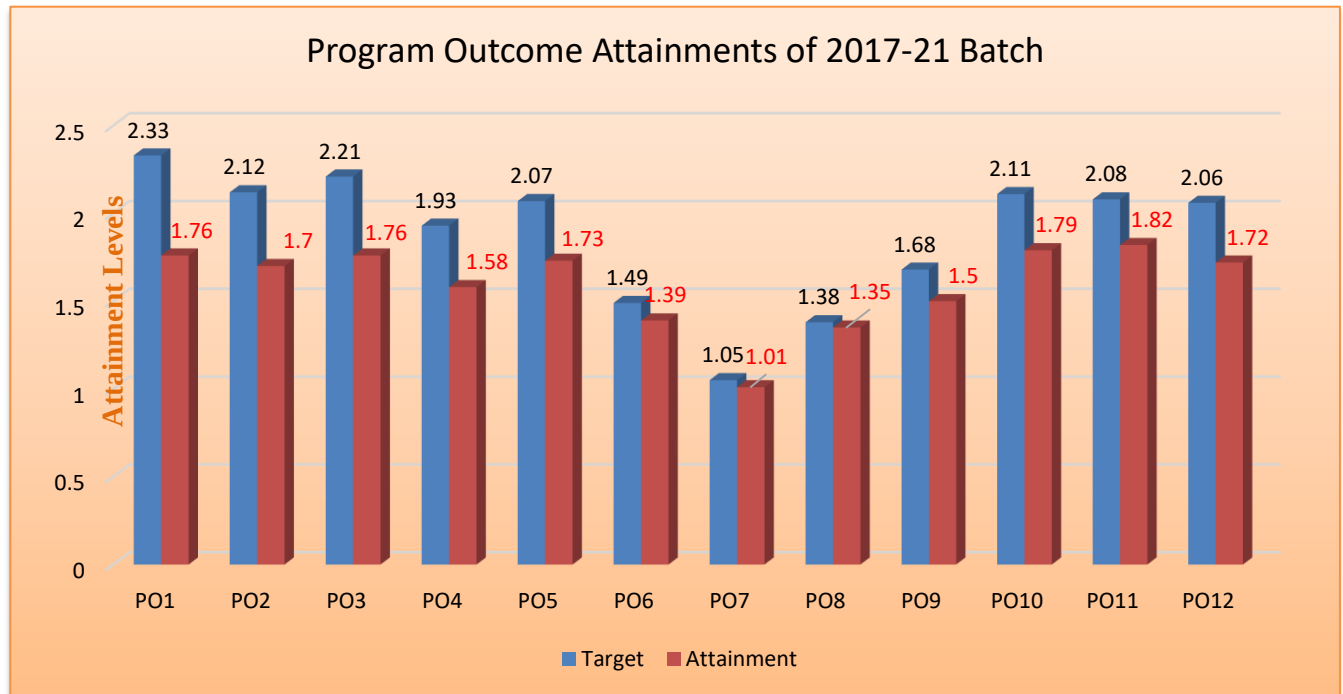


Fig 3.3.2a: PO Attainment 2017-21 Batch

3.3.2.4. PSO Attainment level = 80 % of direct assessment + 20 % of indirect assessment
Program Specific Outcomes Attainment (2017-21)

PSOs / Attainment levels	PSO1	PSO2
Target	2.05	1.91
Attainment	1.67	1.55

Table B.3.3.2j PSO Attainment 2017-21 Batch

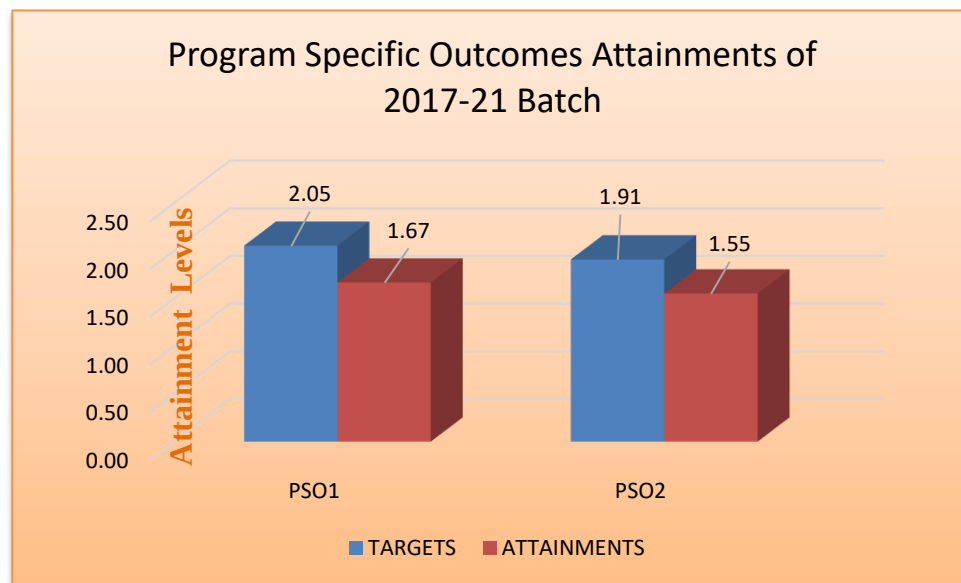


Fig 3.3.2b: PSO Attainment 2017-21 Batch

Program Outcomes Attainment (2016-20)

POs / Attainment levels	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Target	2.57	2.30	2.24	1.99	2.10	2.17	2.50	2.28	2.29	2.44	2.36	2.21
Attainment	1.93	1.81	1.80	1.64	1.85	1.76	2.22	2.08	2.03	2.08	2.17	1.80

Table B.3.3.2k PO Attainment 2016-20 Batch

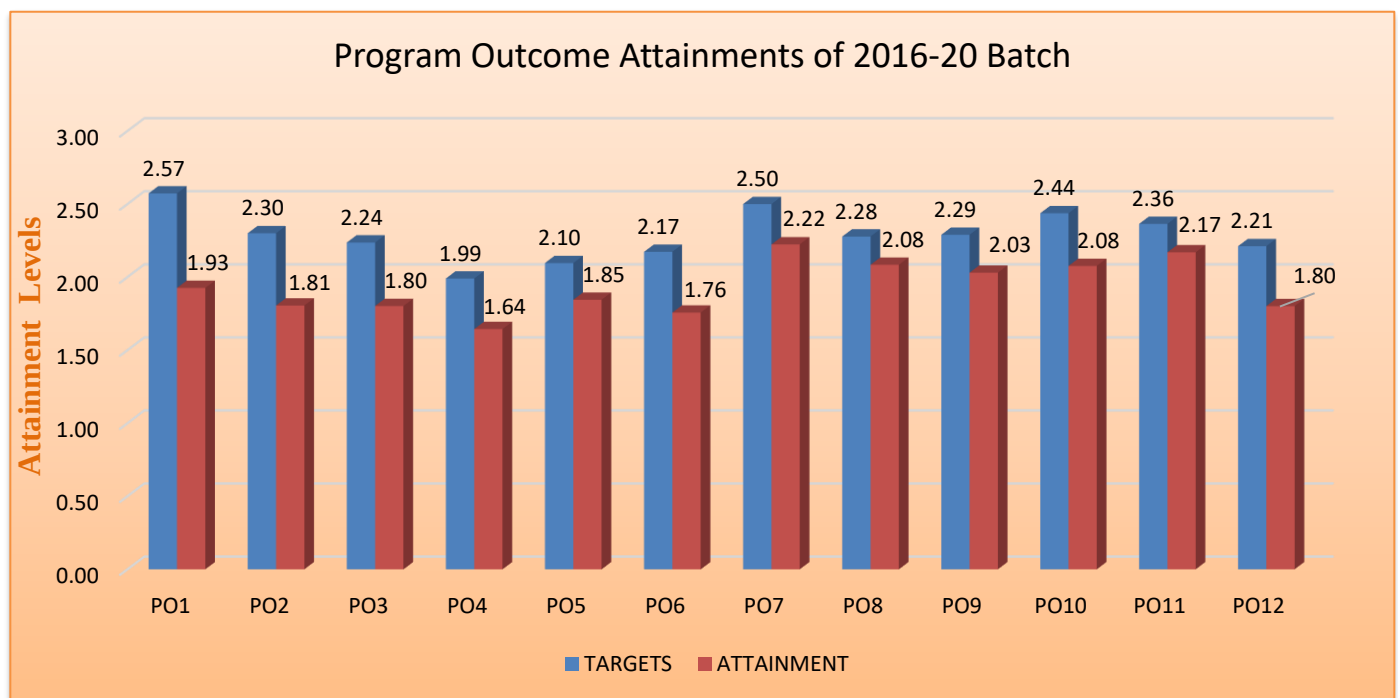


Fig 3.3.2c: PO Attainment 2016-20 Batch

Program Specific Outcomes Attainment (2016-20)

PSOs / Attainment levels	PSO1	PSO2
Target	2.37	1.90
Attainment	1.84	1.56

Table B.3.3.2I PSO Attainment 2016-20 Batch

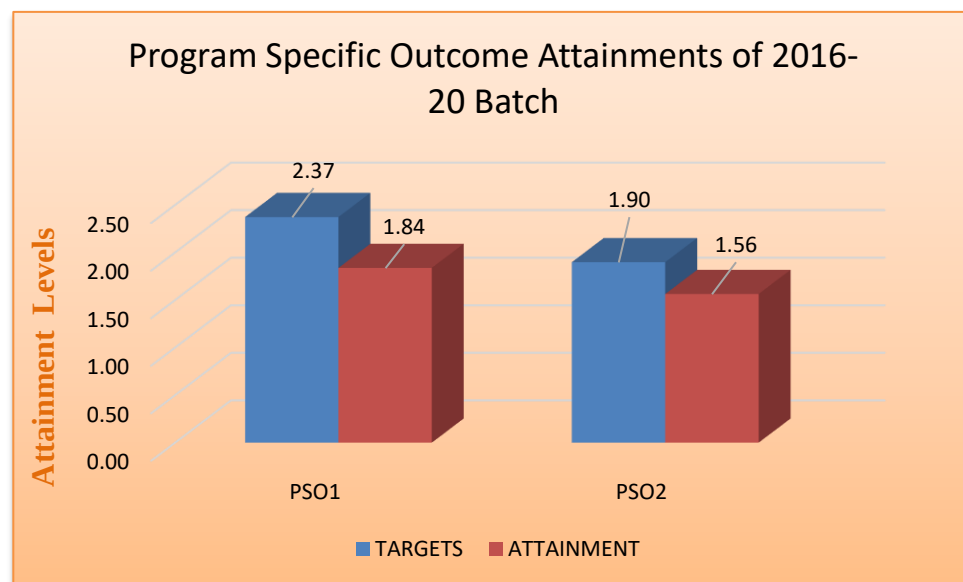


Fig 3.3.2d: PSO Attainment 2016-20 Batch

Program Outcomes Attainment (2015-19)

POs / Attainment levels	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Target	2.50	2.29	2.22	1.89	2.24	1.93	2.00	2.42	1.97	1.98	2.06	2.27
Attainment	1.86	1.78	1.76	1.54	1.72	1.68	1.98	2.07	1.75	1.72	1.79	1.85

Table B.3.3.2m PO Attainment 2015-19 batch

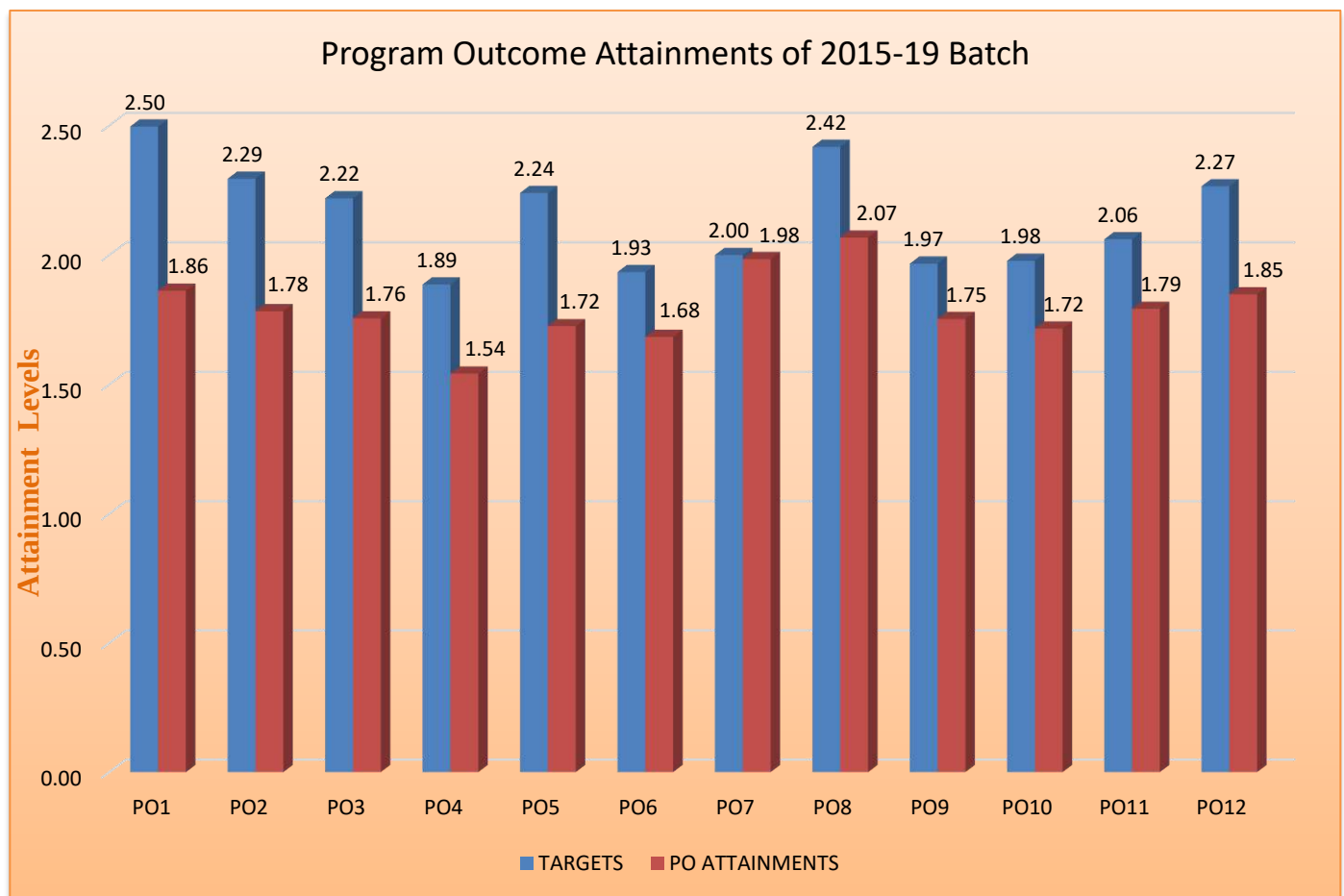


Fig 3.3.2e: PO Attainment 2015-19 Batch

Program Specific Outcomes Attainment (2015-19)

PSOs / Attainment levels	PSO1	PSO2
Target	2.36	1.94
Attainment	1.83	1.59

Table B.3.3.2n PSO Attainment 2015-19 batch

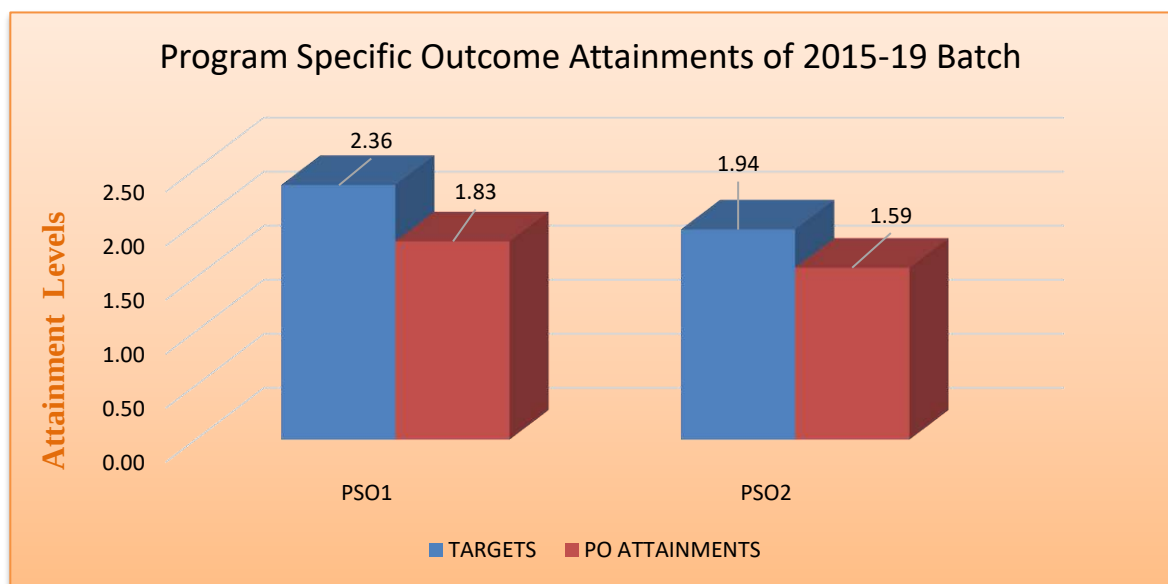
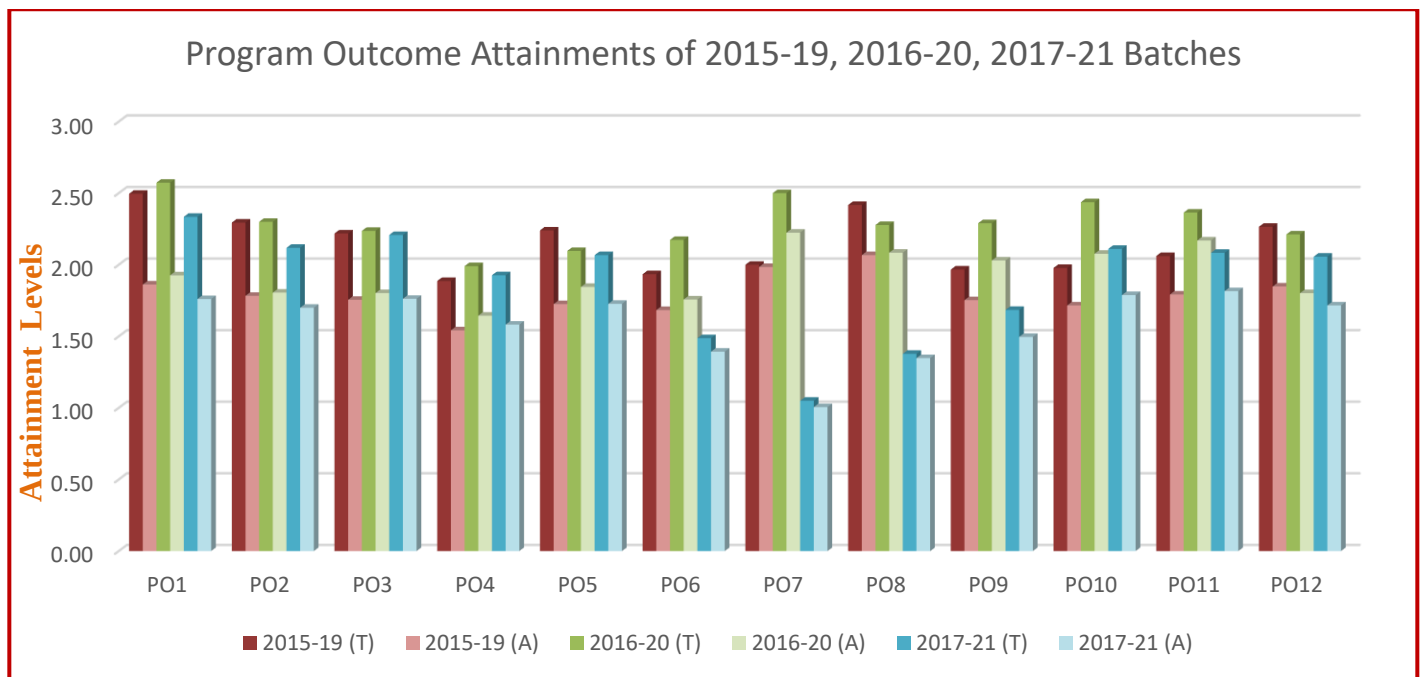


Fig 3.3.2f: PSO Attainment 2015-19 batch

POs / Attainment Comparison of Three Academic Years (2017-21, 2016-20, 2015-19)**POs / Attainment Comparison of Three Academic Years (2015-19, 2016-20, 2017-20)**

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
2015-19 (T)	2.50	2.29	2.22	1.89	2.24	1.93	2.00	2.42	1.97	1.98	2.06	2.27
2015-19 (A)	1.86	1.78	1.76	1.54	1.72	1.68	1.98	2.07	1.75	1.72	1.79	1.85
2016-20 (T)	2.57	2.30	2.24	1.99	2.10	2.17	2.50	2.28	2.29	2.44	2.36	2.21
2016-20 (A)	1.93	1.81	1.80	1.64	1.85	1.76	2.22	2.08	2.03	2.08	2.17	1.80
2017-21 (T)	2.33	2.12	2.21	1.93	2.07	1.49	1.05	1.38	1.68	2.11	2.08	2.06
2017-21 (A)	1.76	1.70	1.76	1.58	1.73	1.39	1.01	1.35	1.50	1.79	1.82	1.72

Table B.3.3.2o POs / Attainment Comparison of Three Academic Years (2017-21, 2016-20, 2015-19)**Fig 3.3.2g: POs / Attainment Comparison of Three Academic Years (2017-21, 2016-20, 2015-19)**

PSOs / Attainment Comparison of Three Academic Years (2015-19, 2016-20, 2017-21)		
	PSO1	PSO2
2015-19 (T)	2.36	1.94
2015-19 (A)	1.83	1.59
2016-20 (T)	2.37	1.90
2016-20 (A)	1.84	1.56
2017-21 (T)	2.05	1.91
2017-21 (A)	1.67	1.55

Table B.3.3.2p PSOs / Attainment Comparison of Three Academic Years (2017-21, 2016-20, 2015-19)

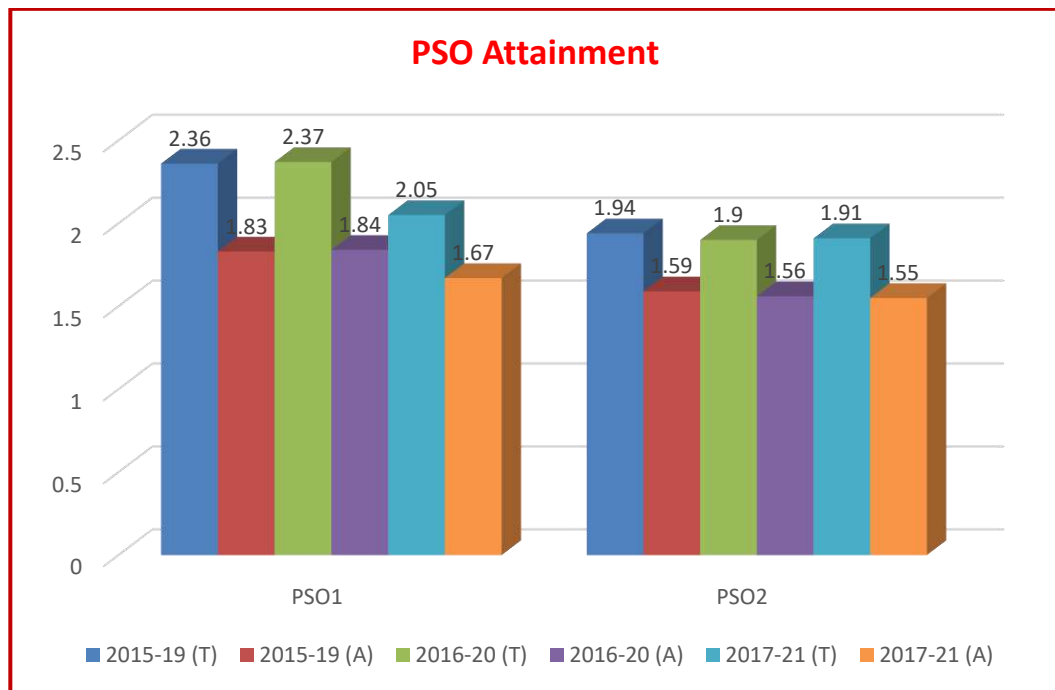


Fig 3.3.2h: PSOs / Attainment Comparison of Three Academic Years (2017-21, 2016-20, 2015-19)

CRITERIA 4

Students' Performance

CRITERION 4	STUDENT'S PERFORMANCE	150

4. Student's Performance (150)

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	CAY 2020-21	CAYm1 2019-20	CAYm2 2018-19	CAYm3 2017-18	CAYm4 2016-17	CAYm5 2015-16	CAYm6 2014-15
Sanctioned intake of the program (N)	120	120	120	120	120	120	120
Total number of students admitted in first year minus number of students migrated to other programs/institutions plus no. of students migrated to this program (N1)	126	126	125	89	116	125	113
Number of students admitted in 2nd year in the same batch via lateral entry (N2)	NIL	NIL	NIL	2	NIL	NIL	2
Separate Division students, if applicable (SNQ – Super Numerary Quota) (N3)	0	0	0	0	0	0	0
Total number of students admitted in the Program (N1 + N2 + N3)	126	126	125	91	116	125	115

Table 4.1 Student Admissions

Year of Entry	N1+N2+N3 (As defined above)	Number of students who have successfully graduated without backlogs in any semester/year of study (Without Backlog means no compartment or failures in any semester/year of study)			
		I year	II year	III year	IV year
2020-21 (CAY)	126	85	0	0	0
2019-20 (CAYm1)	126	77	73	0	0
2018-19 (CAYm2)	125	81	76	72	0
2017-18 (CAYm3)	91	58	55	49	48
2016-17 (LYG)	116	66	52	50	44
2015-16 (LYGm1)	125	86	64	61	60
2014-15 (LYGm2)	115	38	37	37	37

Table 4.2 Number of students who have successfully graduated without backlogs in any semester/year of study

Year of entry	N1+N2+N3 (As defined above)	Number of students who have successfully graduated(Students with backlog in stipulated period of study)			
		I Year	II Year	III Year	IV Year
2020-21 (CAY)	126	122	0	0	0
2019-20 (CAYm1)	126	121	119	0	0
2018-19 (CAYm2)	125	121	115	114	0
2017-18 (CAYm3)	91	81	77	76	76
2016-17 (LYG)	116	95	88	87	87
2015-16 (LYGm1)	125	113	105	105	105
2014-15 (LYGm2)	115	74	74	71	71

Table 4.3 Number of students who have successfully graduated with backlogs

4.1. Enrolment Ratio (20)

Enrolment Ratio = $N1/N$

ITEM (Students enrolled at the First Year Level on average basis during the previous three academic years starting from current academic year)	MARKS
>= 90% Students enrolled	20
>= 80% Students enrolled	18
>= 70% Students enrolled	16
>= 60% Students enrolled	14
>=50% students enrolled	12
Otherwise	0

Sl. No	Year	N	N1	Enrolment ratio (N1/N*100)	Marks Obtained
1	CAY(2020-21)	120	126	105.00	20
2	CAYm1(2019-20)	120	126	105.00	20
3	CAYm2 (2018-19)	120	125	104.17	20
Average				104.72	20

4.2 Success Rate in the stipulated period of the program (40)**4.2.1 Success Rate without backlogs in any semester / year of study (25)**

SI= (Number of students who have graduated from the program without backlog)/ (Number of students admitted in the first year of that batch and actually admitted in 2nd year via lateral entry and separate division, if applicable)

Average SI = Mean of success Index (SI) for the past three batches

Success rate without backlogs in any year of study = 25 * Average SI

Item	Latest Year of Graduation, LYG (2016-17)	Latest Year of Graduation minus 1, LYGM1 (2015-16)	Latest Year of Graduation minus 2, LYGM2 (2014-15)
Number of students admitted in the corresponding First Year + admitted in 2 nd year via lateral entry and separate division, if applicable	116	125	115
Number of students who have graduated without backlogs in the stipulated period	44	60	37
Success Index (SI)	0.38	0.48	0.32
Average SI	0.39		

Success rate without backlogs in any year of study = 25 * Average SI = 25 * 0.39= **9.75**

4.2.2. Success rate with backlog in stipulated period of study (15)

SI= (Number of students who graduated from the program in the stipulated period of course duration)/ (Number of students admitted in the first year of that batch and actual admitted in 2nd year via lateral entry and separate division, if applicable)

Average SI = mean of Success Index (SI) for past three batches

Success rate = 15 × Average SI

Item	Latest Year of Graduation, LYG (2016-17)	Latest Year of Graduation minus 1, LYGM1 (2015-16)	Latest Year of Graduation minus 2, LYGM2 (2014-15)
Number of students admitted in the corresponding First Year + admitted in 2 nd year via lateral entry and separate division, if applicable	116	125	115
Number of students who have graduated with backlogs in the stipulated period	87	105	71
Success Index (SI)	0.75	0.84	0.62
Average Success Index	0.74		

Success rate with backlogs in any year of study = 15 * Average SI = 15*0.74=**11.05**

4.3. Academic Performance in Third Year (15)

Academic Performance = $1.5 * \text{Average API (Academic Performance Index)}$

API = ((Mean of 3rd Year Grade Point Average of all successful Students on a 10 point scale) or (Mean of the percentage of marks of all successful students in Third Year/10)) x (number of successful students/number of students appeared in the examination)

Successful students are those who are permitted to proceed to the final year

Academic Performance	CAYm3 (2017-18)	LYG (2016-17)	LYGm1 (2015-16)
Mean of CGPA or Mean Percentage of all successful students(X)	7.25	6.63	6.36
Total no. of successful students (Y)	76	87	105
Total no. of students appeared in the examination (Z)	77	88	105
API = $X * (Y/Z)$	7.16	6.55	6.36
Average API = $(AP1 + AP2 + AP3)/3$	6.69		

Academic performance level= $1.5 * \text{Average API} = 1.5 * 6.69 = \mathbf{10.04}$

4.4. Academic Performance in Second Year (15)

Academic Performance Level = $1.5 * \text{Average API (Academic Performance Index)}$

API = ((Mean of 2nd Year Grade Point Average of all successful Students on a 10 point scale) or (Mean of the percentage of marks of all successful students in Second Year/10)) x (number of successful students/number of students appeared in the examination)

Successful students are those who are permitted to proceed to the third year

Academic Performance	CAYm2 (2018-19)	CAYm3 (2017-18)	LYG (2016-17)
Mean of CGPA or Mean Percentage of all successful students (X)	9.43	6.77	6.69
Total no. of successful students (Y)	115	77	88
Total no. of students appeared in the examination (Z)	121	83	95
API = $X * (Y/Z)$	8.96	6.28	6.20
Average API = $(AP1 + AP2 + AP3) / 3$	7.15		

Academic performance level= $1.5 * \text{Average API} = 1.5 * 7.15 = \mathbf{10.72}$

4.5 Placement, Higher studies and Entrepreneurship (40)

Item	LYG (2016-17)	LYGm1 (2015-16)	LYGm2 (2014-15)
Total No. of Final Year Students (N)	87	105	71
No. of Students placed in companies or Government Sector (x)	72	69	47
No. of students admitted to higher studies with valid qualifying score (GATE or equivalent state or National level Tests, GRE, GMAT etc.) (y)	6	5	3
No. of students turned entrepreneur in engineering/technology (z)	00	00	00
$x + y + z =$	78	74	50
Placement Index: $(x + y + z) / N$	0.90	0.70	0.70
Average placement = $(P1 + P2 + P3) / 3$	0.77		

Assessment Points = 40 X Average placement = 40 X 0.77 = **30.8**

4.5a. Provide the placement data in the below mentioned format with the name of the program and the assessment year:

Program Name: Information Science and Engineering
Assessment Year Name: CAYm1 (2016-2017)

Sl. No	Student Name	Enrolment No	Employee Name	Appointment No
1	AISHWARYA Y	1SJ16IS003	TCS	TC SL/CT20192715390
2	CHANDRA REDDY GARI SHRAVANI	1SJ16IS023	TCS	TC SL/CT20192714598
3	DIVYA D R	1SJ16IS028	TCS	TC SL/CT20192716263
4	KUMUDHA N	1SJ16IS038	TCS	TC SL/CT20182402723
5	MADINENI INDU	1SJ16IS044	TCS	TC SL/CT20182413854
6	NAVEEN KUMAR N	1SJ16IS053	TCS	TC SL/CT20192669940
7	PAVAN B N	1SJ16IS062	TCS	TC SL/CT20192714386
8	SUMANA S SARALAYA	1SJ16IS096	TCS	TC SL/CT20195357794
9	ABHISHEK B	1SJ16IS001	INFOSYS	24/10/2019
10	AKASH MANDIL	1SJ16IS004	INFOSYS	HRD/FINALSEMTRG/2019/1
11	B G ANIL	1SJ16IS010	INFOSYS	24/10/2019
12	BHUMIKA B C	1SJ16IS013	INFOSYS	HRD/FINALSEMTRG/2019/1
13	CHAITHRA S S	1SJ16IS020	INFOSYS	HRD/FINALSEMTRG/2019/1
14	LAKSHMI KANTH N V	1SJ16IS040	INFOSYS	HRD/FINALSEMTRG/2019/1
15	MRUDULA P B	1SJ16IS051	INFOSYS	HRD/FINALSEMTRG/2019/1
16	PAVAN KUMAR V	1SJ16IS063	INFOSYS	HRD/FINALSEMTRG/2019/1

17	PRAJWAL GOWDA R	1SJ16IS068	INFOSYS	HRD/FINALSEMTRG/2019/1
18	RACHITH N RAO	1SJ16IS074	INFOSYS	HRD/FINALSEMTRG/2019/1
19	RAMYASHREE D M	1SJ16IS075	INFOSYS	HRD/FINALSEMTRG/2019/1
20	REDDY BHARGAVI V	1SJ16IS077	INFOSYS	HRD/FINALSEMTRG/2019/1
21	RONITH GOWDA M R	1SJ16IS078	INFOSYS	HRD/FINALSEMTRG/2019/1
22	SANTOSH N	1SJ16IS083	INFOSYS	HRD/FINALSEMTRG/2019/1
23	SUSHMITHA M	1SJ16IS100	INFOSYS	HRD/FINALSEMTRG/2019/1
24	TEJASWINI N	1SJ16IS103	INFOSYS	HRD/FINALSEMTRG/2019/1
25	ACHYUTH N S	1SJ16IS002	COGNIZANT	13854208
26	AKHIL CHOWDHARY	1SJ16IS005	COGNIZANT	13854107
27	H M AJITH	1SJ16IS030	COGNIZANT	13854104
28	PALLAVI K	1SJ16IS061	COGNIZANT	13854160
29	SUNITHA M	1SJ16IS097	COGNIZANT	13854245
30	VAIBHAV M	1SJ16IS106	COGNIZANT	1/10/2019
31	VINAYAK SATAYYA MATHAPA	1SJ16IS112	COGNIZANT	14049835
32	VINAY GOWDA A V	1SJ16IS113	COGNIZANT	14049816
33	ANVITHA BELIRAY P	1SJ16IS009	MPHASIS	MPH2020-1651
34	CHANNABASAVA H	1SJ16IS024	SCII	13/11/2018
35	CHAITANYA B	1SJ16IS017	MPHASIS	BNMPH2020-1645
36	AKSHMI N	1SJ16IS041	MINDTREE	29/11/2019
37	ANANYA R	1SJ16IS007	NTT DATA	18/09/2019
38	SHRAVYA M	1SJ16IS088	NTT DATA	18/09/2019
39	AMRUTHA K J	1SJ16IS006	TCS	TCSL/CT20217633394
40	CHINTHANA B	1SJ16IS026	CONVENTRY UNIVERSITY	10498606
41	HARSHITHA P	1SJ16IS031	NTT DATA	19/07/2021
42	KALPANA B	1SJ16IS034	COGNIZANT	18959606
43	KANCHANA R REDDY	1SJ16IS035	MINDTREE	15/04/2021
44	LAKSHMI V	1SJ16IS042	TECH ACTIVE	TA/HR/21/04002
45	LOHITH V	1SJ16IS043	TECH MAHINDRA	797422/1777385/ELTP
46	NIKILA K	1SJ16IS056	IOPEX TECHNOLOGIES	6026
47	PRIYANKA C	1SJ16IS072	NTT DATA	28/09/2021
48	SHRUTHI N	1SJ16IS089	NEXTGEN HEALTHCARE PVT	21091517
49	SINDHU K V	1SJ16IS091	WISTRON	MI21020210

			INFOCOMM MANU	
50	SOWMYA SAJJAN	1SJ16IS092	PRAGITI INTERNET TECHNO	12/10/2021
51	SUPRIYA G M	1SJ16IS098	CAPGEMINI	18/03/2021
52	SURABI K	1SJ16IS099	UNIVERSITY OF TEXAS @ D	30/06/2021
53	TANUSHREE M	1SJ16IS104	I-ADMIN OUTSOURCING PV	14/4/2021
54	VANDANA C R	1SJ16IS107	5-GEN CARE TECHNOLOGIE	28/12/2020
55	VEDHA N GOWDA	1SJ16IS109	WISTRON	17/6/2021
56	Y VARALAKSHMI	1SJ16IS116	ANNALECT	28/09/2021
57	KARTHIK GOWDA	1SJ16IS036	M.TECH REVA UNIVERSITY	20013410176
58	CHANDANA M	1SJ16IS022	M.TECH NEW HORIZON ,VT	1NH20SFC01
59	ANUSHA M	1SJ16IS008	TESEYANTRE	01/12/2021
60	MANOJ M	1SJ16IS048	MBA	
61	MANASA CM	1SJ16IS045	MTECH NMAIT,VTU	54948
62	KAVANA M H	1SJ16IS037	THIS-TORRY HARRIS INTEG	AL/THBS/0321/25
63	JAYASHREE S	1SJ16IS032	BEL	
64	SHWETHA M	1SJ16IS090	5 GEN CARE	17/12/2020
65	NISCHITHA V	1SJ16IS059	NTT DATA	18/09/2020
66	RACHANA K M	1SJ16IS033	DELL	15/04/2021
67	SAHANA GAONKAR	1SJ16IS080	ATTARA INFO TECH PVT LTD	11/06/2021
68	SAMEENA TAJ	1SJ16IS081	ALTISOURCE BUSINESS SOL	29/07/2021
69	BYRE GOWDA KR	1SJ16IS016	MINDTREE	22/4/2021
70	TANUJA R YADAV	1SJ16IS102	LG	20/09/2021
71	NISHCHAY	1SJ16IS058	RELAVANCE LAB	30/09/2020
72	DHANANJAY S	1SJ16IS027	INFOSYS	1099464
73	VISHNU MS	1SJ16IS114	CADES G STUDEC	26/02/2021
74	KUSUMANJAIL S	1SJ16IS039	WISTRON	MI20106335
75	CHAITHRA SR	1SJ16IS0019	MINDTREE	19/04/2021
76	SAMYUKTHA	1SJ16IS082	AMAZON	15/03/2021
77	CHITHRA K M	1SJ16IS021	ACCENTURE	C10217481
78	NEVEDITHA PRASAD R	1SJ16IS060	CERNER	17/06/2021

Assessment Year**Name : CAYm2(2015-2016)**

Sl. No	Student Name	Enrolment No	Employee Name	Appointment No
1	LAVANYA J	1SJ15IS040	CMS IT SERVICES	2019-BTM/BGS/03-205
2	M M GOURI	1SJ15IS045	CMS IT SERVICES	2019-BTM/BGS/03-201
3	MONISH R H	1SJ15IS054	CMS IT SERVICES	2019-BTM/BGS/03-293
4	PREETHA V	1SJ15IS067	CMS IT SERVICES	2019-BTM/BGS/03-291
5	KRISHNA KANHAIYA	1SJ15IS036	HEALTHTECH SOLUTIONS	20/06/2019
6	PRIYA K S	1SJ15IS068	ATOS-SYNTTEL	SBE1944922
7	KAVYA H L	1SJ15IS034	ABC'S UNIFIED COURSE	18/03/2019
8	SPOORTHIM	1SJ15IS101	INFOSYS	02/02/2019
9	SUSHMA V	1SJ15IS111	INFOSYS	06/02/2019
10	VINUTHA S	1SJ15IS124	INFOSYS	02/02/2019
11	SAMARTH T G	1SJ15IS086	WIPRO	8483704
12	SURAJ A R	1SJ15IS110	WIPRO	8419622
13	VINEESH P VENU	1SJ15IS123	WIPRO	8453057
14	CHETHAN B G	1SJ15IS015	NTT DATA	29/01/2019
15	HARSHITHA G L	1SJ15IS024	NTT DATA	29/01/2019
16	LINY CHEERAN	1SJ15IS044	NTT DATA	29/01/2019
17	NITHYA N	1SJ15IS060	NTT DATA	29/01/2019
18	SHAILESH KUMAR B M	1SJ15IS089	NTT DATA	29/01/2019
19	VARUN GOKHALE	1SJ15IS122	NTT DATA	29/01/2019
20	DEEPAK KUMAR S	1SJ15IS016	MPHASIS	MPH2019-0477
21	KHASAKI AISHWARYA RAJE	1SJ15IS035	MPHASIS	MPH2019-0482
22	NETHRA L	1SJ15IS058	MPHASIS	MPH2019-0484
23	NISHA N	1SJ15IS059	MPHASIS	MPH2019-0481
24	PRIYADARSHINI M N	1SJ15IS069	MPHASIS	MPH2019-0488
25	CHANDANA S	1SJ15IS083	MPHASIS	MPH2019-0487
26	SUBHASHISH DASH	1SJ15IS106	MPHASIS	MPH2019-0437
27	T NANDINI	1SJ15IS117	MPHASIS	MPH2019-0485
28	SHIRISHA D	1SJ15IS091	TATA CONSULTANCY SERVIC	TCSL/CT20172276216/BAN
29	AMAN K R MISHRA	1SJ15IS006	TATA CONSULTANCY SERVIC	TCSL/DT20173998792/BAN
30	INDUSHREE M	1SJ15IS029	TATA CONSULTANCY SERVIC	TCSL/CT20182515154/BAN

31	LIKITHA D	1SJ15IS042	TATA CONSULTANCY SERVIC	TCSL/CT20172218834/BAN
32	MAHANTESH SHIVANAND M	1SJ15IS047	TATA CONSULTANCY SERVIC	TCSL/CT20182402985/BAN
33	POORNASHREE H K	1SJ15IS063	TATA CONSULTANCY SERVIC	TCSL/CT20172201842/BAN
34	RAKSHITH M	1SJ15IS076	TATA CONSULTANCY SERVIC	TCSL/CT20172219065/BAN
35	RAMESH T	1SJ15IS078	TATA CONSULTANCY SERVIC	TCSL/CT20182391093/BAN
36	ROUNAQA FATHIMA	1SJ15IS082	TATA CONSULTANCY SERVIC	TCSL/CT20182515140/BAN
37	SHRAVANI SRINIVAS S	1SJ15IS093	TATA CONSULTANCY SERVIC	TCSL/CT20172218843/BAN
38	SHREYAS N	1SJ15IS095	TATA CONSULTANCY SERVIC	TCSL/CT20182394962/BAN
39	HARSHITHA J M	1SJ15IS027	TATA CONSULTANCY SERVIC	TCSL/CT20172201819/BAN
40	CHANDANA G K	1SJ15IS012	TATA CONSULTANCY SERVIC	TCSL/CT20172218842/BAN
41	ADITHYA NAWADA	1SJ15IS003	MINDTREE	31/10/2018
42	JOSHITHA C R	1SJ15IS031	MINDTREE	31/10/2018
43	JYOTHI R P	1SJ15IS033	MINDTREE	31/10/2018
44	SHUBHAM PANDEY	1SJ15IS097	MINDTREE	31/10/2018
45	SUSHMITHA JENA	1SJ15IS112	MINDTREE	31/10/2018
46	SWATHI S V	1SJ15IS115	MINDTREE	31/10/2018
47	NITHYA G	1SJ15IS061	QSPIDERS	30/04/2019
48	LIKITHA B	1SJ15IS043	QSPIDERS	30/04/2019
49	SHILPA K R	1SJ15IS090	COGNIZANT	12997716
50	REVANTH Y R	1SJ15IS080	COGNIZANT	16/03/2019
51	RAKESH GOWDA B K	1SJ15IS074	INDO MIM	16/03/2021
52	JOYTHI K	1SJ15IS032	TECHNO SCAPE	
53	MEGHANA KUMAR K J	1SJ15IS050	M.TECH BMSIT,VTU	1900000283/1BY19SCS04
54	MEGHAN MOHAN	1SJ15IS051	M.TECH RAMAIAH IT,VTU	1MS19SSE09
55	REVANTH VC	1SJ15IS079	MS IN SRH HEIDELBERG	11015653
56	ANKITHA KS	1SJ15IS009	DIYUM CORPORATE SERIVC	90327
57	RISHABH ADHANA	1SJ15IS081	BOMBINATE TECHNOLOGIES	14/05/2021

58	LAKSHMI Y M	1SJ15IS039	BLOOMS PU COLLEGE	2019-2020
59	LAVANYA MS	1SJ15IS041	TECNOTREE	TT/OA/2021/953
60	MANOHAR B M	1SJ15IS049	TECH MAHINDRA	759257/1718292/ELTP
61	DEEPAN R	1SJ15IS017	CAPGEMINI	4641048/830996
62	KISHORE KUMAR H B	1SJ15IS023	FLIPKART	29/11/2021
63	CHANDAN V	1SJ15IS011	SUBEX	4105
64	GIRISH C S	1SJ15IS022	Merck	X215236
65	HEMASHREE S	1SJ15IS028	AMAZON IND	12/08/2019
66	RAKASHITHA C	1SJ15IS077	MBA,SIR MVIT,VTU	1MZ19MBA11
67	PALLAVI N	1SJ15IS062	IBM	14/02/2020
68	DEEPTHI S	1SJ15IS018	IBM	06/10/2021
69	USHA RANI	1SJ15IS120	QALARA	MVPLI008
70	MEGHANA S	1SJ15IS053	TCS	TCSL/CT20172218714
71	CHARAN S	1SJ15IS014	SUBEX	17/04/2019
72	YASHASWINI G	1SJ15IS125	MTECH,DSCE,VTU	1DS19SCS12
73	SRIVALLI N L	1SJ15IS104	AETHEREUS CONSULTING P	11/10/2020
74	THULASI A	1SJ15IS118	WISTRON	MI21022246

Assessment Year Name: CAYm2 (2014-2015)

Sl. No	Student Name	Enrolment No	Employee Name	Appointment No
1	AKSHATHA U V	1SJ14IS003	TCS	TCSL/CT20161839217
2	ARCHANA B N	1SJ14IS009	TCS	TCSL/CT20172218256
3	LATHASHREE N	1SJ14IS031	TCS	TCSL/CT20172218294
4	MAMATHA R	1SJ14IS034	TCS	TCSL/CT20161839044
5	MANOJ KUMAR M	1SJ14IS038	NTT DATA	16/11/2017
6	NEHA S	1SJ14IS047	TCS	TCSL/CT20151679624
7	SMITHA R	1SJ14IS080	TCS	TCSL/CT20172327548
8	SOUMI BANERJEE	1SJ14IS081	TCS	TCSL/CT20161844068
9	TEJASWINI N	1SJ14IS098	TCS	TCSL/CT20151680820
10	YASHASWINI M	1SJ14IS111	TCS	TCSL/CT20151665276
11	MANJUNATH S	1SJ14IS036	MINDTREE	07 MAY 2018
12	PUNITHA L	1SJ14IS059	MINDTREE	07 MAY 2018
13	SAGAR RAI KULUNG	1SJ14IS069	MINDTREE	07 MAY 2018
14	SRIKANTH M S	1SJ14IS085	MINDTREE	MAY 2018
15	PRANAVI P V	1SJ14IS054	NTT DATA	16 NOV 2017

16	MANVITHA B	1SJ14IS039	HIRECRAFT	HR/HC/OFR/4215/18
17	MEHAR TAJ J	1SJ14IS041	CMS IT SERVICES	CMS/CP/SJCIT-18/04507
18	SUSHMA R V	1SJ14IS089	SCII	SCII/HR/2018/040
19	SHWETHA N V	1SJ14IS079	EMPOWERSYS	23 APR 2018
20	PRAKRUTHI V	1SJ14IS053	HIRECRAFT	HR/HC/OFR/4212/18
21	SOUMYA K M	1SJ14IS082	CMS IT SERVICES	CMS/CP/SJCIT-18/04505
22	SHRAVANI B R	1SJ14IS072	EMPOWERSYS	23 APR 2018
23	SHRINIDHI R	1SJ14IS076	CMS IT SERVICES	CMS/CP/SJCIT-18/04522
24	TEJASHWINI K	1SJ14IS096	HIRECRAFT	HR/HC/OFR/4205/18
25	VANITHA M	1SJ14IS102	EMPOWERSYS	23 APR 2018
26	ARBIN ANJUM C M	1SJ14IS008	CMS IT SERVICES	CMS/CP/SJCIT-18/04501
27	DOMMALAPATI DARSHAN	1SJ14IS020	CMS IT SERVICES	CMS/CP/SJCIT-18/04511
28	MAHESHA A	1SJ14IS033	CMS IT SERVICES	CMS/CP/SJCIT-18/04510
29	ROOPA V	1SJ14IS067	FACE	14 SEP 2018
30	PRAJWALA R	1SJ14IS052	L&T	01 JUL 2018
31	PRIYANKA D P	1SJ14IS058	L&T	01 JUL 2018
32	MEGHA C	1SJ14IS040	SYNTEL	SBEC1821698
33	SUSHIT PATIL	1SJ14IS087	HUSYS COUNSULITING LTD	22/11/2021
34	NAGASHAYANAREDDY C	1SJ14IS044	TCS	TCSL/CT20151688574
35	SAGAR J	1SJ14IS068	ACCENTURE	C9743609
36	K S SHREYA	1SJ14IS075	ANAVADYA	05 JUNE 2019
37	SUSHMA J K	1SJ14IS088	ANAVADYA	01 DEC 2018
38	DAVALA M HEBBAR	1SJ14IS021	AUREOLE TECHNOLOGIES	30 JUN 2020
39	HALESHNAYAK R B	1SJ14IS025	SHOPPRE.COM	06 AUG 2021
40	NITHIN BALAJI	1SJ14IS049	TCS	25 AUG 2020
41	ASHISH SUDARSHAN	1SJ14IS013	BLUESTONE JEWELLERY AN	22 JUL 2019
42	PALLAVI R	1SJ14IS050	SNAPBIZZ	01 NOV 2020
43	VINITH C	1SJ14IS107	TECH VTU PG CENTER	1900013621
44	HARISH K N	1SJ14IS027	M TECH MS RAMMAIAH	
45	SANJAY B N	1SJ14IS070	MINDTREE	07 MAY 2018
46	NAMA DWARAKASHREE	1SJ14IS045	EMPOWERSYS	23 APR 2018
47	VIDYASHREE G N	1SJ14IS105	EPSILON	
48	YASHASWINI N	1SJ14IS112	BRILLO	118922
49	SHASHAK SHEKHAR	1SJ14IS071	MONEY TAP	E336
50	ARCHANA C	1SJ14IS010	MPHASIS	8/4/2019

4.6 Professional Activities (20)

4.6.1 Professional Societies/Chapters and organizing & Engineering Events (5)

The following are the professional societies or student chapters exist in the department.

Table 4.13 Professional Societies or Student Chapters exist in the Department

Sl. No	Name of Societies/Chapter	Year of Establishment
1.	Computer Society of India (CSI)	2018

Number, Quality of Engineering Events (Organized at Institute)

Sl. No	Name of Professional Society/Chapter	Events Organized	Date
1	Institutions Innovation Council SJCIT-CSI Student Chapter	3days Virtual FDP on “Artificial Intelligence and Machine Learning”	20/09/2021 to 22/09/2021
2	Institutions Innovation Council	Entrepreneurship and innovation as career opportunity	6/11/2020
3	Institutions Innovation Council	My Story-Motivational Sessions	11/11/2020
4	Institutions Innovation Council	Orientation on national innovation and startup policy	18/11/2020
5	Institutions Innovation Council	The fundamentals and strategies of intellectual property rights	24/11/2020
6	Institutions Innovation Council	Problem Discovery	03/12/2020
7	Tequed Labs	Artificial Intelligence and Machine Learning	17/12/2020 to 26/12/2020
8	Institutions Innovation Council	Paper writing and research report on innovation	12/12/2020
9	Institutions Innovation Council	Process of innovation development	15/12/2020
10	Institutions Innovation Council	Problem solving and ideation	17/12/2020
11	Institutions Innovation Council	Business Innovation using machine learning and conversational AI	20/12/2020
12	Institutions Innovation Council	Motivational Session By Entrepreneur	22/12/2020
13	Institutions Innovation Council	Innovation Ideation and Entrepreneurship	24/12/2020
14	KSCST	National Science day	05/03/2021
15	Institutions Innovation Council & IEEE student branch	Intellectual property rights and IP management for start-up	19/05/2021
16	Institutions Innovation Council	Angel Investment/VC funding opportunity for early stage Entrepreneurs	12/06/2021
17	Institutions Innovation Council	Session on building an innovation / Product fit for market	17/06/2021
18	Institutions Innovation Council	Prototype validation converting prototype into startups	10/07/2021
19	KSTA	Project Exhibition	19/07/2021
20	Institutions Innovation Council	Seeding domain knowledge in academia	17/07/2021
21	Institutions Innovation Council	Importance of innovation in Entrepreneurship to succeed.	17/08/2021
22	Institutions Innovation Council & CSI	Emplacement Directions and coding contest	13/11/2021

4.6.2 Publication of Technical Magazines Newsletters, etc. (5)

SJCIT encourages publication of student magazines both at the college level and department level. Specific Support services and facilities available are:

Release of College Magazine during First Year Inauguration function for fresh BE entrants every year, ensuring continuity of the magazine.

Formation of Magazine Committee at the college level to publish the college magazine “NANDI TARANGA” annually which showcases talents of students and faculty.

The nominated committee members are responsible for bringing out the annual magazine with the following plan of action.

The magazine committee is rotated among departments every year to enhance the publishing skills and to inculcate creative editing skills among students through adobe Photoshop.

Release of department level magazine RIVISTA during the year 2017.

Details of the articles for the year 2018 are given in Table B4.6.2.a

Sl. No	Name of the Student	USN	Name of the Article	Editors	Magazine	Year
1	ADITHYA NAWADA	1SJ15IS003	EMERGING TECHNOLOGY	PROF.YOGARAJA G S R	RIVISTA	2017
2	NISHITTHA V	1SJ16IS059	PAINTING	PROF.YOGARAJA G S R	RIVISTA	2017
3	MANASA C M	1SJ16IS045	PAINTING	PROF.YOGARAJA G S R	RIVISTA	2017
4	LAKSHMI N	1SJ16IS041	SCULPTURE-AN ART BY ITSELF	PROF.YOGARAJA G S R	RIVISTA	2017
5	HARSHITHA G L	1SJ15IS024	SOMETHING TO THINK ABOUT	PROF.YOGARAJA G S R	RIVISTA	2017
6	VIVEK GUPTHA	1SJ14IS109	OLD SCHOOL LOVE	PROF.YOGARAJA G S R	RIVISTA	2017
7	PRANISHAN RAJBHANDARI	1SJ14IS056	PHOTOGRAPY	PROF.YOGARAJA G S R	RIVISTA	2017



Fig 4.6.2.1: Various editions of NANDI TARANGA College Magazine

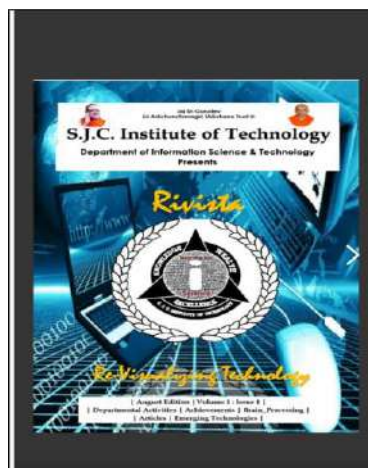


Fig 4.6.2.3: Department level magazine
RIVISTA during the year 2017

The Following Student(S) Presented Technical Paper during their Program of Study are Listed in Table B.4.6.2.B

Sl. No	Title	Authors	Year of Publication	Name of the Publisher
1	Affective Eeg And Facial Features Based Person Identification Using The Deep Learning Approach (https://www.irjet.net/archives/V7/i7/IRJET-V7I7675.pdf)	Lakshmikanth N V Bhanu V Swetha M Madineni Indu	2020	In International Research Journal Of Engineering And Technology (Irjet) Volume 7, Issue 7, July 2020 https://irjet.net/volume7-issue7 S.No: 675
2	Prediction Of Heart Disease Using MachineLearning Techniques	Anvitha Beliray P Chandra Reddygari Sravani Divya D R	2020	Volume-3, Issue-8, August-2020 (https://www.journals.resaim.com/ijresm/issue/view/3) In Ijresm
3	Automation In Cars To Alert Drivers	Vinayaka S Mathpati	2019	9 th International Conference On Recent Engineering And Technology 2019 at New Horizon College of Engineering
4	Racc: Robust And Auditable Access ControlStorage	Pranavi P V	2018	NCFTIT-18 at SJCIT
5	Mobile Cloud Computing	Pranavi P V	2017	Aahvaan 2017
6	Bank Transaction Over A Long Period	Pranavi P V	2017	Technotsava 2017 at NCET
7	An Advanced Clustering Algorithm	Pranavi P V	2016	Ncftit-17 at SJCIT

8	Detection of Disease In Cotton Leaf Using Artificial Neural Networks	Harshitha D A Bhavani V K Himabindhu	2021	3 rd International Virtual Conference On Advances In Computing And Information Technology Held On 17 th and 18 th Of May 2021 at REVA University
9	Real Time Driver Advisory Model -Intelligent Transportation System Using RFID	Sushma H M Vinaya Shree P V Sireesha G V	2021	International Journal Of Scientific Research In Science, Engineering And Technology (IJSRSET) Volume 9 Issue 4 July August 2021
10	Real Time Driver Advisory Model –Intelligent Transportation System Using RFID	Sushma H M Vinaya Shree P V Sireesha G V	2021	National Conference On Engineering Innovations In Emerging Technologies 19 th And 29 th July 2021 Held at EPCET
11	Monitoring Covid-19 Social Distancing With Person Detection And Tracking Using Image Processing	Harshith M Hemanth M Aishwarya Raju Lekha Devaraj	2021	International Research Journal Of Modernization In Engineering Technology And Science (IRJMETS), Volume 3, Issue 7, July 2021.
12	Privacy Preserving Biometric Identification In Cloud Computing	Samarth	2019	Prerana 2019 at GITAM University
13	Web Application Injection Vulnerabilities	Sagar J Manoj M Parkruthi V	2017	National Conference On Recent Innovations In Computer Science And Engineering, Held at GITAM University
14	S3 Integrated Web Application Security	Sagar J	2018	International Conference On Emerging Trends In Science and Technologies for Engineering Systems Held at SJCIT, Published In The International Journal of Advanced Research Trends In Engineering and Technology
15	Hadoop Recognition of Bio Medical Named Entity Using Conditional Random Fields	Sagar J	2016	National Conference On Futuristic Trends In Information Technology 2016
16	A Simple Chat Application With Biometric Authentication And Encryption And	Amith S A Gokul C Komalraj D R Manoj R	2021	International Research Journal Of Modernization In Engineering Technology And Science, Volume:03/Issue:08/August-2021 Impact Factor- 5.354 Www.Irjmets.Com (http://www.irjmets.com/)
17	IOT Based Air Quality Monitoring System	Namratha Das Nehala G Divya Dm	2021	International Journal For Research In Applied Science And Engineering Technology (IJRASET)



Figure 4.6.2.4. Student(S) Certificates for Presenting Technical Paper during their Program of Study

4.6.3 Participation in inter-institute events by students of the program of study

Participation in Inter-Institute events by the students of the program of Study

The following are the student(s) participate in Inter-Institute events during the program of study

Sl. No	Name of the Student	EVENT	Date	REMARKS
1.	Sushith Patil	Srishti Innovation Exchange	24 May 2018	Project Exhibition
2.	Pranavi P V	Technotsava 2017	24 March 2017	Technical Quiz
3.	Pranavi P V	JVTM 2017	21 Feb 2017	Participated
4.	Pranavi Pv	Manthana 2016	21 April 2016	Paper Presented
5.	Pranavi Pv	Aahvaan 2017	3 May 2017	Paper Presentation
6.	Pranavi P V	NCFTIT 2018	10 May 2018	Paper Presentation
7.	Vinayak S Mathapati	OSIET, New Horizon	5 May 2019	Paper Presentation
8.	Krishna Kanhaiya	Leader Project Entrepreneurship Program, Richard Ivey School of Business	April 2019	Participated
9.	Krishna Kanhaiya	Hacklearn, SIT, Tumkur	Oct 2018	Participated
10.	Nishitha	Summer Internship Programme, SJCIT Chickballapura	22 April 2019	Participated
11.	Nishitha	Aahvaan 2017 at SJCIT	3 May 2017	Paper Presentation
12.	Nishitha	Udbhav 2017 at NCET	26 Oct 2017	Paper Presentation
13.	Nishitha	E Step Start Up Boot Camp	13 Aug 2019	Participated
14.	Nishitha	2 Days Workshop On Design And Innovation ,SJCIT Chickballapura	11 Oct 2018	Participated
15.	Harshitha J M	National Level Tech Fest, NMIT	March 2018	Participated
16.	Chandan	National Level Tech Fest, NMIT	March 2018	Participated
17.	Sahana G	State Level Student Cultural Activity, Mysore	Feb 2019	Participated
18.	Rachith N Rao	State Level Project Exhibition, R V College	2017	Participated
19.	Achyuth N S	Nationwide Ideas Maketahon Incubator, JP Nagar	Oct 2018	Participated
20.	Achyuth N S	IOT, State Level Project Exhibition, R V College	Nov 2018	Participated
21.	Shreya	Project Exhibition, DSCE	May 2018	Participated

22.	Vinutha	Project Exhibition, at DSCE	May 2018	Participated
23.	Sagar J	Technotsava 2017 at NCET	24 March 2017	Technical Quiz
24.	Sagar J	Technotsava 2017 at NCET	24 March 2017	Paper Presentation
25.	Sagar J	International Conference at GITAM	2017	Paper Presentation
26.	Anil B G	Code-A-Thon at BIT	March 2018	Participated
27.	Meghana Kumar K J	National Level Tech Fest, at NMIT	March 2018	Participated

Table B.4.6.3a: Participation in Inter-Institute Events (2014-21)



Figure 4.6.2.5. Participation in Inter-Institute Events

The following students have obtained online certification courses during the program of study.

Sl. No	Name of the Student	Title	Date	Online Platform
1.	Divya D M	Full Stack Development	October 2019	Interone Technologies
2.	Impana	Full Stack Development	October 2019	Interone Technologies
3.	Divya D M	Core Java Analyst	September 2019	Digitech Academy
4.	Impana	AI & ML	July 2019	Tequed Lab
5.	Divya D M	AI & ML	July 2019	Tequed Lab
6.	Anil B G	Infytq (Python)	2018	Infosys
7.	Dhanajay	Infytq (Python)	2018	Infosys
8.	Gokul C	Learning Angular	October 2020`	Atlas180
9.	Gokul C	Essential Program In Python	December 2020	Lets Upgrade
10.	Komal Raj D R	Essential Program In Python	December 2020	Lets Upgrade
11.	Namratha Das	Python Sr Analyst	November 2019	Digitech Academy
12.	Namratha Das	Aws Essential And Arch Course	June 2020	Ethnus
13.	Namratha Das	Programming Using C And C++	August 2018	Academic Counselling of NIIT
14.	Namratha Das	Core Java Analyst	September 2019	Digitech Academy
15.	Namratha Das	Web Development	February 2020	Web design magics
16.	Namratha Das	Aws Fundamental: Going Cloud Native	June 2020	AWS
17.	Namratha Das	Web Development	February 2019	Interana Shala
18.	Hemanth Manjunath	It Security: Defense Against the Digital Dark Arts	November 2020	Google
19.	Nehala G	Mastering Big Data Analytics	July 2021	Great Learning
20.	Nehala G	Full Stack Development	October 2019	Interone Technologies
21.	Nehala G	The Fundamental Of Digital Marketing	February 2020	Google Digital Unlocked



Figure 4.6.2.6 Students have obtained online certification courses during the program of study.

The following are the student(s) participate in some of the certification of excelled in sports and NCC events.

Sl. No.	Student Name	Awards/Recognition	Year
1.	Sudhansa	Tarmac Tournament Winner	October 2018
2.	Supriya G M	Judo Interzonal Tournament 2020 SJCIT-Runner Up	September 2020
3.	Supriya G M	Kabaddi Interzonal Tournament, Sir MVIT- Winner	May 2019
4.	Supriya G M	Kabaddi Interzonal Tournament, SKRIT Nippani- Runner Up	May 2019

5.	Supriya G M	Kabaddi State Level Inter Engineering College Tournament, Sai Ram College of Engineering- Winner	April 2018
6.	Charan M V	Volley Ball State Level Inter Engineering College Tournament Sai Ram College of Engineering - Winner	April 2019
7.	Nishitha V	NCC	July 2018
8.	Kalpana B	Kabaddi Interzonal Tournament, Sir MVIT- Winner	May 2019
9.	Kalpana B	Kabaddi Interzonal Tournament, SKRIT Nippani- Runner Up	May 2019
10.	Kalpana B	Kabaddi State Level Inter Engineering College Tournament, Sai Ram College of Engineering- Winner	April 2018

Table B.4.6.3.c: Participation in sports and NCC Events (2014-21)

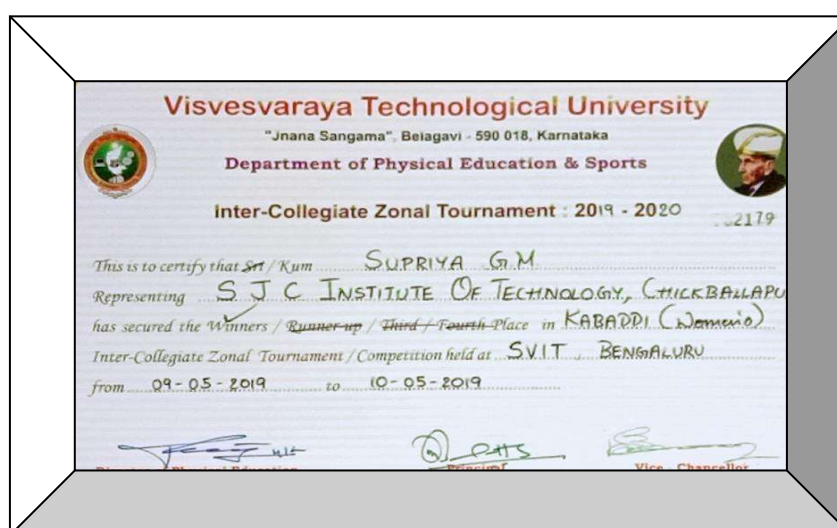
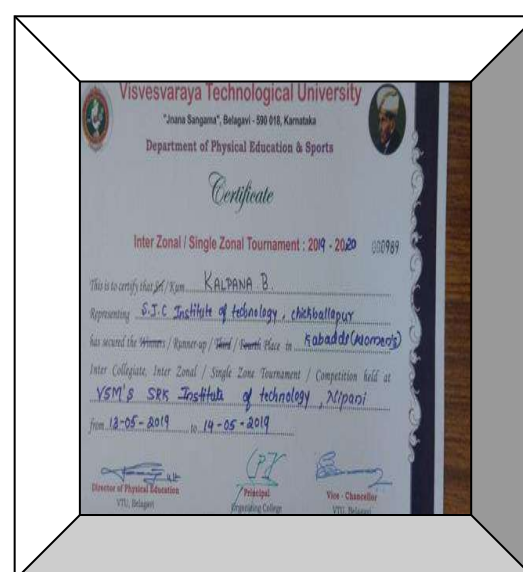


Figure 4.6.2.6 Student's Participation Certificates in sports and NCC Events

CRITERIA 5

Faculty Information and Contributions

CRITERION 5	Faculty Information and Contributions	200

5. FACULTY INFORMATION AND CONTRIBUTIONS (200)

Academic Year: 2020-21

Sl. No	Name of the Faculty Member	Qualification			Association with the Institution	Designation	Date on which Designated as Professor/Associate Professor	Date of Joining the Institution	Department	Specialization	Academic Research			Currently Associated (Y/N) Date of Leaving (In case Currently Associated is No")	Nature of Association (Regular/Contract/Adjunct)
		Degree(highest degree)	University	Year of attaining higher qualification							Research Paper Publications	Ph.D. Guidance	Faculty Receiving Ph.D. during the Assessment Years		
1	Dr. G T Raju	P. hD	VTU	2008	Yes	Professor	5/2/2021	5/2/2021	ISE	Computer Science		6		Yes	Regular
2	Mr. Satheesh Chandra Reddy .S	M. Tech	VTU	2004	Yes	Assoc. Prof & HOD	1/6/2012	17/4/2000	ISE	Computer Science				Yes	Regular
3	Mr. Aravinda Thejas Chandra	M. Tech	VTU	2003	Yes	Asso. Prof	1/6/2012	7/9/1998	ISE	Computer Science	1			Yes	Regular
4	Mr. Nagaraja. G	M. Tech	VTU	2002	Yes	Asso. Prof	1/6/2012	27/8/2007	ISE	Computer Science	1			Yes	Regular
5	Dr. Vijay G R	P. hD	JNT U	2019	Yes	Asso. Prof	1/4/2017	16/7/2010	ISE	Computer Science				Yes	Regular
6	Dr. Keshava Munegowda	P. hD	VTU	2016	Yes	Adjunct. Prof		1/7/2021	ISE	Computer Science				Yes	Adjunct
7	Mrs. Bhanumathi . S	M. Tech	VTU	2012	Yes	Asst. Prof		9/8/2007	ISE	Computer Science	2			Yes	Regular
8	Mr. Abdul Khadar A	M. Tech	VTU	2014	Yes	Asst. Prof		1/2/2008	ISE	Computer Science				Yes	Regular
9	Mrs. Nandini .S	M. Tech	VTU	2011	Yes	Asst. Prof		24/3/2010	ISE	Computer Science	1			Yes	Regular
10	Mrs. Shwetha . G R	M. Tech	VTU	2011	Yes	Asst. Prof		12/7/2010	ISE	Computer Science	1			Yes	Regular
11	Mr. Chandra Shekar J M	M. Tech	VTU	2010	Yes	Asst. Prof		22/7/2010	ISE	Computer Science	2			Yes	Regular
12	Mrs. Susheelamma K H	M. Tech	VTU	2011	Yes	Asst. Prof		18/7/2011	ISE	DCN	3			Yes	Regular
13	Mr. Chandre Gowda .S	M. Tech	VTU	2012	Yes	Asst. Prof		26/7/2011	ISE	Computer Science				Yes	Regular
14	Mrs. Vindya L	M. Tech	VTU	2012	Yes	Asst. Prof		23/8/2007	ISE	Computer Science	1			Yes	Regular
15	Mr. Anand Tilagul	M. Tech	VTU	2011	Yes	Asst. Prof		20/7/2011	ISE	Computer Science				Yes	Regular
16	Mr. Badrinath K	M. Tech	VTU	2012	Yes	Asst. Prof		8/8/2012	ISE	Computer Science				Yes	Regular
17	Mr. Sharath P V	M. Tech	VTU	2012	No	Asst. Prof		19/7/2011	ISE	Computer Science				8/8/2020	Regular
18	Mr. Nagesh R	M. Tech	VTU	2010	Yes	Asst. Prof		15/7/2013	ISE	Computer Science	1			Yes	Regular
19	Miss. Prathiba .R	M. Tech	VTU	2011	Yes	Asst. Prof		13/8/2013	ISE	Computer Science				Yes	Regular
20	Mr. Sabin T T	M. Tech	BU	2012	Yes	Asst. Prof		21/7/2014	ISE	Bio Informatics (CSE)				Yes	Regular
21	Mr. Yogaraja . G S R	M. Tech	VTU	2013	Yes	Asst. Prof		21/7/2014	ISE	DCN	1			Yes	Regular
22	Mr. Chethan H V	M. Tech	VTU	2016	Yes	Asst. Prof		31/1/2017	ISE	Computer Science				Yes	Regular
23	Miss. Vimala Devi R	M. Tech	VTU	2016	Yes	Asst. Prof		6/2/2017	ISE	Computer Engg				Yes	Regular
24	Mrs. Pushpa	M. Tech	VTU	2016	Yes	Asst. Prof		31/1/2017	ISE	Computer Science				Yes	Regular
25	Mrs. Asha C V	M. Tech	VTU	2016	Yes	Asst. Prof		31/1/2017	ISE	Computer Science				Yes	Regular

Academic Year: 2019-20

Sl. No	Name of the Faculty Member	Qualification			Association with the Institution	Designation	Date on which Designated as Professor/Associate Professor	Date of joining the Institution	Department	Specialization	Academic Research			Currently Associated (Y/N) Date of Leaving (In case Currently Associated is No")	Nature of Association (Regular/Contract/Adjunct)
		Degree(highest degree)	University	Year of attaining higher qualification							Research Paper Publications	Ph.D. Guidance	Faculty Receiving Ph.D. during the Assessment Years		
1	Mr. Sathesh Chandra Reddy .S	M. Tech	VTU	2004	Yes	Assoc.Prof & HOD	1/6/2012	17/4/2000	ISE	Computer Science				Yes	Regular
2	Mr. Aravinda Thejas Chandra	M. Tech	VTU	2003	Yes	Asso.Prof	1/6/2012	7/9/1998	ISE	Computer Science	1			Yes	Regular
3	Mr. Nagaraja. G	M. Tech	VTU	2002	Yes	Asso.Prof	1/6/2012	27/8/2007	ISE	Computer Science	2			Yes	Regular
4	Dr. Vijay G R	P. hD	JNTU	2019	Yes	Asso.Prof	1/4/2017	16/7/2010	ISE	Computer Science				Yes	Regular
5	Mrs. Bhanumathi . S	M. Tech	VTU	2012	Yes	Asst. Prof		9/8/2007	ISE	Computer Science	2			Yes	Regular
6	Mr. Abdul Khadar A	M. Tech	VTU	2014	Yes	Asst. Prof		1/2/2008	ISE	Computer Science	1			Yes	Regular
7	Mrs. Nandini .S	M. Tech	VTU	2011	Yes	Asst. Prof		24/3/2010	ISE	Computer Science				Yes	Regular
8	Mrs. Shwetha . G R	M. Tech	VTU	2011	Yes	Asst. Prof		12/7/2010	ISE	Computer Science				Yes	Regular
9	Mr. Chandra Shekar J M	M. Tech	VTU	2010	Yes	Asst. Prof		22/7/2010	ISE	Computer Science				Yes	Regular
10	Mrs. Susheelamma K H	M. Tech	VTU	2011	Yes	Asst. Prof		18/7/2011	ISE	DCN	2			Yes	Regular
11	Mr. Chandre Gowda .S	M. Tech	VTU	2012	Yes	Asst. Prof		26/7/2011	ISE	Computer Science				Yes	Regular
12	Mrs. Vindya L	M. Tech	VTU	2012	Yes	Asst. Prof		23/8/2007	ISE	Computer Science	2			Yes	Regular
13	Mr. Anand Tilagul	M. Tech	VTU	2011	Yes	Asst. Prof		20/7/2011	ISE	Computer Science				Yes	Regular
14	Mr. Badrinath K	M. Tech	VTU	2012	Yes	Asst. Prof		8/8/2012	ISE	Computer Science				Yes	Regular
15	Mr. Sharath P V	M.Tech	VTU	2012	Yes	Asst.Prof		19/7/2011	ISE	Computer Science				Yes	Regular
16	Mr. Nagesh R	M. Tech	VTU	2010	Yes	Asst. Prof		15/7/2013	ISE	Computer Science	1			Yes	Regular
17	Miss. Prathiba .R	M. Tech	VTU	2011	Yes	Asst. Prof		13/8/2013	ISE	Computer Science				Yes	Regular
18	Mr. Sabin T T	M. Tech	BU	2012	Yes	Asst. Prof		21/7/2014	ISE	Bio Informatics (CSE)				Yes	Regular
19	Mr. Yogaraja . G S R	M. Tech	VTU	2013	Yes	Asst. Prof		21/7/2014	ISE	DCN				Yes	Regular
20	Mr. Prasanna Kumar K	M.Tech	VTU	2009	No	Asst.Prof		21.07.2014	ISE	Computer Science				13/3/2019	Regular
21	Mr. Chethan H V	M. Tech	VTU	2016	Yes	Asst. Prof		31/1/2017	ISE	Computer Science				Yes	Regular
22	Miss. Vimala Devi R	M. Tech	VTU	2016	Yes	Asst. Prof		6/2/2017	ISE	Computer Engg				Yes	Regular
23	Mrs. Pushpa	M. Tech	VTU	2016	Yes	Asst. Prof		31/1/2017	ISE	Computer Science				Yes	Regular
24	Mrs. Asha C V	M. Tech	VTU	2016	Yes	Asst. Prof		31/1/2017	ISE	Computer Science				Yes	Regular

Academic Year: 2018-19

Sl. No	Name of the Faculty Member	Qualification			Association with the Institution	Designation	Date on which Designated as Professor/Associate Professor	Date of Joining the Institution	Department	Specialization	Academic Research			Currently Associated(Y/N)Date of Leaving (In case Currently Associated is No")	Nature of Association(Regular/Contract/A diunct)
		Degree(highest degree)	University	Year of attaining higher qualification							Research Paper Publications	Ph.D .Guidance	Faculty Receiving Ph.D. during the Academic Year		
1	Mr. Sateesh Chandra Reddy .S	M. Tech	VTU	2004	Yes	Assoc.Pr o & HOD	1/6/2012	17/4/2000	ISE	Computer Science				Yes	Regular
2	Mr. Aravinda Thejas Chandra	M. Tech	VTU	2003	Yes	Asso.Prof	1/6/2012	7/9/1998	ISE	Computer Science				Yes	Regular
3	Mr. Nagaraja. G	M. Tech	VTU	2002	Yes	Asso.Prof	1/6/2012	27/8/2007	ISE	Computer Science				Yes	Regular
4	Mrs. Bhanumathi . S	M. Tech	VTU	2012	Yes	Asst. Prof		9/8/2007	ISE	Computer Science	1			Yes	Regular
5	Mr. Abdul Khadar A	M. Tech	VTU	2014	Yes	Asst. Prof		1/2/2008	ISE	Computer Science	1			Yes	Regular
6	Mrs. Nandini .S	M. Tech	VTU	2011	Yes	Asst. Prof		24/3/2010	ISE	Computer Science				Yes	Regular
7	Mrs. Shwetha . G R	M. Tech	VTU	2011	Yes	Asst. Prof		12/7/2010	ISE	Computer Science				Yes	Regular
8	Mr. Chandra Shekar J M	M. Tech	VTU	2010	Yes	Asst. Prof		22/7/2010	ISE	Computer Science				Yes	Regular
9	Mrs. Susheelamma K H	M. Tech	VTU	2011	Yes	Asst. Prof		18/7/2011	ISE	DCN				Yes	Regular
10	Mr. Chandre Gowda .S	M. Tech	VTU	2012	Yes	Asst. Prof		26/7/2011	ISE	Computer Science				Yes	Regular
11	Mrs. Vindya L	M. Tech	VTU	2012	Yes	Asst. Prof		23/8/2007	ISE	Computer Science				Yes	Regular
12	Mr. Anand Tilagul	M. Tech	VTU	2011	Yes	Asst. Prof		20/7/2011	ISE	Computer Science				Yes	Regular
13	Mr. Badrinath K	M. Tech	VTU	2012	Yes	Asst. Prof		8/8/2012	ISE	Computer Science				Yes	Regular
14	Mr. Sharath P V	M.Tech	VTU	2012	Yes	Asst.Prof		19/7/2011	ISE	Computer Science				Yes	Regular
15	Mr. Nagesh R	M. Tech	VTU	2010	Yes	Asst. Prof		15/7/2013	ISE	Computer Science	1			Yes	Regular
16	Miss. Prathiba .R	M. Tech	VTU	2011	Yes	Asst. Prof		13/8/2013	ISE	Computer Science				Yes	Regular
17	Mr. Sabin T T	M. Tech	BU	2012	Yes	Asst. Prof		21/7/2014	ISE	Bio Informatics (CSE)				Yes	Regular
18	Mr. Yogaraja . G S R	M. Tech	VTU	2013	Yes	Asst. Prof		21/7/2014	ISE	DCN				Yes	Regular
19	Mr. Prasanna Kumar K	M.Tech	VTU	2009	Yes	Asst.Prof		21.07.2014	ISE	Computer Science				Yes	Regular
20	Mr. Chethan H V	M. Tech	VTU	2016	Yes	Asst. Prof		31/1/2017	ISE	Computer Science				Yes	Regular
21	Miss. Vimala Devi R	M. Tech	VTU	2016	Yes	Asst. Prof		6/2/2017	ISE	Computer Engg				Yes	Regular
22	Mrs. Pushpa	M. Tech	VTU	2016	Yes	Asst. Prof		31/1/2017	ISE	Computer Science				Yes	Regular
23	Mrs. Asha C V	M. Tech	VTU	2016	Yes	Asst. Prof		31/1/2017	ISE	Computer Science				Yes	Regular

5.1. Student-Faculty Ratio (SFR) (20)

(To be calculated at Department Level)

No. of UG Programs in the Department (n):01

No. of PG Programs in the Department (m):NIL

No. of Students in UG 2nd Year=u1

No. of Students in UG 3rd Year=u2

No. of Students in UG 4th year=u3

No. of Students = Sanctioned Intake + Actual admitted lateral entry students

(The above data to be provided considering all the UG and PG programs of the department)

$S = \text{Number of Students in the Department} = UG1 + UG2 + \dots + UGn + PG1 + \dots + PGm$

$F = \text{Total Number of Faculty Members in the Department (excluding first year faculty)}$

Student Teacher Ratio (STR) = S/F

Year	CAY (2020-21)	CAYm1 (2019-20)	CAYm2 (2018-19)
U1.1	120	120	122
U1.2	120	122	120
U1.3	122	120	120
UG1	362	362	362
Total No. of Students in the Department(S)	362	362	362
No. of Faculty in the Department(F)	22	23	23
Student Faculty Ratio(SFR)	SFR1 = 16.45	SFR2= 15.74	SFR3= 15.74
Average SFR	SFR = 15.97		

Note: Marks to be given proportionally from a maximum of 20 to a minimum of 10 for average SFR between 15:1 to 25:1, and zero for average SFR higher than 25:1. Marks distribution is given as below:

<=15 -20Marks

<=17 -18Marks

<=19 -16Marks

<=21 -14Marks

<= 23 -12 Marks

<=25 -10 Marks

>25 -0 Marks

- Minimum 75 should be Regular/ full time faculty and the remaining shall be contractual Faculty as per AICTE norms and standards.
- The contractual faculty (doing away with the terminology of visiting/adjunct faculty, whatsoever) who have taught for 2 consecutive semesters in the corresponding academic year on fulltime basis shall be considered for the purpose of calculation in the Student Faculty Ratio.

5.1.1. Provide the information about the regular and contractual faculty as per the format mentioned below:

Year	Total number of regular faculty in the department	Total number of contractual faculty in the department
CAY 2020-21	22	1
CAYm1 2019-20	23	0
CAYm2 2018-19	23	0

Table B5.1.1 Regular and Contractual Faculty Information

5.2. Faculty Cadre Proportion (25)

The reference Faculty cadre proportion is 1 (F1):2(F2):6(F3)

1: Number of Professors required = $1/9 \times$ Number of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (N) as per 5.1

F2: Number of Associate Professors required = $2/9 \times$ Number of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (N) as per 5.1

F3: Number of Assistant Professors required = $6/9 \times$ Number of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (N) as per 5.1

Year	Professors		Associate Professors		Assistant Professors	
	Required F1	Available	Required F2	Available	Required F3	Available
CAY 2020-21	2	0	4	1	12	21
CAYm1 2019-20	2	0	4	1	12	22
CAYm2 2018-19	2	0	4	0	12	23
Average Numbers	RF1=2	AF1=0	RF2=4	AF2=0.67	RF3=12	AF3=22

$$\text{Cadre Ratio Marks} = \left[\frac{AF1}{RF1} \right] + \left[\frac{AF2}{RF2} * 0.6 \right] + \left[\frac{AF3}{RF3} * 0.4 \right] * 12.5$$

$$\text{Cadre Ratio Marks} = [(0) + [(0.1675 * 0.6)] + [(1.83 * 0.4)]] * 12.5 = 10.406$$

If AF1 = AF2 = 0 then zero marks

Maximum marks to be limited if it exceeds 25

Example: Student No. = 180; Required number of Faculty: 12; RF1= 1, RF2=2 and RF3=9

Case 1: AF1/RF1= 1; AF2/RF2 = 1; AF3/RF3 = 1; Cadre proportion marks = $(1 + 0.6 + 0.4) \times 12.5 = 25$

Case 2: AF1/RF1= 1; AF2/RF2 = 3/2; AF3/RF3 = 8/9; Cadre proportion marks = $(1 + 0.9 + 0.3) \times 12.5 =$ limited to 25

Case 3: AF1/RF1=0; AF2/RF2=1/2; AF3/RF3=11/9; Cadre proportion marks = $(0 + 0.3 + 0.49) \times 12.5 = 9.87$

5.2. Faculty Qualification (25)

$FQ = 2.5 \times [(10X + 4Y)/F]$ where x is no. of regular faculty with Ph.D., Y is no. of regular faculty with M.Tech. F is no. of regular faculty required to comply 20:1 Faculty Student ratio (no. of faculty and no. of students required are to be calculated as per 5.1)

Year	X	Y	F	$FQ = 2.5x[(10X + 4Y)/F]$
CAY 2020-21	1	21	18	$2.5x [(10+84)/18]=13.06$
CAYm1 2019-20	1	22	18	$2.5x [(10 + 88)/18]=13.61$
CAYm2 2018-19	0	23	18	$2.5x [(0 + 92)/18]=12.77$
Average Assessment				13.33

5.3. Faculty Retention(25)

Faculty Retention	CAYm2 (2018-19)	CAYm1 (2019-20)	CAY (2020-21)
Number of faculties retained	23	22	21
No of faculties in the base year CAYm3(2017-18)	23	23	23
Percentage of retained	100	95.65	91.3
Average Faculty Retention = 95.65			

Item (of faculty retained during the period of assessment keeping CAYm3 as base year)	Marks
$\geq 90\%$ of required Faculty members retained during the period of assessment keeping CAYm3 as base year)	25
$\geq 75\%$ of required Faculty members retained during the period of three years keeping CAYm3 as base year	20
$\geq 60\%$ of required Faculty members retained during the period of three years keeping CAYm3 as base year	15
$\geq 50\%$ of required Faculty members retained during the period of three years keeping CAYm3 as base year	10
$< 50\%$ of required Faculty members retained during the period of three academic years keeping CAYm3 as base year	0

5.5 Innovations by the Faculty in Teaching and Learning (20)

Practices in Teaching Learning adapted in Department of ISE, SJCIT are as shown in below table.

Sl. No.	Practices	Goals	Outcome
1	Project based Learning	To apply and implement theoretical knowledge practically by carrying projects.	➤ Communication through team work ➤ Personality development and lifelong learning.
2.	Hands on Training on programming	To apply programming skills while learning theoretical concepts	➤ Modern tool usage ➤ Lifelong learning
3.	Certification Courses	Self-Learning	➤ Lifelong learning ➤ Modern tool usage
4.	Power Point Presentations along with blackboard.	To enhance the overall comprehension of students and allows teachers to present their lessons in a more effective and dynamic way.	➤ Provides the ability to equip presentations with different types of media - including images, sounds, animations, videos and much more. ➤ Enhances the student's abilities to retain what is being taught in class. ➤ Teachers can directly interact with the students instead of writing frequently on a board, OR, while interacting with students board can also be utilized for effective teaching.
5.	Unit Tests after every module	To test the understanding of the concepts covered. To broaden knowledge, build confidence and enhance learning.	➤ Accurate judgment to classify weak and strong students to concentrate more on weak students by fair evaluation.
6.	One to one internal viva-voce in labs	To understand the learning and Understanding capability of students, groom students for Technical interview skills and preparing for the external exams.	➤ To build the confidence and to improve the performance level of students to achieve overall personality in interviews. ➤ Increases technical Knowledge.
7.	Student Seminars	The overall objective of this activity is to motivate students for self-Study and Group Study.	➤ Enhances the presentation ability and communication skill ➤ Students learn Time Management skill. ➤ Students may also learn the better way of presentation.
8.	Contents beyond syllabus in theory and labs hours	To bridge the gap between syllabus & recent trends in Engineering and Technology.	➤ To co-relate to the curriculum. ➤ Students shall be encouraged to work with innovative ideas and shall focus on current technological trends to do their Seminars and Projects.
9.	Mini and Major technical projects	To expand technical understandings through development in terms of software solutions and hardware implementation for industrial/societal problems.	➤ Create opportunities to explore theory concept in practical way to test a technical insight.
10.	Hands on Training on programming	To apply programming skills while learning theoretical concepts	➤ Modern tool usage ➤ Lifelong learning

Table B 5.5 Practices in Teaching Learning Process

5.4. Faculty as participants in Faculty development/training activities/STTPs (15)

- A Faculty scores maximum five points for participation
- Participation in 2 to 5 days Faculty development program: 3 Points
- Participation >5 days Faculty development program: 5 points

Sl. No	Name of the faculty	Max. 5 per faculty			
		CAY [2020-21]	CAYm1 [2019-20]	CAYm2 [2018-19]	CAYm3 [2017-18]
1.	Dr G T Raju	3	--	--	-
2.	Mr. Satheesh Chandra Reddy	5	5	--	-
3.	Mr. Aravinda Thejas Chandra	5	--	3	-
4.	Mr. Nagaraju G.	5	3	3	3
5.	Dr. Vijay G R	3	3	--	-
6.	Mrs. Bhanumathi S	3	5	--	3
7.	Mrs. Nandini S	5	5	--	-
8.	Mr. Abdul Khadar A	3	5	3	3
9.	Mrs. Shwetha G R	5	5	--	-
10.	Mr.Chandra Shekar J M	5	5	--	-
11.	Mrs. Susheelamma K H	3	3	--	-
12.	Mr. Anand Tilagul	5	5	--	3
13.	Mr. Chandre Gowda S	5	5	--	-
14.	Mrs. Vindya L	5	5	--	-
15.	Mr. Badrinath K	5	5	3	5
16.	Mr. Sharath P V	5	3	--	3
17.	Mr. Nagesh R	5	3	3	-
18.	Miss. Prathibha R	3	3	--	-
19.	Mr. Sabin T T	3	3	3	-
20.	Mr. Yogaraja G S R	3	5	--	3
21.	Mrs. Pushpa	--	--	--	-
22.	Mrs. Asha C V	--	--	--	-
23.	Mr. Chethan H V	5	3	--	3
24.	Mrs. Vimala Devi	3	3	--	-
	SUM	92	82	18	26
	RF=Number of faculty Required to comply with 20:1 student faculty Ratio	18	18	18	18
	Assessment=3x(Sum/0.5RF) Marks limited to 15	30.66	27.33	6	8.66
	Average Assessment over three years(Marks limited to 15) = 13.99				

Table B.5.6 Faculty participants in FDP/STTP activities

5.7 Research and Development (30)

5.7.1 Academic Research (10)

Academic research includes research paper publications, Ph.D. guidance, and faculty receiving Ph.D. during the assessment period.

- Number of quality publications in refereed/SCI Journals, citations, Books/Book Chapters etc.
(6)
- Ph.D. guided /Ph.D. awarded during the assessment period while working in the institute (4)

Faculties in the department are encouraged to pursue research from reputed Institutes / universities.

- Faculties are motivated to pursue their Ph.D.
- Granting leave for attending conferences and bearing registration fees.
- Encouraging faculty to apply for research grants.
- Cash incentive will be given to faculty for completing research grants/proposals.
- Faculties are motivated to publish papers in Scopus and SCI indexed journals.

A. Publications in Journals

Publication: 2020-2021

Scopus Indexed Journals					
Sl. No	Name of The Faculty	Description / Title of the Paper	Name of Journal	ISBN/ISSN	Date Of Publication
1	Abdul Khadar A	Event Time Action Threat Intelligence to Detect and Prevent Advanced Persistent Threats	International Journal of Advanced Research in Engineering and Technology	ISSN: 0976-6480	Jan 2021
2	Bhanumathi S	Deep learning based BiLSTM architecture for lung cancer classification	International Journal of Advanced Research in Engineering and Technology	ISSN: 0976-6480	Jan 2021
3	Chandra Shekhar J M	Intelligent Attack Detection Model in IOT using Optimal Feature Selection incorporated with Optimized Deep Learning Architecture”	Turkish Journal of Computer and Mathematics Education	ISSN: 4407-4411	April 2021
4	Susheelamma K H	Student Risk Identification Model Using Random Forest Algorithm	European Journal of Molecular & Clinical Medicine	ISSN: 2515-8260	August 2020
5	Nagesh R	A Combined Adaptive Data Aggregation and Hierarchal Routing (ADA-HR) protocol to improve the QOS and Lifetime of WSN	Turkish Journal of Computer and Mathematics Education	ISSN: 6744-6757	July 2021

6	Nagaraja G	Quality of Experience Aware Network Selection Model for Service Provisioning in Heterogeneous Network	International Journal of Electrical and Computer Engineering (IJECE)	ISSN: 2088-8708	August 2020

Table B5.7.1.a Scopus Indexed Journals

Conference Journals					
Sl. No	Name of The Faculty	Description / Title of the Paper	Name of Conference	ISBN/ISSN	Date of Presentation / Publication
1	Susheelamma K H	Student Risk Identification Model Using Random Forest Algorithm	3 rd International Conference on Emerging Trends in Science & Technologies for Engineering Systems	Presented	July 2020
2	Yogaraja G S R	Cotton Leaf Diseased Detection using Artificial Neural Network	3 rd International Virtual Conference on “Advances in Computing and Information Technology – IACIT - 2021	Presented	May 2021
3	Dr. Vijay G R	Performance Evaluation of Mobile Edge Computing using 5G Networks	7 th International Conference on Electronics, Computing and Communication Technologies	Electronic ISSN: 2766-2101 Print on Demand(PoD) ISSN: 2334-0940	July 2021

Table B5.7.1.b Conference Attended

Google Scholar Journals					
Sl. No	Name of the Faculty	Description / Title of the Paper	Name of Journal	ISBN/ISSN	Date of Publication
1	Aravinda Thejas Chandra	Real Time eye blink password authentication	International Journal of Research in Engineering, Science and Management	ISSN (Online): 2581-5792	July 2021
2	Susheelamma K H	Drowsiness Detection of Detection of Drivers using IOT Image Processing	International Research Journal of Engineering and Technology (IRJET)	e-ISSN: 2395-0056 p-ISSN: 2395-0072	August 2020
3	L Vindya	Prediction of Heart Disease using Machine learning Techniques"	International Journal of Research in Engineering, Science and Management	ISSN (Online): 2581-5792	August-2020
4	Bhanumathi S	Monitoring Covid-19 Social Distancing with Person Detection and Tracking using Image Processing	International Research Journal of Modernization in Engineering Technology and Science (IRJMETS)	e-ISSN: 2582-5208	July 2021
5	Nandini S	Real Time Driver Advisory Model – Intelligent Transportation System Using RFID	International Journal of Scientific Research in Science, Engineering and Technology (IJSRSET)	ISSN (Online): 2394-4099 Print ISSN: 2395-1990	July 2021

Table B5.7.1.c Google Scholar Journals

Publication: 2019-2020

Scopus Indexed Journals					
Sl. No	Name of the Faculty	Description / Title of the Paper	Name of Journal	ISBN/ISSN	Date of Publication
1	Dr. G T Raju	Recommender System for Geo-Social Access Control Framework	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	ISSN: 2278-3075,	December 2019
2	Dr. G T Raju	Effective Cost Models for Predicting Web Query Execution Cost	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	ISSN: 2278-3075	December 2019
3	Dr. G T Raju	Integration of Healthcare Ontologies at Schema Level using Customized Metadata	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	ISSN: 2278-3075	December 2019
4	Dr. G T Raju	Early Detection of Depression in Women using Machine Learning Methods	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	ISSN: 2278-3075	December 2019
5	Dr. G T Raju	Cloud Security: Inter-Host Docker Container Communication using Vault Dynamic Secrets	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	ISSN: 2278-3075	December 2019
6	Dr. G T Raju	Early Detection of Diabetic Retinopathy through Machine Learning Techniques	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	ISSN: 2278-3075	December 2019

7	Dr. G T Raju	Web Objects Opinion through Sentiment Engineering	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	ISSN: 2278-3075,	December 2019
8	Dr. G T Raju	Cross-layer Planes Framework for Detection of Malicious Nodes in WSN	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	ISSN: 2278-3075,	December 2019
9	Dr. G T Raju	Crop Recommendation using Machine Learning Techniques	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	ISSN: 2278-3075	December 2019
10	Dr. G T Raju	Task Selection for Scheduling using Hadoop Scheduler	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	ISSN: 2278-3075	December 2019
11	Dr. G T Raju	Integration of Healthcare domain Ontologies using Bayesian Networks	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	ISSN: 2278-3075	December 2019
12	Abdul Khadar A	Website Vulnerability Detection: Inception of Mitigation of Advanced Persistent Threats	Solid State Technology	ISSN: 0038111X	May 2020
13	SusheelammaK H	Student risk identification learning model using machine learning approach	International Journal of Electrical and Computer Science Engineering	ISSN: 2088-8708	October 2019

14	Bhanumathi S	Impute, Select, Decision Tree and Naïve Bayes (ISE - DNC): An ensemble learning approach to classify the Lung Cancer	Test Engineering and Management	ISSN: 0193-4120	May-June2020
15	Nagaraja G	A Survey of Intelligent approach for Handoff Decision making for Long Term Evolution Heterogeneous Network	IEEE International Conference on “Smart Systems and Inventive Technology(IC SSIT – 2019)	ISBN:978-1-7281-2119-2	November 2019
16	Nagaraja G	User Preference Aware Radio Access Technology Selection Model for Heterogeneous Communication Network	2nd International conference on Topical Transcends in Science, Technology & Management	ISSN: 0193-4120	May 2020

Table B5.7.1.d Scopus Indexed Journals

Conference Journals					
Sl. No	Name of the Faculty	Description / Title of the Paper	Name of Journal	ISBN/ISSN	Date of Publication
1	Dr. G T Raju	Evolutionary Approach based Scheduler for Speculative Task Execution	IEEE	Electronic ISBN:978-1-7281-3241-9 DVD ISBN:978-1-7281-3240-2 Print on Demand(PoD) ISBN:978-1-7281-3242-6	Date of Conference: 25-27 July 2019 Date Added to IEEE Xplore: 10 February 2020
2	Dr. G T Raju	Network Traffic Optimization in Hadoop Map Reduce through Pre-shuffling	IEEE	Electronic ISBN:978-1-7281-1261-9 Print on Demand(PoD) ISBN:978-1-7281-1262-6	Date of Conference: 17-19 July 2019 Date Added to IEEE Xplore: 20 February 2020

3	Dr. G T Raju	Node Performance Load Balancing Algorithm for 4Hadoop Cluster	IEEE	Electronic ISBN:978-1-5386-7799-5 Print on Demand(PoD) ISBN:978-1-5386-7800-8	Date of Conference: 21-22 Feb. 2019 Date Added to IEEE Xplore: 21 Nov2019
4	Bhanumathi S	Impute, Select, Decision Tree and Naïve Bayes (ISE - DNC): An ensemble learning approach to classify the Lung Cancer	International conference on Tropical Transcends in Science , Technology and Management	ISSN 0913-4120	May 2020
5	Nagesh R	Elimination of redundant data to enhance wireless sensor network performance using Multi level data aggregation technique	10th International Conference on Computing, Communication and Networking Technologies (ICCCNT)	Electronic ISBN:978-1-5386-5906-9 USB ISBN:978-1-5386-5905-2 Print on Demand(PoD) ISBN:978-1-5386-5907-6	Date of Conference: 6-8 July 2019 Date Added to IEEE Xplore: 30 December 2019
6	Yogaraja G S R	Cloud to IOT Infrastructure for Smart City	22 nd ISTE State Level Faculty Convention	Presented	4 th Feb 2020

Table B5.7.1.e Conferences Attended

Google Scholar Journals					
Sl No	Name of the Faculty	Description / Title of the Paper	Name of Journal	ISBN/ISSN	Date of Publication
1	Aravinda Thejas Chandra	Magic Train Design of Measurement Methods Against Bandwidth Inflation Attacks	International Research Journal of Engineering and Technology (IRJET)	e-ISSN: 2395-0056 p-ISSN: 2395-0072	July 2020
2	L Vindya	"Affective EEG and Facial Features based person Identification using the Deep Learning Approach"	International Research Journal of Engineering and Technology (IRJET)	e-ISSN: 2395-0056 p-ISSN: 2395-0072	July 2020

Table B5.7.1f Google Scholar Journals

Publication: 2018-2019

Scopus Indexed Journals					
Sl. No	Name of the Faculty	Description / Title of the Paper	Name of Journal	ISBN/ISSN	Date of Publication
1	Abdul Khadar A	Shuffle-Selective-Search Process for Mitigation of APTs with IKC	IJRTE	ISSN: 2277-3878	May 2019

Table B5.7.1.g Scopus Indexed Journals

Conference Journals					
Sl. No.	Name of the Faculty	Description / Title of the Paper	Name of Journal	ISBN /ISSN	Date of Publication
1	Nagesh R	Design of an Energy-Efficient Routing Protocol Using Adaptive PSO Technique in Wireless Sensor Networks	International Conference on Emerging Research in Electronics, Computer Science & Technology Springer, Singapore	Electronic ISSN: 1876-1119 Print ISSN: 1876-1100	January 2019

Table B5.7.1.h Conference Attended

Google Scholar Journals					
Sl. No	Name of the Faculty	Description / Title of the Paper	Name of Journal	ISBN/ISSN	Date of Publication
1	Bhanumathi S	A Comprehensive Survey on State of the Art Mechanisms and Data Mining Techniques for Accurate Prediction of Cancers with special focus on Lung Cancer	Journal of Emerging Technologies and Innovative Research (JETIR)	(ISSN : 2349-5162)	June 2019

Table B5.7.1.i Google Scholar Journals

Publication: 2017-2018

Scopus Indexed Journals					
Sl. No	Name of the Faculty	Description / Title of the Paper	Name of Journal	ISBN/ISSN	Date of Publication
1	Abdul Khadar A	Shuffle-Selective-Search	IEEE Xplore	Electronic ISBN: 978-1-5386-0569-1 USB ISBN: 978-1-5386-0568-4	April 2018

Table B5.7.1.j Scopus Indexed Journals

Conference Journals					
Sl. No	Name of the Faculty	Description / Title of the Paper	Name of Journal	ISBN /ISSN	Date of Presentation
1	Dr. Vijay G R	A proxy based collaboration system to minimize content download time and energy consumption	National conference on “Recent Trends in Computer Science and Engineering – NCRTCS-2018, SJCIT, Chickballapur	Presented	May 2018
2	Chandrashekhar J M	S3 Integrated Web Application Security	7 th International Conference on Emerging Trends in Science & Technologies for Engineering Systems held on 11 th and 12 th Jan 2018	Presented	Jan 2018

Table B5.7.1.k Conference Attended

Google Scholar Journals					
Sl. No	Name of the Faculty	Description / Title of the Paper	Name of Journal	ISBN/ISSN	Date of Publication
1	Dr. Vijay G R	Novel Framework to Filter DOS Attack in Cloud Environment	International Journal of Creative Research Thoughts (IJCRT)	Print ISSN: 2320-2882	October 2017
2	Susheelamma K H	A Survey on Clustering and Feature Selection	International Journal of Scientific	Print ISSN: 2395-1990	Feb 2018

		Algorithm for Quickly Predicting Engineering Students' Academic Performance	Research in Science, Engineering and Technology(IJSRSET)	Online ISSN: 2394-4099	
3	Yograja G S R	Managing Communities Identification with Distributed Cloud using IOT	International Journal of Computing Science and Information Technology (IJCSIT)	Print ISSN: 2278-9669	April 2018

Table B5.7.1.l Google Scholar Journals

B. Book/Books chapter published

Sl. No	Title	Author/s	Year of Publication	Name of Publisher/s
1	Springer International Conference on Computational Vision and Bio Inspired Computing ,published as Book Chapter in Computational Vision and Bio Inspired Computing,	Dr.GT Raju	Lecture Notes in Computational Vision and Biomechanics book series(LNCVB),volume 28, pp335-348,PrintISBN978-3-319-71766-1,Springer, Cham, Feb2018	

Table B5.7.1.mAcademicResearch-BookPublications

Ph.D. Guided /Ph.D. Awarded during the assessment period while working in the institute. All relevant details shall be mentioned.

Ph. D Awarded during Assessment Period

Supervisor Details	Candidate Name	Year	University
Dr. Rama Mohan Reddy A	Dr.Vijay.G.R	2019	JNTUA

Table B5.7.1.n Research Supervisor details

Ph. D Guidance

Sl. No	Guide	Name of the Research Scholar	Dept.	No of candidate completed			
				Year of Regn.	Course work completed (Y/N)	Pre-PhD Viva Voce Y/N	Submitted Final Thesis Y/N
1	Dr. G.T.Raju	Manjula L	CSE	2018	Y	N	
		Prihanka Chandrashekar Hiremath	CSE	2019	Y	N	
		Devaraju B M	CSE	2015	Y	Y	
		Shrinivas Vithalrao Biradar	CSE	2017	Y	N	
		Ramesh K V	CSE	2018	N	N	
		Mamatha	CSE	2021			
2	Dr. Keshava Munegouda	Sanjay Kumar N V	CSE	2019			

Table B5.7.1.o Academic Research –Ph .D Awarded/Guided**Ph.D Candidate Details registered in SJCIT BGS R&D Centre:**

Sl. No.	Name of the Research Scholar	Research Supervisor	University / Year of Registration	Registered Number	Current Status
1	Satheesh Chandra Reddy	Dr. S N Chandra Shekara	2015	1SJ15PEJ01	Comprehensive Viva Completed
2	Bhanumathi S	Dr. S N Chandra Shekara	2016	1SJ16PEJ01	Open Seminar 1 Completed
3	Susheelamma K H	Dr. K M Ravikumar	2016	1SJ16PEJ04	Open Seminar 2 Completed

Table B5.7.1.p Ph. D Candidate Details registered in SJCIT BGS R&D Centre**Ph .D Candidate Details registered outside SJCIT BGS R&D Centre:**

Sl. No.	Name of the Research Scholar	Research Supervisor	University / Year of Registration	Registered Number	Current Status
1	Nagaraja G	Dr. Ramesh Babu H S	2013	1VA13PEN04	Colloquium Completed
2	Aravinda Thejas Chandra	Dr. C B Akki	2015	5VZ15PEJ83	Course work Completed
3	Abdul Khadar A	Dr. Shrishail Math	2016	5VY16PEJ48	Colloquium Completed
4	Nagesh R	Dr.Sarika Raga	2016	5VY16PEJ98	Open Seminar 1 Completed
5	Yogaraja GSR	Dr. Thippeswamy M N	2017	1NT17PEA01	Comprehensive Viva Completed

6	Nandini S	Dr. Kempanna	2017	1BI17PEA06	Comprehensive Viva Completed
7	Shwetha G R	Dr. Lokesh A	2019	1VE19PCS02	Course work Completed
8	Ambika L G	Dr. D Shivakumar	2019	1RR19PCS01	Course work completed
9	Chandra Shekhar J M	Dr. Pramod	2021	4PM20PCS01	Registered
10	Prathiba R	Dr. Sunitha B S	2021	4PM20PCS03	Registered
11	Sabin TT	Dr. Sunitha B S	2021	4PM20PCS06	Registered

Table B5.7.1.q Ph. D Candidate Details registered outside SJCIT BGS R&D Centre**C. Patents Applied/Granted**

Sl. No	Author/s	Title	Application No.	Year of Grant	National/ International
1	Mrs. Bhanumathi S Mrs. Vindya L	Enhanced security prediction on IoT based smart weather conditions system.	202141016707A	2021	National
2	Dr. Keshav Munegowda	FAT file in reserved cluster entry with ready entry state	8452734	2013	International
		IC updating File system meta data with log record data	9043286	2013	International
		File access method and system there of	9569447	2017	International
		Method and System for File storage and access	9817837	2017	International
		Sharing input and output devices in networked systems	13401356	2021	International
3	Mr. Chandrashekar JM Mr. Anand Tilagul Miss. Prathibha	IOT based pill dispenser	202141011019A	2021	National
4	Dr. G T Raju	System for Improving prediction Accuracy of Healthcare Ontology	2021102318	2021	International Australian Govt. IP

Table B5.7.1.r E-Resource materials to carry out Research

Accessing Resource materials to carry out Research

The SJCIT Library is an Important Learning Resource Center with Open Access system encouraging the user to browse freely in the stock area. As on date the center has 83449 volumes of books, VTU-Consortium E-Resources. The library comprises of reference section, Periodicals/magazines, Periodical section, stock area, Internet & Digital library. Library also has collection of newspapers, journals, competitive exam books, GATE question papers and VTU UG/PG previous years question papers and syllabus of all the branches. The library provides the information and reference in the academic programs also to current technology and innovations in different fields. There are also a vast array of materials that provides insights and information to enhance overall development and personality.

LIBRARY & INFORMATION CENTRE	
E-Resource	URL Address
Elsevier	http://www.sciencedirect.com/
Springer Nature	http://link.springer.com/
Taylor & Francis (e-Journals)	http://www.tandonline.com/
Institution of Civil Engineers(ICE)	https://www.ice.org.uk/
Emerald	https://www.emeraldinsight.com/
Elsevier(E-Books)	https://www.sciencedirect.com/
Taylor & Francis(e-Books)	https://www.tandfonline.com/
McGraw Hill Education(e-Books)	http://mcgrawhilleducation.pdn.ipublishcentral.com/
New Age International(e-Books)	http://www.newagepublishers.com/servlet/nahome
Packt (e-Books)	https://prod.packtpub.com/in
Knimbus (e-Journals) & (e-Books)	https://new.knimbus.com/
Turnitin* (Plagiarism Originality Online check)	https://www.turnitin.com/
NetAnalytiks	https://sententia.online/

Table B5.7.1.s E-Resource materials to carry out Research

5.7.2 Sponsored Research (5)

➤ Funded research:

(Provide a list with Project Title, Funding Agency, Amount and Duration) Funding amount (Cumulative during CAYm1, CAYm2 and CAYm3):

Amount > 20 Lakh – 5 Marks

Amount >= 16 Lakh and <= 20 Lakh – 4 Marks

Amount >= 12 Lakh and < 16 Lakh – 3 Marks

Amount >= 8 Lakh and < 12 Lakh – 2 Marks

Amount >= 4 Lakh and < 8 Lakh – 1 Mark

Amount < 4 Lakh – 0 Mark

Sl. No.	Project title	Funding Agency	Year of Grant	Amount	Principal Investigator	Duration	Status
1	Smart Traffic System	New Age Incubation Network	2019	Rs.2,50,000	Nagesh R	3 Years	Ongoing
2	Virtual SIM	New Age Incubation Network	2019	Rs.2,30,000	Abdul Kadar	3 Years	Ongoing
Total Amount=Rs.4,80,000							

Table B5.7.2a Sponsored Research

5.7.3 Development activities (10)

Provide details:

- Product Development
- Research laboratories
- Instructional materials
- Working models/charts/monograms etc

Product Development

Invigilator Scheduling

The purpose of Invigilator Assignment for Exam is to automate the existing manual system by the help of computerized equipment and full-fledged computer software, so that their valuable data/ information can be stored for a longer period with easy accessing and manipulation of the same. It can assist the institution/department to concentrate on their activities rather to concentrate on the allotting invigilators to particular rooms. Thus it will help institution in better utilization of invigilators, without any confusion they can conduct examination. The institution/department can maintain computerized records without redundant entries.

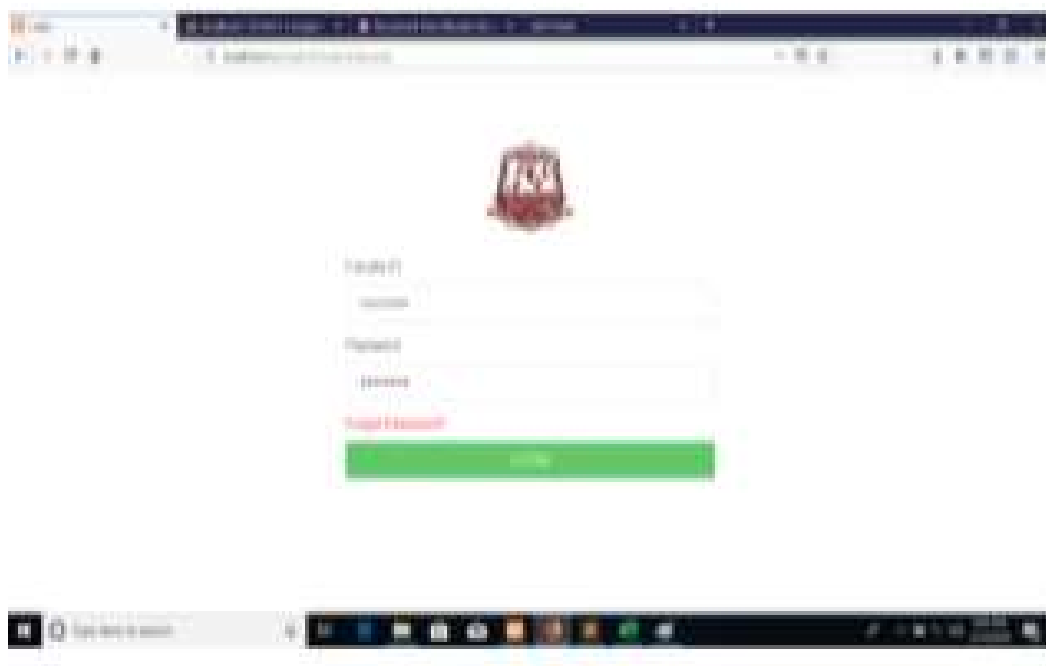


Figure 5.7.3.a Login Page

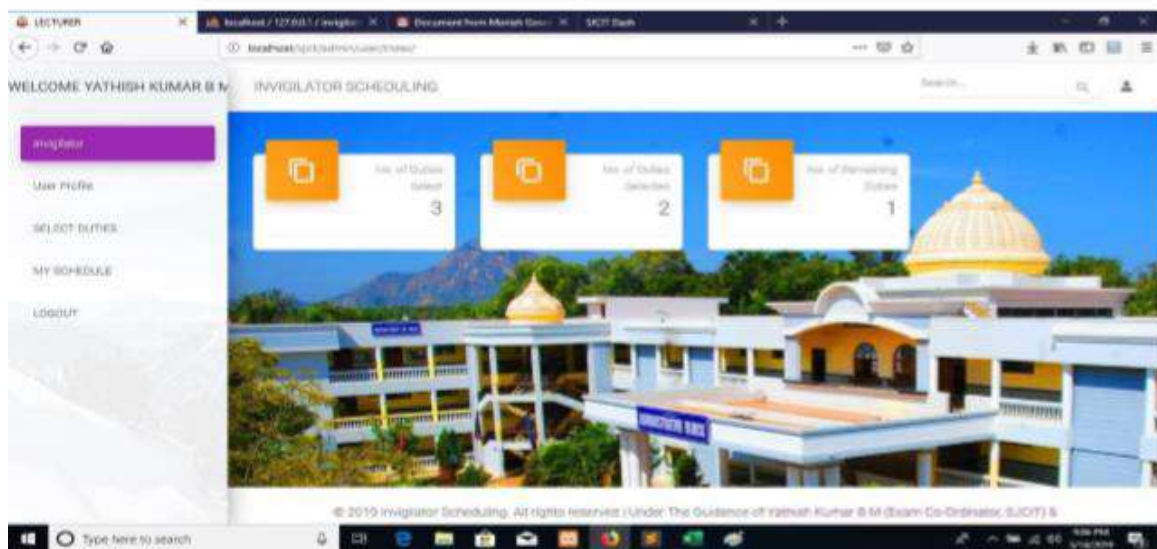


Figure 5.7.3.b Home Page

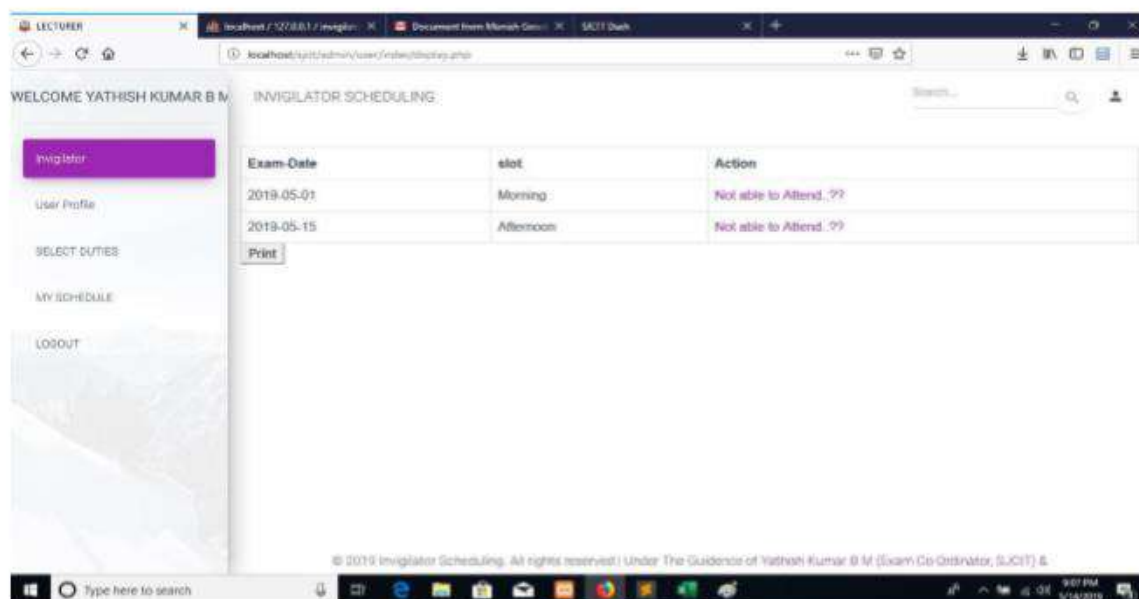


Figure 5.7.3.c Editing Profile Page

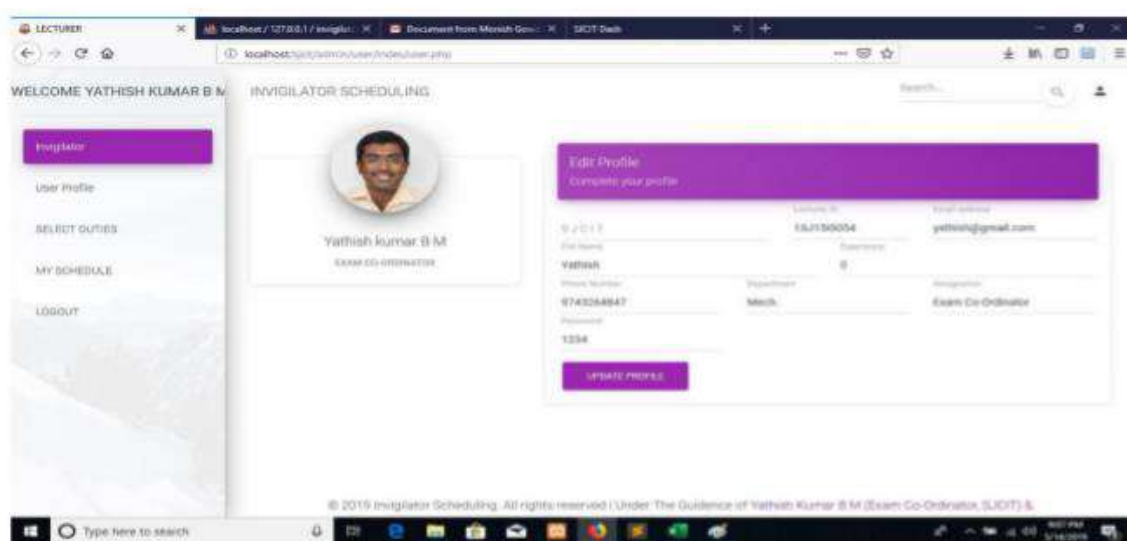


Figure 5.7.3.d Editing Profile Page

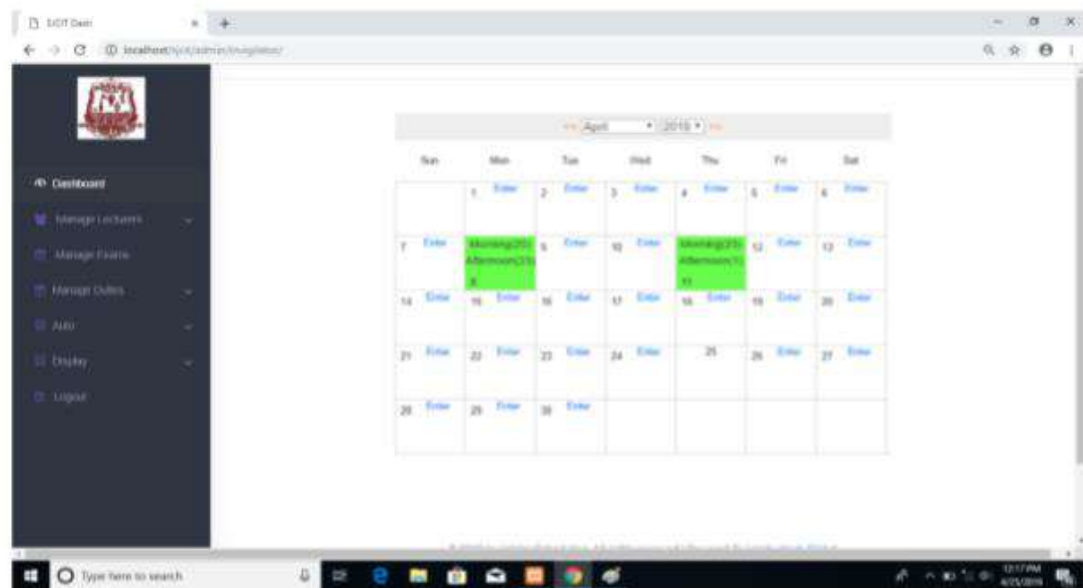


Figure 5.7.3.e Display the exam dates

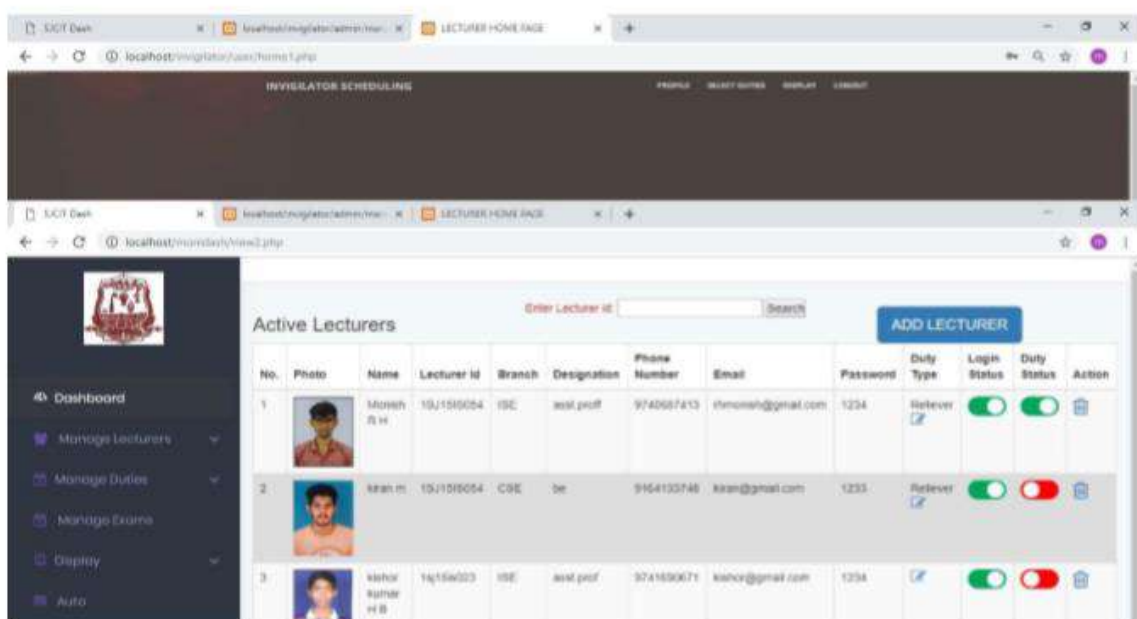


Figure 5.7.3.f Display the information

College Online Academic Resource and Materials Portal

A portal with URL sjcnote.github.io is developed by a student of ISE department to facilitate the learning enthusiastic students to avail all the lecture note and handouts prepared by the faculty of the ISE department and other departments at a click. This product helps the students across the departments to reach for the academic study materials easily. The contents on the portal are periodically updated and validated regularly by the department.

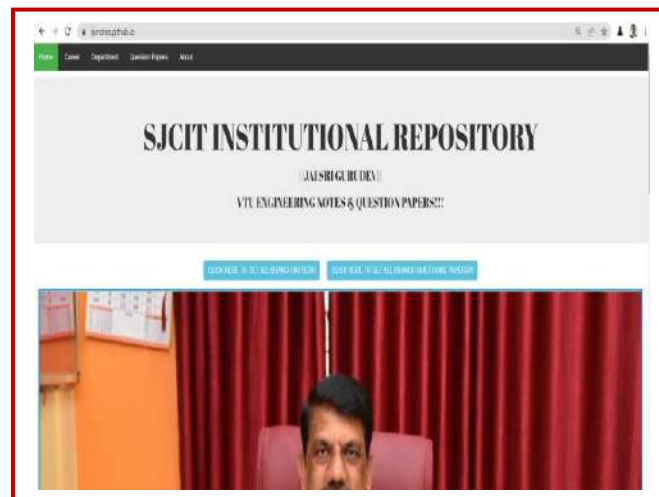


Figure 5.7.3.g Welcome Page of the SJC notes portal

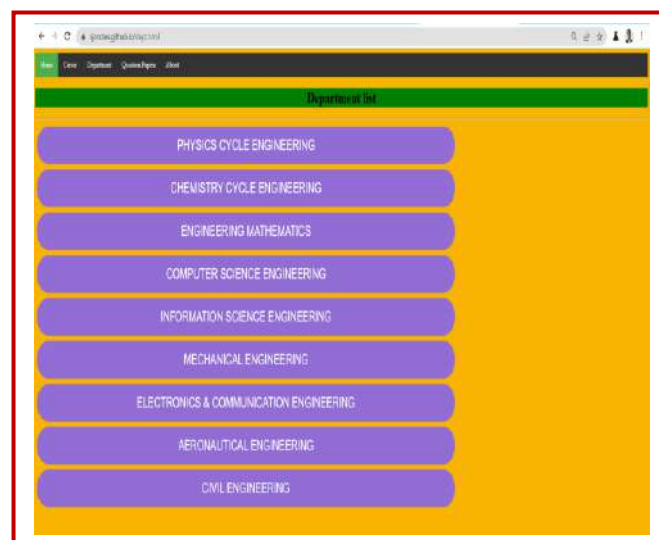


Figure 5.7.3.h List of Various Department Notes Link

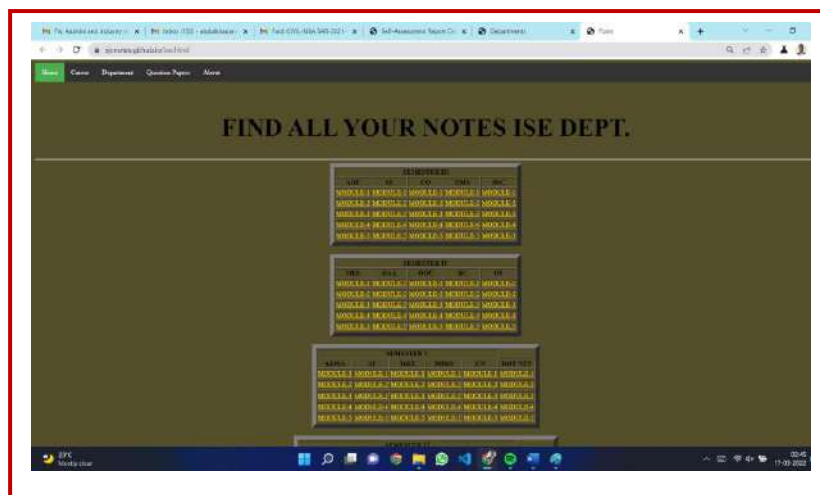


Figure 5.7.3.i List of Various Modules of All Semester wise Subjects

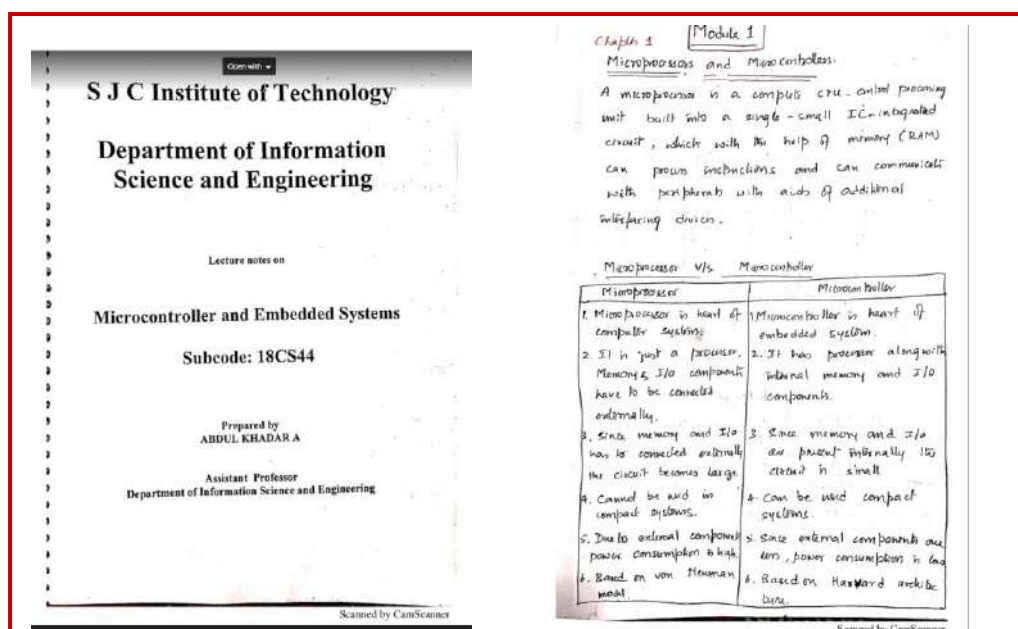


Figure 5.7.3.j Images of Downloaded Notes from the Portal

Research Laboratories

SJCIT has been proactive in encouraging its faculty and students to undertake collaborative and inter-disciplinary research.



Figure 5.7.3.gCross Platform Mobile Apps Development Laboratory

Instructional materials

Instructional materials refer to a number of teacher resources. Instructional materials can significantly increase student achievement by supporting student learning. Handwritten notes are provided to students who prefer to read handwritten notes and at the same time soft copy of the notes are provided to students. Lab manuals are provided to students with various input and outputs. Sample copy of lab manual front page is as shown in Figure 5.7.3b. Each lab has a notice board which has the following information: In charge person for particular lab, Instructor details, list of experiments, Dos and DON'T's are displayed.

Following instructions are displayed on the department notice board:

- Anti ragging circular.
- Dress code circular.
- Circular related to mobile phone banned in the college.
- Department profile.
- All the activities going on in the department.
- Lab Manuals, Question Banks, Handouts, Subject Notes, Power Point Presentations, Videos.
- YouTube link of videos shared by Mr. Aravinda Thejas Chandra & Mr. Abdul Kadar
<https://www.youtube.com/user/MrThejaschandra>
<https://www.youtube.com/user/akhadars>

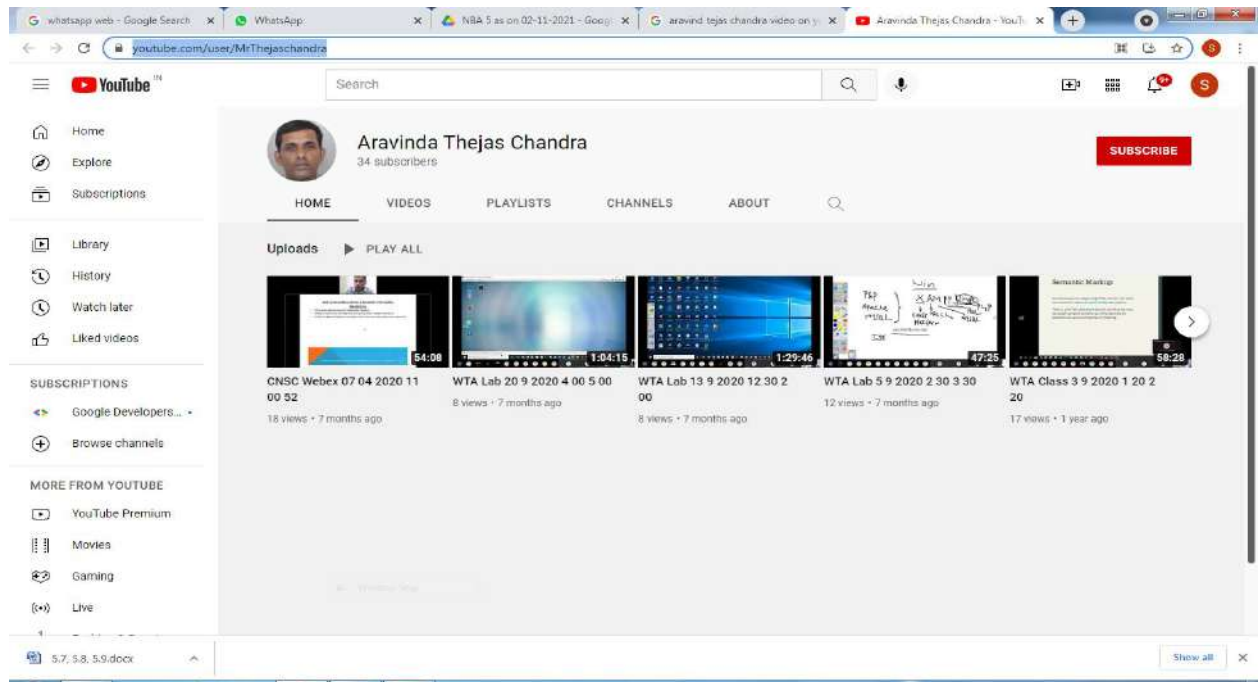


Figure 5.7.3.h Sample copy of Video Posted in YouTube

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
JNANA SANGAMA, BELGAVI-590018, KARNATAKA



DBMS LABORATORY WITH MINI PROJECT
- 18CSL58



Department of ISE
SJC Institute of Technology

P.B No: 20, B.B Road, Chickballapur-562101
2021-2022

Figure 5.7.3.i Sample copy of Lab Manual front page

Working models/charts/monograms etc.

Notice board/ bulletin board displays time table, Vision of the institute, Mission of the department, Charts displayed in all laboratories. Student's Achievements like Ranks, Participation in VTU tournament, Campus offers, Class Time table and Practical exam time table, anti-raging circular, mobile phone usage circular.

Using CRO to measure Voltage and Frequency

HORIZONTAL CONTROLS

Sweep time/cm: For selecting desired sweep rate from calibrated steps or admits external signal to horizontal amplifier.

Sweep time/cm Variable: Provides continuously variable sweep rates. Calibrated position is fully clockwise.

Position: Controls horizontal position of trace on screen.

Horizontal Variable: Controls the attenuation (reduction) of signal applied to horizontal amplifier through External Horizontal connector.

DISPLAY CONTROLS

An **intensity control** is used to adjust the brightness of the waveform. As the sweep speed is increased, there is a need to increase the intensity level.

A **focus control** is used to adjust the sharpness of the waveform.

A **trace control** is used to rotate the trace on the CRO screen.

A **calibration point** is used to calibrate the CRO. It gives a steady square wave at a particular set frequency and voltage. It allows the accurate scaling of the trace. The standard calibration signal is 0V-2V at 1KHz.

VERTICAL CONTROLS

Volts/div.: For selecting desired voltage sensitivity of the vertical amplifier to obtain the proper wave form on the screen.

Volts/div. Variable: Provides continuously variable voltage sensitivity. Calibrated position is fully clockwise.

Position: Controls horizontal position of trace on screen.

Vertical Position knob: To move the trace up or down the on the screen.

SJCIT – Department of Information Science and Engineering

Logic Gates, Logical Diagrams and Truth Tables

Logic Devices Families

The types of logic devices are classified in "families", of which the most important are TTL and CMOS. The main families are:

- TTL (Transistor-Transistor Logic), made of bipolar transistors.
- CMOS (Complementary Metal Oxide Semiconductor) made from MOSFETs
- ECL (Emitter Coupled Logic) for extremely high speeds.
- NMOS, PMOS for VLSI large scale integrated circuits.

Different Base Conversion Table

Decimal (Base 10)	Octal (Base 8)
Binary (Base 2)	Hexadecimal (Base 16)

Different Binary Representations of Integers Comparison Table

SIG	Sign Magnitude
Offset Binary	2's Complement
Excess 3	Excess 3

Binary Function of Two Variables

1. Null	0
2. AND	AB
3. A AND NOT B	AB
4. NOT A AND B	AB
5. Exclusive OR	AB+AB
6. OR	A+B
7. NOT OR	A+B
8. Exclusive NOR	AB+AB
9. Not B	A
10. A OR NOT B	A+B
11. NOT A	A
12. NOT A OR B	A+B
13. NOT A AND B	AB
14. IDENTITY	1

Rules of Digital Logic

$A \cdot 0 = 0$, $A \cdot 1 = A$, $0 \cdot A = 0$, $1 \cdot A = A$	AND and OR constants are commutative
$A + 0 = A$, $A + 1 = 1$, $0 + A = A$, $1 + A = 1$	Idempotent property
$A \cdot A = A$, $A + A = A$	Idempotent property
$A \cdot (A + B) = A$	Absorption property
$A + (A \cdot B) = A$	Absorption property
$A \cdot (A + B) = A$	Absorption property
$A + (A \cdot B) = A$	Absorption property
$A \cdot (A + B) = A$	Absorption property
$A + (A \cdot B) = A$	Absorption property
$A \cdot (A + B) = A$	Absorption property
$A + (A \cdot B) = A$	Absorption property

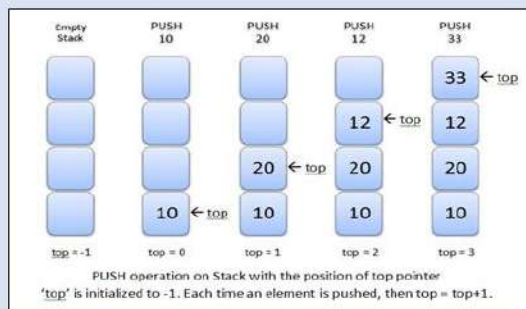
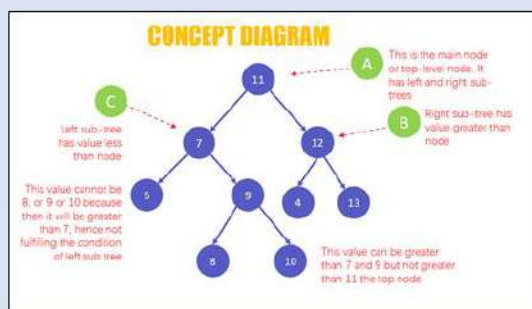
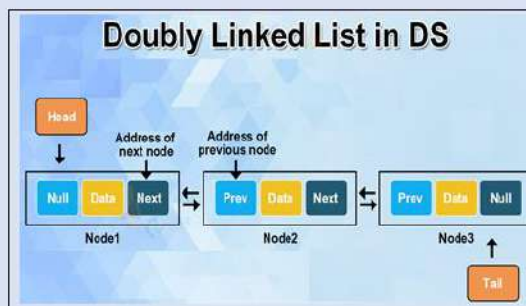
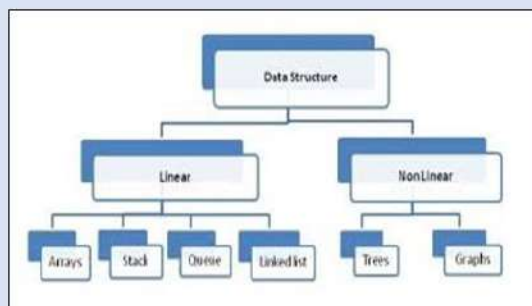
DeMorgan's Theorems

IC Series Designation

TTL Series	Prefix	CMOS Series	Prefix
Standard TTL	74	Metal gate 13025	40 or 540
High Speed TTL	74S	Metal gate, pin compatible with TTL	74C
Low power TTL	74LS	Static gate, pin-compatible with TTL, high speed	74VHC
Schottky TTL	74S	Static gate, pin-compatible with TTL, high speed	74VHC
Low power Schottky TTL	74ALS	Static gate, pin-compatible with TTL, high speed	74VHC
Advanced Schottky TTL	74AS	Static gate, high speed, not compatible with TTL	74VHC
Advanced low power Schottky TTL	74ALS		

SJCIT – Department of Information Science and Engineering

Data Structures

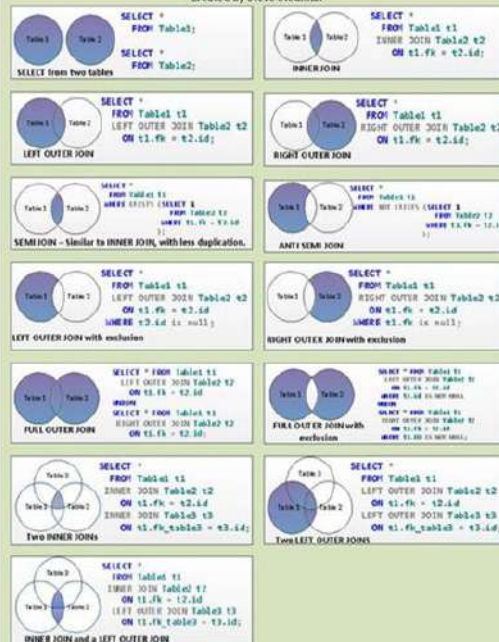


SJCIT – Department of Information Science and Engineering

RDBMS & SQL

MySQL JOIN Types

Created by Steve Stedman



SQL Commands



CONSTRAINTS



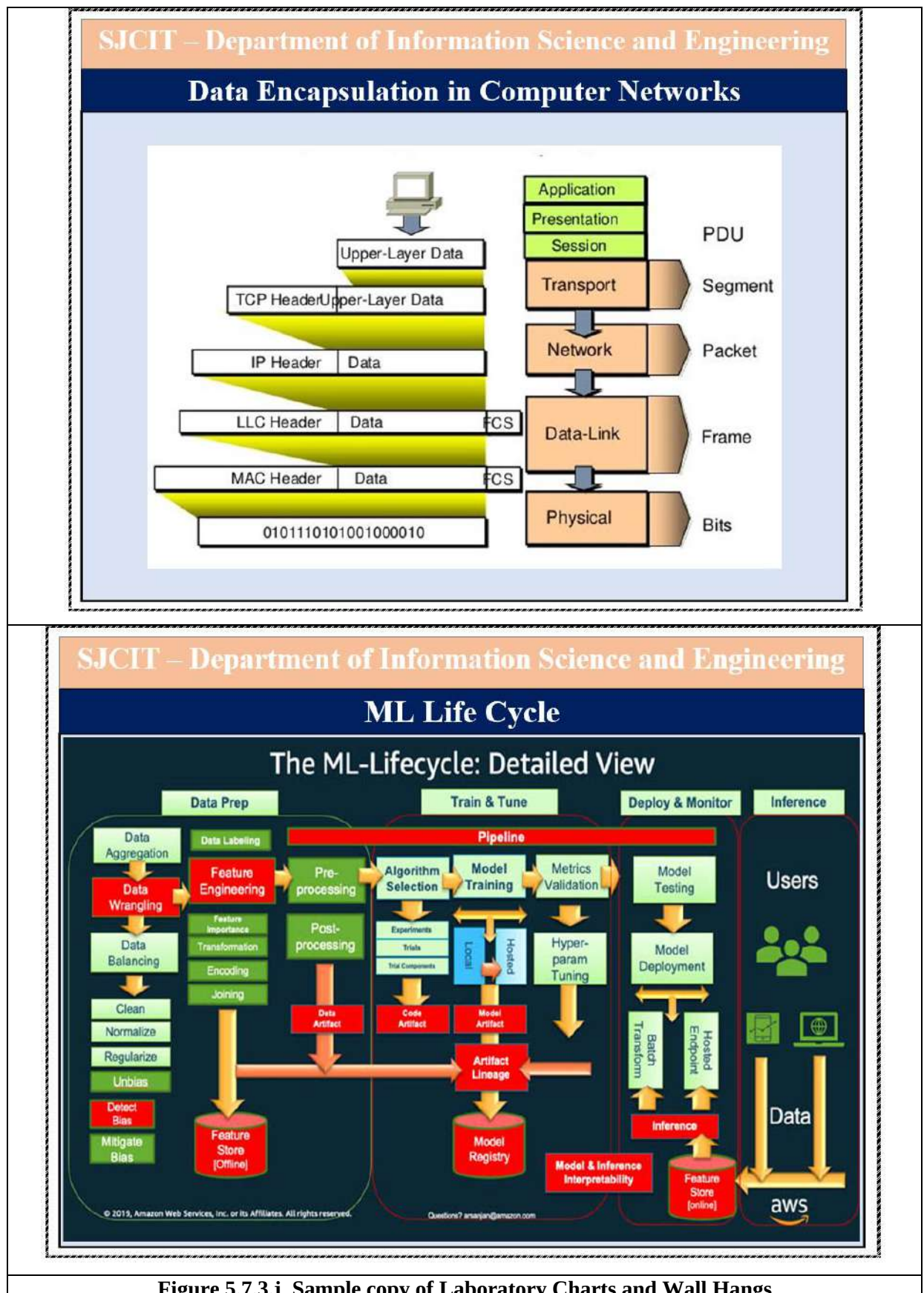


Figure 5.7.3.j Sample copy of Laboratory Charts and Wall Hangs

5.7.4 Consultancy (from Industry) (5)

(Provide a list with Project Title, Funding Agency, Amount and Duration)

Funding amount (Cumulative during CAYm1, CAYm2 and CAYm3):

Amount > 10 Lakh – 5 Marks

Amount >= 8 Lakh and <= 10 Lakh – 4 Marks

Amount >= 6 Lakh and < 8 Lakh – 3 Marks

Amount >= 4 Lakh and < 6 Lakh – 2 Marks

Amount >= 2 Lakh and < 4 Lakh – 1 Mark

Amount < 2 Lakh – 0 Mark

-NIL-

5.8. Faculty Performance Appraisal and Development System (FPADS) (30)

Faculty members of Higher Educational Institutions today have to perform a variety of tasks pertaining to diverse roles. In addition to instruction, Faculty members need to innovate and conduct research for their self-renewal, keep abreast with changes in technology, and develop expertise for effective implementation of curriculum. They are also expected to provide services to the industry and community for understanding and contributing to the solution of real life problems in industry. Another role relates to the shouldering of administrative responsibilities and co- operation with other Faculty, Heads-of-Departments and the Head of Institute. An effective performance appraisal system for Faculty is vital for optimizing the contribution of individual Faculty to institutional performance.

The assessment is based on:

- A well-defined system for faculty appraisal for all the assessment years (10)
- Its implementation and effectiveness (20)

The academic, administrative, curricular and extra-curricular activities carried out by the faculty of the institution needs to be assessed by internal committee as well as by external academicians and peers (NBA, NAAC, LIC), as their appreciations and valuable suggestions boost the confidence of the faculty.

It is the need of the hour to say that, The National Assessment and Accreditation Council (NAAC) has evolved certain benchmarks for ascertaining and ensuring the quality at different levels of Higher Education. Every institute has to establish Internal Quality Assurance Cells (IQAC) to identify the benchmarks required for achieving the quality.

The institution evaluates teachers at four levels: **Self-appraisal, HoD/Principal assessment, Students' feedback, and IQAC evaluation (Academic Audit)** based on teaching, research, involvement in projects and participation in developmental activities giving due weightage to all these activities captured and considered for better appraisal.

Self-Appraisal: A structured self-appraisal form is used by each faculty member wherein he/she gives the details of his/her performance and participation in all the activities (higher studies pursued by the faculty, papers published, guidance given to the students in the co-curricular and extracurricular activities) assigned to him/her by the department /college during that academic year.

HoD/Principal Assessment: The concerned HoD/Principal gives their remarks on the performance of the faculty member during that academic year.

Student feedback: A well-defined online appraisal system is in place to assess and analyze the performance of the Faculty. Semester/subject wise feedback is obtained from each student of a class through Online Teacher's Appraisal System (Using Dhi software). It is to evaluate classroom delivery, subject knowledge and other abilities of the faculty member with respect to academic activities against 10 parameters on a scale of 1 to 4.

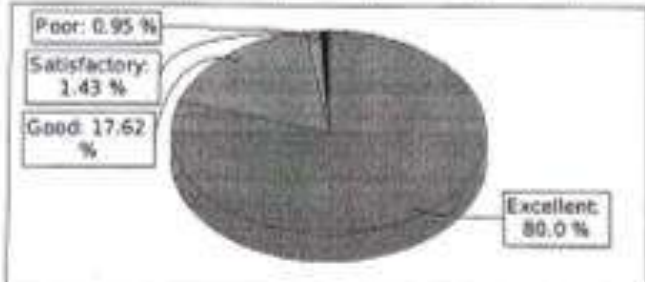


S.J.C Institute of Technology
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Tel: 263181, Email: principal@sjcit.ac.in
Fax: 08156263180, Web: www.sjcit.ac.in

Course-Wise 2019-20
Batch : BE , 2016-2020
Staff Name : Mr Aravinda Thejas Chandra
Subject Code : 15CSL77
Subject Name : WEB TECHNOLOGY
LABORATORY WITH MINI PROJECT

Department : Information Science and Engineering
Semester 7 , Sec : A , Batch: 1
Date : 25 Nov 2019

No	Questions	Excellent	Good	Satisfactory	Poor	%	Average Score (4)
		4	3	2	1		
<i>General</i>							
1	Preparation for the lab	17	4	0	0	87.2	3.8
2	Completion of all experiments	19	2	0	0	97.6	3.9
3	Valuation of records	16	5	0	0	94	3.8
4	Viva Voce conduction	16	3	0	0	94	3.8
5	Punctuality of teacher to the lab	18	3	0	0	98.4	3.9
6	Response to questions of doubts	18	2	0	0	97.6	3.9
7	Maintenance of discipline in the lab	19	2	0	0	97.6	3.9
8	Availability of Lab Manuals	18	6	3	2	78.6	3.1
9	Availability of Lab equipment	16	5	0	0	94	3.8
10	Overall performance of teacher	18	3	0	0	98.4	3.9
Total Count		168	37	3	2	94.1	3.74



Poor: 0.95 %
Satisfactory: 1.43 %
Good: 17.62 %
Excellent: 80.0 %

Comments
excellent
excellent
good
teaching is good
excellent
excellent
good
good

Figure 5.8.1 Feedback Template for Laboratory Subject

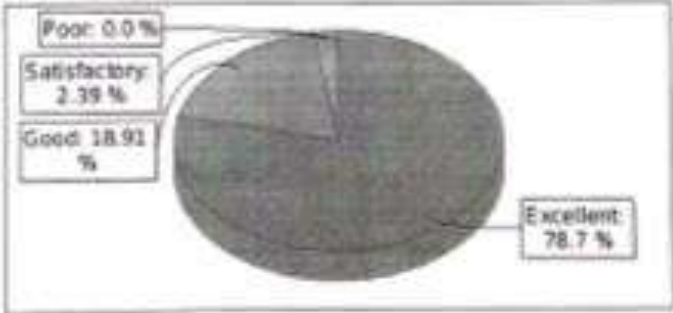


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Course-Wise 2019-20
Batch : BE, 2016-2020
Staff Name : Mr Aniruddha Thejas Chandra
Subject Code : 13CS71
Subject Name : WEB TECHNOLOGY AND ITS APPLICATIONS

Department : Information Science and Engineering
Semester : 7, Sec : A
Date : 25 Nov 2019

No	Questions	Excellent	Good	Satisfactory	Poor	%	Average Score (4)
		4	3	2	1		
<i>General</i>							
1	Preparation of the class	36	9	1	0	94	3.8
2	Stressing on important ideas and points	36	9	1	0	94	3.8
3	Communication of teacher	35	10	1	0	93.5	3.7
4	Response to questions and doubts	37	8	1	0	94.6	3.8
5	Coverage of syllabus	38	7	1	0	93.2	3.8
6	Availability of teacher outside the class hour	34	11	1	0	92.9	3.7
7	Usefulness of notes given	31	13	2	0	90.8	3.6
8	Knowledge gained by attending the class	37	8	1	0	94.6	3.8
9	Maintenance of discipline in the class	39	6	1	0	93.7	3.8
10	Overall ranking of performance of teacher	39	6	1	0	93.7	3.8
Total Class		362	87	11	0	94.1	3.78



Poor: 0.0 %
Satisfactory: 2.39 %
Good: 18.91 %
Excellent: 78.7 %

Comments
excellent
lack of knowledge
good
good at his teaching
teaching is good
By attending the class, we'll get to know about the things which are not in our curriculum
excellent

Figure 5.8.2 Feedback Template for Theory Subject

Documents

Personal File: Latest Resume, Appointment order, Increment notes, Memos, Copy of Marks sheets, Degree certificates, Salary slip, IT returns, Certificates of appreciation, FDP/Conference certificates, Awards/Recognition's etc.,

Academic File: Calendar of events, Faculty Time Table, Students List, Students Batch List (for practical courses, projects& elective courses), Minutes of course/class committees, Academic Diary, Appraisals, VTU related orders, Attendance registers, shortage of attendance lists, Consolidated statement of marks of internal tests, Remedial/Bridge classes, Result Analysis, question paper and scheme of evaluation for 1st, 2nd and 3rd internal tests, all assignments given, Makeup / Re-Test given (if any) etc, Previous Year University question papers, Sample answer sheets (at least one excellent, one good and one marginal pass) for all internal exams and assignments given, sample tutorial sheets, quiz or any other assessment done, all answer sheets of Make-up / Re-Test given (if any)

Course File: Syllabus, lesson plan, question bank, assignments /tutorials, quiz questions, notes/materials, ppts, videos, internal test question papers, scheme of evaluation – Project (Mini project/Design project/Final semester project) progress review reports

- Mapping of Course outcome and Program outcomes (POs)
- Industrial relevance of the course, if any
- All the blue books, text books/reference books

Other Administrative Responsibilities of Staff

1. Time Table Coordinators
2. Test Coordinators
3. Seminar Coordinators
4. Project Coordinators
5. Discipline Committee Members
6. Result Analysis Coordinators
7. Placement Coordinator
8. Electives Coordinator
9. Anti-Ragging Squad Members
10. Sexual Harassment Committee Members

11. Women Welfare Committee
12. Hostel Vigilance Members
13. Planning / Accreditation Coordinators
14. Class Teacher
15. Conference Coordinators
16. Lab In-charges
17. FDP Coordinators
18. Mentors / Proctors
19. Rank Monitoring Committee
20. Magazine Committee
21. Internship Coordinator
22. News Letter Committee
23. PAC – Program Assessment Committee
24. DAB – Department Adviser Board

5.9 Visiting/Adjunct/emeritus faculty etc. (10)

Adjunct faculty also includes Industry experts. Provide details of participation and contributions in teaching and learning and /or research by visiting/adjunct/Emeritus faculty etc. for all the assessment years:

- Provision of inviting/having visiting/adjunct/emeritus faculty (1)
- Minimum 50 hours per year interaction with adjunct faculty from industry/retired professors etc.

(Minimum 50 hours interaction in a year will result in 3 marks for that year; 3 marks x 3 years = 9marks)

Sl. No.	Name of the Teacher (s)	Working at
1	Dr. Keshava Munegowda	Vice President, Sec DB Engineering at Goldman Sachs
2	Mr. Badrinath K	Nous InfoTech, HSR Layout

Table B5.9.1 Adjunct Faculties

CRITERIA 6

Facilities and Technical Support

CRITERION 6	FACILITIES AND TECHNICAL SUPPORT	80

6.1	Adequate and well equipped laboratories, and technical man power	(30)

The Department of Information Science and Engineering has sufficient number of laboratories with adequate equipment and software for conduction of experiments within the curriculum including project work. The laboratories are also well equipped to undertake training and testing. Every laboratory is supported by technical staff to assist the students as shown in table 6.1

S.L No.	Name of the laboratory	No. of Students per Setup (Batch Size)	Name of the important equipment	Weekly Utilization status (all courses for which the lab is utilized)	Technical Manpower support		
					Name of the technical staff	Designation	Qualification
1.	Analog & Digital Electronics & Microcontroller & Embedded systems Laboratory	30	30 No, HCL Intel Core2Duo computers, 6 No CROs, Microprocessor kits, ADE Lab components, 15 No ARM Kits, LCD projector, Projector Screen, 10 KVA Online UPS With 3 hrs. Backup, LAN with Internet	12 hrs	Rudreswara.S	Instructor	B.C.A



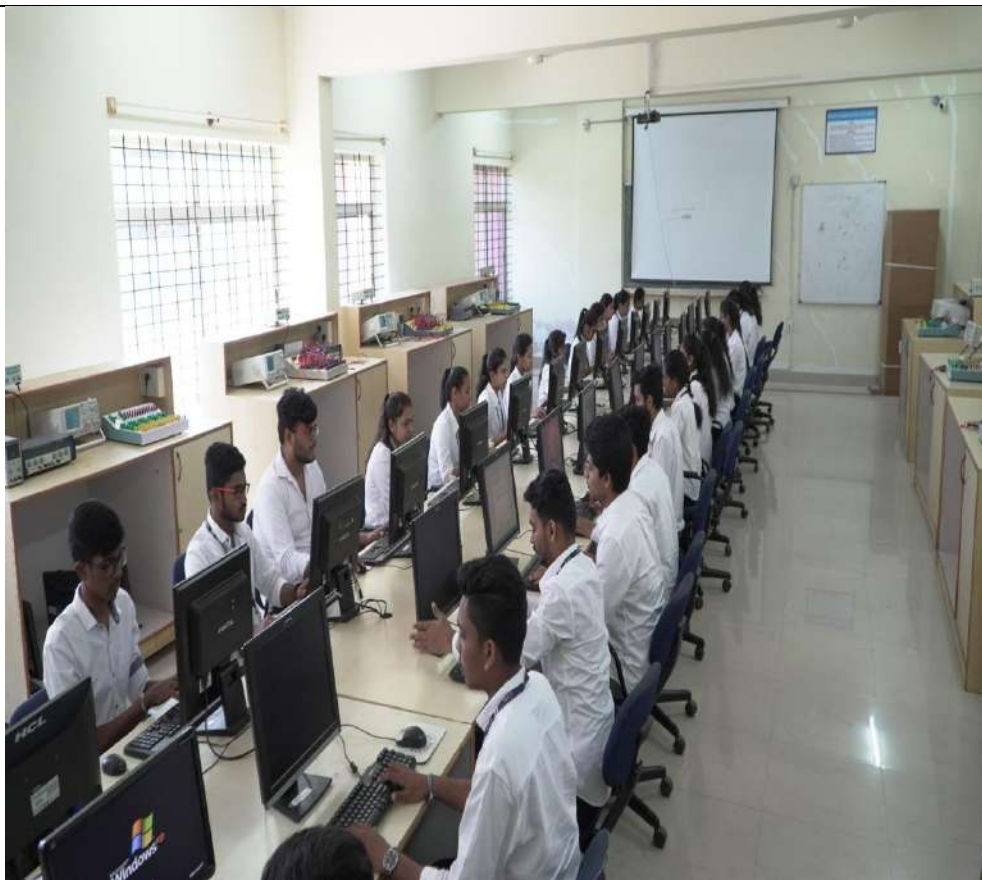


Figure 6.1a Analog & Digital Electronics, Embedded Systems & Microcontroller Laboratory

Sl. No.	Name of the laboratory	No. of Students per Setup (Batch Size)	Name of the important equipment	Weekly Utilization status (all courses for which the lab is utilized)	Technical Manpower support		
					Name of the technical staff	Designation	Qualification
2.	Software Testing & Network Laboratory	30	36 computers, HCL Intel Core2Duo LCD projector & Projector Screen, 10 KVA Online UPS With 3 hrs. BACK-UP & LAN with Internet, NS-2, Eclipse Software, Atom	12 hrs.	Syed Imdad	System Admin	BCA



Figure 6.1b Software Testing & Network Laboratory

Sl. No.	Name of the laboratory	No. of Students per Setup (Batch Size)	Name of the important equipment	Weekly Utilization status (all courses for which the lab is utilized)	Technical Manpower support		
					Name of the technical staff	Designation	Qualification
3.	Database Management Systems & File Structure Laboratory	30	36 Computer, HCL Intel Corei3 computers, LCD projector, projector screen, MySQL, Oracle9i, Eclipse, 10 KVA Online UPS With 3 hrs. BACK-UP & LAN With Internet	12 hrs	Shwetha.C V	Programmer	BE in ISE



Figure 6.1c: Database Management Systems & File Structure Laboratory

Sl. No.	Name of the laboratory	No. of Students per Setup (Batch Size)	Name of the important equipment	Weekly Utilization status	Technical Manpower support		
					Name of the technical staff	Designation	Qualification
4.	Data Structure, Web Technologies & its Applications & Design & Analysis of Algorithms Laboratory	30	42 DELL OptiPlex 3050 MT, Intel Core i5 7th Generation, LCD projector, projector screen, Apache web Server, MySQL, Xampp server, TC Editor, 10 KVA Online UPS With 3 hrs. BACK-UP & LAN with internet.	24 hrs.	Jagadish	Instructor	BCA

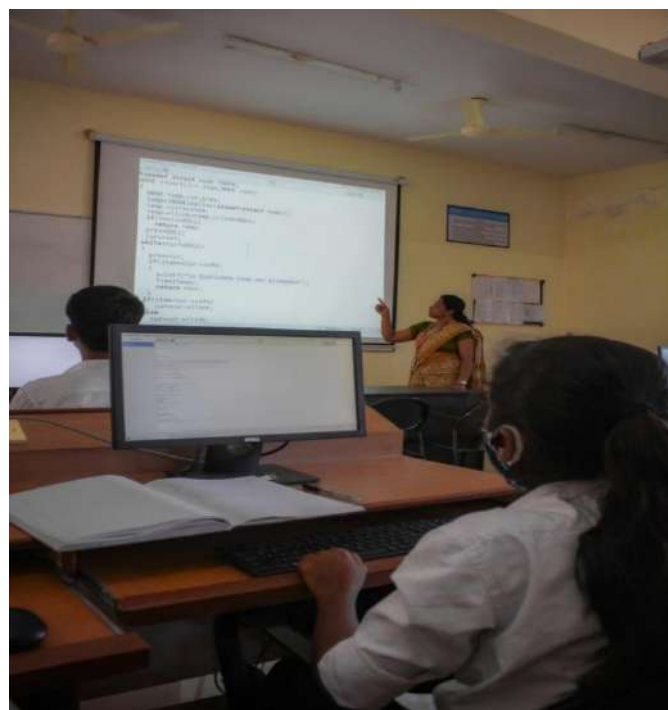


Figure: 6.1d Data Structure, Web Technologies & its Applications, Design & Analysis of Algorithms Laboratory

Table B6.1: Laboratories and Technical Man Power

COMPUTING FACILITIES – Summary:

- 4 Computer Labs housing 144 Branded Computers (HCL, Dell and Wipro), Each Lab is on LAN, Student – terminal ratio is 1:1
- All Computers with Internet, 500 MBPS dedicated line and Wi-Fi connectivity.
- 50 KVA UPS , 125 KVA Generator, 12 LCD Projectors, 3 Printers

6.2	Additional facilities created for improving the quality of learning experience in laboratories (25)

Details of additional facilities created for improving the quality of learning experience in laboratories are given in Table 6.2

Sl. No.	Facility Name	Details	Reason(s) for Creating facility	Utilization	Area in which students are expected to have enhanced learning	Relevance to POs / PSOs
1.	Center of Excellence in AI & ML	Computers with Intel(R) Core(TM) i3-7500 CPU @ 3.40GHz 3.41GHz, 4.00 GB with 500 MBPS internet connectivity	To provide industry oriented training to the students	Throughout the semester	• To bridge the gap between academic and industry. • To upgrade students to industry standard	PO5, PO1, PO12, PSO, PSO2
2.	Center of Excellence in Mobile Application Development	Computers with Intel(R) Core(TM) i5-7500 CPU @ 3.40GHz 3.41 GHz, 8.00 GB with 500 MBPS internet connectivity	To develop and implement cross platform mobile applications using trending technologies	Throughout the semester	Cross platform mobile application development	PO6, PO9, PO10, PO11, PSO1, PSO2



Figure 6.2a: Workshop and Training on AI & ML

3.	New Age Incubation Network	Funded Projects from Govt.	Helps student to develop additional skills, also to drive their own learning	Throughout the semester	Modern tools, Programming Languages	PO5, PO9, PO11, PO12, PSO1, PSO2

Figure 6.2b: NAIN Centre

4.	Department Library	Text Books, 8thSemester Project Reports, Technical Seminar Reports	Student will make use of all the project Reports on how to document the project work and also other technical details on the project development.	Throughout the semester	Helps the student to carry out their academic project and also Non Academic Projects	PO6, PO11
						
Figure: 6.2c Library						

5.	Central Computing Centre	HCL Intel Core i5 processor, 2nd Generation 23200 @ Intel H65, 3.4 GHz, Intel chipset Motherboard, 4GB DDR3 RAM, 500 GB HDD, 18.5” LED Monitor, Keyboard, Optical Mouse DELL OptiPlex3010, Intel Core i5 3rd Generation Processor, Intel H61Express chipset MotherBoard, 4 GB DDR3 SDRAM, 500 GB HDD, 16x DVD Writer, 18.5” LED Monitor, USB Keyboard and Mouse	To practice programs, Develop Projects.	Throughout the semester	To execute any technical events or task.	PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12 , PSO1, PSO2
						
Figure 6.2d: Central Computing Centre						

6.	Seminar Hall	Fully equipped seminar hall with Computer, Projector, White Board, Fans, chairs, Microphone, Speaker	To present technical talks/ Research papers/ workshops/ Seminars/Conferences/ Technical activities/ Extracurricular activities	Through out the semester	- To bridge the gap between academic and industry curriculum. - To upgrade students to industry standard. - Extracurricular activities	PO6, PO9, PO10, PO11, PSO1, PSO2



Figure :6.2e Seminar Hall, 205 Square Meters in Area

7.	Hardware and Networking Laboratory	Spare computer hardware component, network equipments	To demonstrate and practice the assembling and disassembling of the computer and network components.	Throughout the semester	Hardware and Networking	PO5, PO9, PO10, PO11, PSO1, PSO2
						
Figure 6.2 f: Hardware & Network Lab						

Table B6.2: Additional Facilities Created

6.3	Laboratory Maintenance and overall ambiance (10)

Maintenance of Laboratory Equipment

- Suggestion Register, Student Login Register and Maintenance Register are maintained in the laboratories.
- As per the requirement minor repairs are carried out by the lab technical staff.

Overall Ambience

- Department has 04 labs which are used for all the years on timetable basis to meet the curriculum requirements
- Sufficient number of windows is available for ventilation and natural light and every lab has one exit.
- Cup-boards are available in each lab for students to place their belongings.
- Each Lab is equipped with white/black board, computer, Internet, and such other amenities.

6.4	Project Laboratory	(5)

SL. No	Name of the facilities	Utilization
1	Windows, Fedora, Red Hat Linux, Ubuntu, Android Studio, Atom, My-Sql,	By 7 th Semester students during both working and non-working Lab Ours
2	Eclipse Software, NS-2 Software, Oracle DBMS, Anaconda, My-Sql	During working Lab Ours by 5 th and 6 th semester students.
3	Microsoft Office Professional, Adobe Reader	For Documentation work by UG students

Table B6.3: Project Laboratory facilities created& Utilization

The Department of Information Science and Engineering has a project laboratory with carpet area of 111.38 Square meters equipped with basic resources, Project prototypes and software's for conduction of project works. The available facilities are given in table 6.4



Figure 6.4.1: Project Laboratory

6.5	Safety Measures in laboratories	(10)

Sl. No	Laboratory Name	Safety Measures
1	Analog & Digital Electronics Laboratory & Microcontroller & Embedded Systems Laboratory	General rules of behavior in laboratories are displayed. • Specific safety rules for students are displayed. • First aid box, Fire extinguisher is kept in the laboratory. • Avoiding the use of external devices by disabling the drives and provides needful equipment and components. • Maintain a clean and well organized laboratory. • Avoiding the use of cell phones. • Anti- virus and fire wall • All the Labs are under the surveillance of CCTV Camera
2	Machine Learning Laboratory, Network Laboratory	General rules of behavior in laboratories are displayed. • Specific safety rules for students are displayed. • First aid box, Fire extinguisher is kept in the laboratory. • Avoiding the use of external devices by disabling the drives and provides needful equipment and components. • Maintain a clean and well organized laboratory. • Avoiding the use of cell phones. • Anti- virus and fire wall • All the Labs are under the surveillance of CCTV Camera
3	Data Base Management System Laboratory &	General rules of behavior in laboratories are displayed. • Specific safety rules for students are displayed. • First aid box, Fire extinguisher is kept in the laboratory. • Avoiding the use of external devices by disabling the drives and provides needful equipment and

	File Structure Laboratory	components. • Maintain a clean and well organized laboratory. • Avoiding the use of cell phones. • Anti- virus and fire wall. • All the Labs are under the surveillance of CCTV Camera
4	Data Structure Laboratory, Design And Analysis Of Algorithms Laboratory & Web Technology And Its Application Laboratory	General rules of behavior in laboratories are displayed. • Specific safety rules for students are displayed. • First aid box, Fire extinguisher is kept in the laboratory. • Avoiding the use of external devices by disabling the drives and provides needful equipment and components. • Maintain a clean and well organized laboratory. • Avoiding the use of cell phones. • Anti- virus and fire wall. • All the Labs are under the surveillance of CCTV Camera
5	Project Laboratory	General rules of behavior in laboratories are displayed. • Specific safety rules for students are displayed. • First aid box, Fire extinguisher is kept in the laboratory. • Avoiding the use of external devices by disabling the drives and provides needful equipment and components. • Maintain a clean and well organized laboratory. • Avoiding the use of cell phones. • Anti- virus and fire wall • All the Labs are under the surveillance of CCTV Camera

Table B6.4: Safety Measures in laboratories

CRITERIA 7

Continuous Improvement

CRITERION 7	CONTINUOUS IMPROVEMENT	50

7. CONTINUOUS IMPROVEMENT (50)

7.1 Actions taken based on the results of the evaluation of each of the POs & PSOs (20)

Identify the areas of weaknesses in the program based on the analysis of evaluation of POs & PSOs attainment levels. Measures Identified and Implemented to improve POs & PSOs attainment levels for the assessment years.

Sl. No	Item	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	Target Level	2.33	2.12	2.21	1.93	2.07	1.49	1.05	1.38	1.68	2.11	2.08	2.06
2	Attainment Level	1.76	1.70	1.76	1.58	1.73	1.39	1.01	1.35	1.50	1.79	1.82	1.72

Table B7.1: POs Attainment Levels and Target levels CAY (2017 -21)

POs	TARGET LEVEL	ATTAINMENT LEVEL	OBSERVATIONS
PO1: Engineering Knowledge: To Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	2.33	1.76	Observation: Target is not attained. 24% of the gap, because of students lack of applying knowledge in some subjects.
Action 1: Students will be asked viva questions relating to the basic concepts to refresh their fundamentals in laboratory sessions. Action 2: Additional classes will be conducted beyond the regular classes for the courses which has less attainment. Action 3: Co-curricular activities are scheduled in the area of information security, cyber security, AGILE and AI & ML.			
PO2: Problem Analysis: Identity, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			
PO2	2.12	1.70	Observation: Target is not attained. 20% of the gap, because Student's analytical skills needed to enhance more to analyze complex Engineering Problems.
Action 1: Additional classes will be conducted beyond the regular classes for the courses which has less attainment. Action 2: Conduct Expert lectures, Seminars and Guest lecture to help students in identifying & analyzing the real time problems.			

PO3: Design/Development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate considerations for public health and safety, and the cultural, societal, and environmental considerations.			
PO3	2.21	1.76	Observation: Target is not attained. 20% of the gap, because of students lack in designing solutions for complex problems in the subjects like ADA, UNIX, AT&C.
Action 1: To conduct Expert lectures, workshop and hands on training session to understand process of designing and analyzing real life software problems. Action 2: Students were encouraged to participate in external inter college technical competitions, coding contests and hackathons.			
PO4: Conduct Investigations of Complex Problems: Use research-based knowledge and research methods including design of experiments, analysis, and interpretation of data, and synthesis of the information to provide valid conclusions.			
PO4	1.93	1.58	Observation: Target is not attained. 18% of the gap, Students need to be made oriented towards analysis and synthesis of results .
Action 1: National/ international conferences are scheduled to promote research culture among students.			
PO5: Modern Tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.			
PO5	2.07	1.73	Observation: Target is not attained. 16% of the gap, It is observed that students were not much aware of Modern tools as it was not in the curriculum.
Action 1: Students are motivated to register for webinars/seminars conducted by third party agencies regarding modern tool usage. Action 2: Students are taken to the industrial visits to understand the modern equipment usage in the laboratory and workshops are conducted by the experts to enhance the knowledge of students with respect to modern tools usage.			
PO6: The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.			
PO6	1.49	1.39	Observation: Target is not attained. 7% of the gap, Students are less motivated towards real-time issues with respect to health, safety, and so on.
Action 1: Students have to be exposed to various professional engineering practices followed in the industries through industrial visits. Action 2: To understand the safety concerns and social aspects, students shall visit industry to expand their practical knowledge with the effect of improved practices in engineering.			

Action 3: Students are encouraged to carry out inter domain projects so that they would realize the importance of a project involving society, safety, health, and the legalities Action 4: Students are encouraged to consider the impact of Engineering solutions on Society, Health, safety, legal and cultural issues in their mini projects and major projects.			
PO7: Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.			
PO7	1.05	1.01	Observation: Target is not attained. 04% of the gap, it is observed that students need to be motivated towards developing real-time applications.
Action 1: Students are encouraged to select the projects of global and environmental issues related for recycle, reuse and reduce the utilization of natural resources for sustainability. Action 2: Students were briefed about Environment issues in Environmental Studies Subject. Action 3: Eco-club to create awareness among the students about the environment.			
PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.			
PO8	1.38	1.35	Observation: Target is not attained. 2% of the gap, little awareness is required for Students for their commitment to professional ethics.
Action 1: Students were briefed about Ethics in subjects like CIP. Action 2: The value of ethics and responsibilities to be followed by students in their professional life are suggested by industrial experts. Action 3: Projects/ mini projects will be scrutinized, code reviews will be conducted, and plagiarism check will be done to determine the originality of the project to ensure professional ethics.			
PO9: Individual and Teamwork: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.			
PO9	1.68	1.50	Observation: Target is not attained. 11% of gaps, Students are motivated effectively as an individual and as team leaders.
Action 1: Students will be encouraged to participate in various co-curricular and extra-curricular activities in other colleges/sports activities/cultural activities. Action 2: Students are encouraged to participate in Inter Collegiate Cultural Fest(SAMBRAMA). Action 3: Students were encouraged to participate in external inter college technical competitions, coding contests and hackathons. Action 4: Department encourages formation of student clubs, participation in technical events/Business ideas/ app development.			
PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
PO10	2.11	1.79	Observation: Target is not attained. 15% of the gap, because the variety of students got admitted from a

			rural background and regional language medium were found.
Action 1: To enhance the employability skills of the students, training programs will be conducted on the topics: how to face the interview, career development, higher studies, and entrepreneurship development. Action 2: Students were encouraged to give seminars from the 2nd year itself on current trends in technology advised speaking in English while communicating with everyone. Action 3: The training and Placement department conduct soft skills training to improve Communication.			
PO11: Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
PO11	2.08	1.82	Observation: Target is not attained. 13% of the gap, few subjects like SE, M&E, OR, address Project Management and Finance.
Action 1: Students are encouraged to prepare project proposals with the guidance of faculty for funding agencies. Action 2: Organize Industrial visits to enhance the knowledge.			
PO12: Life-long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
PO12	2.06	1.72	Observation: Target is not attained. 17% of the gap, because there is a need for preparing the students for continuous learning.
Action 1: Students are guided for higher studies in the research field, which enhances the lifelong learning knowledge of the students. Extra inputs are given to the students for the future expansion of their knowledge by software experts. Action 2: Students are encouraged to take up online certification courses in current information technology trends.			

Table B7.2: POs Actions for improvement in the year CAY (2017 -21)

SL. NO	ITEM	PSO1	PSO2
1	Target Level	2.05	1.91
2	Attainment Level	1.67	1.55

Table B7.3: PSOs Attainment Level and Target level (2017 -21)

PSO1: Apply the Knowledge of Data Structures, Data Base Systems, System Programming, Networking, Web Development, and AI & ML Techniques in Engineering the Software.			
PSO1	2.05	1.67	Observation: Target is not attained. 19% of the gap, it is observed that new programming skills and technologies need to be strengthened.
Action 1: Extra efforts will be made to understand the codes used for the analysis and design of structures pertaining to the courses. Action 2: To strengthen the domain knowledge and make them job ready graduates, Department is planning to introduce more number of certification courses and encouraged to attend technical workshops.			

Action 3: Additional classes will be conducted to the students, which enable them to apply fundamentals of programming for advanced analysis of complex Information Science Engineering related problems.			
PSO2: Exhibit solid foundations and advancements in developing Software/Hardware systems for solving contemporary problems.			
PSO2	1.91	1.55	Observation: Target is not attained 19% of the gap, Motivation for creative thinking and to apply their skills is lacking.
Action 1: Students are encouraged to carryout projects to enhance advancements in developing Software/Hardware systems. Action 2: Students are motivated to do case studies of contemporary IT solutions for real time problems.			

Table B7.4: PSO'S Attainment level and Actions for improvement (2017 -21)

7.2. Academic Audit and actions are taken there during the period of Assessment (10)

The Departments of SJCIT are the backbone where trifocal activities such as teaching, research, and consultancy services. An academic audit reviews the processes and procedures used by departments to enhance the quality of their Programs in terms of Program Educational Objectives and ensure Program Outcomes (Graduate Attributes) as defined by NBA are achieved against the stipulated targets for which standard practices and processes need to be put in place.

Objective: The primary unit of academic audit is the Department/Program. The main objective of an academic audit is to ascertain departments that have put in place adequate and effective quality assurance mechanisms in terms of strategies, procedures, that ensures quality inputs and consequently quality outputs, their agility in ensuring continuous improvements along with the review of available resources, their optimal utilization, additional resource requirements for providing quality education.

SJCIT- IQAC

The institution has established an Internal Quality Assurance Cell (SJCIT-IQAC) during 2017-18 in order to conduct the academic audits. The SJCIT-IQAC has put in place an institute-wide academic quality management framework to gather evidence-based information on the quality of its programs and graduates and to encourage a culture of continuous self-improvement through self-reflection of processes and best practices of Programme through Academic Audits. The CO, PO, and PSO attainments computed are the quality indicators used in the academic audit of the institution. The Management through the IQAC coordinator will decide the main guidelines of academic audit indicating a special reference to investigation to be made about the various practices being followed by the departments. The emphasis would remain on teaching, research and services. All attempts will be made to ensure that continuous growth of all major parameters related to the quality of education is achieved. The achievement with specific reference to the plan of action related to PEOs and POs/PSOs will be monitored. The IQAC coordinator has authorized SJCIT-IQAC to conduct the audit and collect information through various records that may include the following:

- Department action plan and targets
- Minutes of departmental meetings of various committees
- Record of content delivery through lectures, practical, etc. and
- Result analysis semester (three years) of courses in relation to set targets.
- Results and interpretation of indirect assessment
- Corrective action envisaged
- Recommendations of department Advisory Committee
- Any other evidential material

Roles of SJCIT- IQAC

1. To develop strategies to improve quality.
2. To set quality performance indicators in Teaching, Research and Administration pertaining to departments/programs and other units of the Institution.
3. To develop strategies to evaluate quality performance indicators
 - a) To evolve and implement self-evaluation proforma for faculty members
 - b) To evolve and implement stakeholders' feedback assessment
 - c) To facilitate periodic academic and administrative audit

Requirements

- Involvement of all the stakeholders to evaluate the set quality performance indicators.
- Feedback collection, analysis, and dissemination of relevant information citing concerns where improvement measures should be taken.
- Facilitate accreditation and review processes involving external agencies- NBA/NAAC

Entities Involved in Continuous Improvement:

Faculty, Course Coordinators, Program Coordinators, HoD, Department Advisory Board, College Advisory Board.

Documents to be submitted for Audit:

The following records of the faculty members are verified during the internal academic audit.

- 1) Calendar of Events
- 2) Appointment order

- 3) Copy of marks cards and degree
- 4) Time Table
- 5) Syllabus
- 6) Lesson Plan
- 7) Lecture notes
- 8) Attendance Register
- 9) Teachers Work Diary
- 10) Assignment Questions
- 11) Question Bank
- 12) Internal Question Paper and Scheme of Evaluation
- 13) Internal Test Marks
- 14) Previous Year Question Papers
- 15) Special Class Records (if conducted)
- 16) Teacher- Appraisal Feedback
- 17) Exam Related Work
- 18) UG/PG Projects guided
- 19) Project Proposals submitted
- 20) Contents beyond Syllabus
- 21) FDPs/STTPs attended or organized
- 22) CO-PO Matrix and COs attainment Levels

In addition, the following parameters are audited with respect to each department.

- Teaching, Learning Process:
 - a) Lesson Plan, Lecture notes Result Analysis & Evaluation
 - b) Counselling& Mentoring
 - c) Co-curricular activities: Seminar/Conference/workshop/Guest Lecture conducted and attended
 - d) Research Activities: Publications
 - e) Value Added Programs

- Results, Placements, Internships, R&D Projects and Higher Studies Statistics

Process:

- Defining intended Course and Program Outcomes
- Identifying Curricular Gaps and strategy (actions) to bridge the gaps
- Designing effective teaching-learning processes
- Developing evaluation schemes for assessment of COs and POs
- Analyzing the attainment levels of COs and POs
- Reviewing of the COs, Pos, and PEOs
- Assuring implementation of quality education along with other activities such as research and services, co-curricular and extracurricular to support attainment of POs

Approach

The institution has formed various committees for the conduct and review of activities related to academic audits at the institution and department levels. The composition and functions of these committees are as follows:

1. Institution level Academic Audit / Advisory Board (Internal):

Chairman: Dr.G.T Raju, Principal
Management Representative/Director
Convener: Principal
Dean - Academic
Dean – Research and Development
Dean - Quality Assurance
External Expert – Academia / Industry

Functions

- Contribute to preparation of SAR especially information related to institutional and finance.
- Seek timeline and action plan from each department for Direct and Indirect assessment of COs and POs and ensure their compliance.
- Interact with employers/industries/alumni for requirements analysis.
- Conduct analysis of results and attainment of COs, Pos, and PSOs for all Departments.
- Taking corrective actions and additional inputs for meeting COs/POs/PSOs.
- Assessment and revision of COs/PEOs } Review of Departmental Vision and Mission statements.
- Present the analysis of all departments to the BOM/Management.
- Develop a faculty appraisal system and assess faculty performance annually, report to BOM (Board of Management).

Frequency of Meetings

The committee shall meet once a month, with an agenda and action were taken record.

2. Institution level Academic Audit / Advisory Board (External):

Chairman: Dr. G.T Raju, Principal

Management Representative/Director

Convener: Principal

Members:

Two External Experts – Academia / Industry preferably retired professors from IISc, IIT, IIIT-B, or NIT with sufficient academic and administrative background.

VTU Nominee

Functions

- Assessment on institutional achievements and giving corrective actions for meeting POs, PEOs, and Mission.
- Review of Institutional Vision and Mission statements.

Frequency of Meetings

The committee shall meet once a year, with an agenda and action were taken record.

3. Department Level Committees**a. Department Advisory Board :(DAB)**

Composition:

Chairman: HOD

Convener: Program Coordinator

Members:

Faculty

Current Students

Alumni, Parents

Employers

External Expert – Academia/Industry/Professional Society.

Functions

- Review on assessment of Course Outcomes and their relationship with POs/PSOs.
- Validating the actions for continuous improvements of COs, POs, and PEOs.
- Review on COs, PEOs, and Mission statements.
- Presenting the report to IQAC with resource and academic requirements.

b. Program Assessment Committee (PAC):

Composition:

Chairman: HoD

Convener: Program Coordinator

Members: Course Coordinators 2 or 3 Senior and Junior Faculty member

(Professors, Associate Professors, Assistant Professors)

Faculty from Other Department

External Expert – Academia/Industry/Professional Society

Functions

- Prepare and finalize the COs, PSOs, and PEOs in line with the Mission and record the process of development of COs, PSOs, and PEOs.
- Assessment of COs, POs, and PSOs.
- Recommendations and suggestions to come out with implementable actions for continuous improvements of COs, POs, PSOs, and PEOs.
- Conduct assessment of curriculum and resources available to meet the developed COs, PEOs and PSOs, decide additional course contents, electives to bridge the gaps and inform the shortfalls in resources to the Institutional Committee which will evaluate the needs and present the additional requirement to the management.
- Conduct assessment of placement record for ensuring PEOs attainments or revision if required.
- Supervises the COs and their alignment to POs, assignments, tests, quiz, activities, Bloom's Taxonomy, and ensures targets set by faculty are realistic.
- Develop common Performance Indicators for respective Courses aligned to the PO and ensures the faculty development activities, tests, quiz, assignments related to the common performance indicators as well as for their course-specific indicators.
- Monitors progress periodically.
- Develop a description of the process with questionnaires and tools required for continuous assessment.
- Develop faculty self-appraisal questionnaire and student feedback questionnaire.
- Decide the frequency of assessment of POs – internal and external.
- Obtain COs from respective faculty for concerned PO along with their alignment with PO, Bloom's Taxonomy, and target of expected achievements.

- For direct assessment collects the student results for respective courses aligned to the PO and analyze the average achievement of performance.
- Hold discussions with concerned faculty on shortfalls for the achievement of pre-set targets.
- Collects recommendations for improvements.
- Prepare and conduct an indirect assessment and prepare the report.
- Record the results and presents them to the IQAC on direct and indirect assessment.
- Maintain statistics and update on website.

Frequency of Meetings

The committee shall meet once a month/semester/year, with an agenda and action taken record.

Reporting:

The purpose of the academic audit is not judgmental but to cause development to happen. The SJCIT-IQAC prepares a report that describes the strengths and weaknesses of each department's efforts to improve the academic quality of their programs and identifies plans for improvements. The main components of the report would be:

- Recognition of Good practices
- Recognition of well-performing departments
- Recommendations for improvements

The audit report is presented to the Management and made available to the departments to respond to the issues raised in the report. The responses of the departments are going to be part of the final audit report.

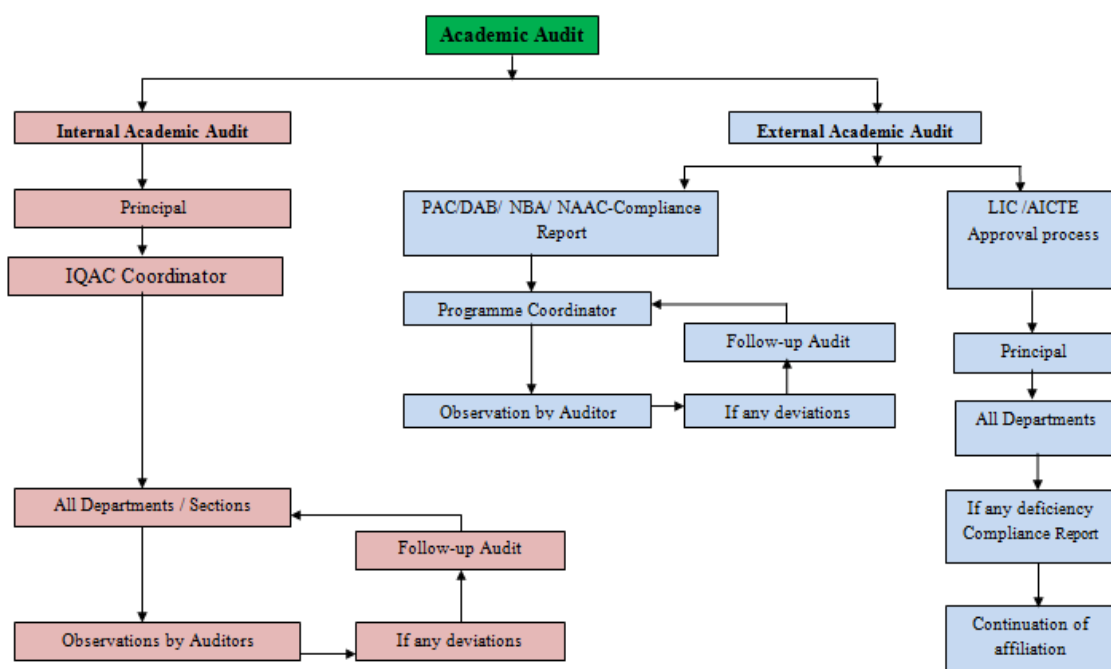


Figure 7.2.1 Academic Audit Process

GAP Analysis and Actions initiated for the attainment of POs and PSOs.

Steps:

1. Target and Attained levels of each subject for each PO is the basis for Gap analysis
2. Average of attained levels called Average Attainment Level (AAL) is computed for each PO. Based on the AAL, we categorize the subjects that are contributing to the attainment of POs. Subjects whose attainment level is below the AAL are considered to be the ones contributing to the non-attainment of that PO. Again average attainment levels of these subjects for that PO is calculated. Finally, subjects whose attainment level is above the average attainment levels are considered to be the one's contributing a lot to the non-attainment of that PO.
3. Identify the subjects that are not contributing much to the attainment of POs as per step 2.
4. Program Assessment Committee would inform the concerned faculty and course coordinator to initiate the actions to reduce the gap.
5. PAC would also bring this to the notice of DAB and SJCIT-IQAC.
6. Strict follow-up in this process is ensured by PAC and IQAC.

Example: For PO1 of [2017-2021] Batch:

Target: 2.42

Average Attainment Level (AAL): 2.20

Average Attainment = $2.20/2.42 * 100 = 90.90\%$

For the Subject 17MAT11: Attainment Percentage = $(2.11 / 2.11) * 100 = 100\%$

Now the difference (Average Attainment – Attainment of Subject) is calculated. i.e., $(100 - 100) = 0$ difference, and hence 17MAT11 has not attained PO1 and missed the target marginally.

The average of the difference of all subjects for each PO and PSO is calculated.

Each subject difference percentage is compared with this average difference and finally, if each subject difference percentage is greater than the average difference then finally that subject has not attained the target.

Similarly, for all the POs and subjects we calculate the AAL and find out the subjects that are really contributing for to non-attainment of POs.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
2015-19 (T)	2.50	2.29	2.22	1.89	2.24	1.93	2.00	2.42	1.97	1.98	2.06	2.27	2.36	1.94
2015-19 (A)	1.86	1.78	1.76	1.54	1.72	1.68	1.98	2.07	1.75	1.72	1.79	1.85	1.83	1.59
2016-20 (T)	2.57	2.30	2.24	1.99	2.10	2.17	2.50	2.28	2.29	2.44	2.36	2.21	2.37	1.90
2016-20 (A)	1.93	1.81	1.80	1.64	1.85	1.76	2.22	2.08	2.03	2.08	2.17	1.80	1.84	1.56
2017-21 (T)	2.33	2.12	2.21	1.93	2.07	1.49	1.05	1.38	1.68	2.11	2.08	2.06	2.05	1.91
2017-21 (A)	1.76	1.70	1.76	1.58	1.73	1.39	1.01	1.35	1.50	1.79	1.82	1.72	1.67	1.55

Table B7.5: Target and Attainment of PO1

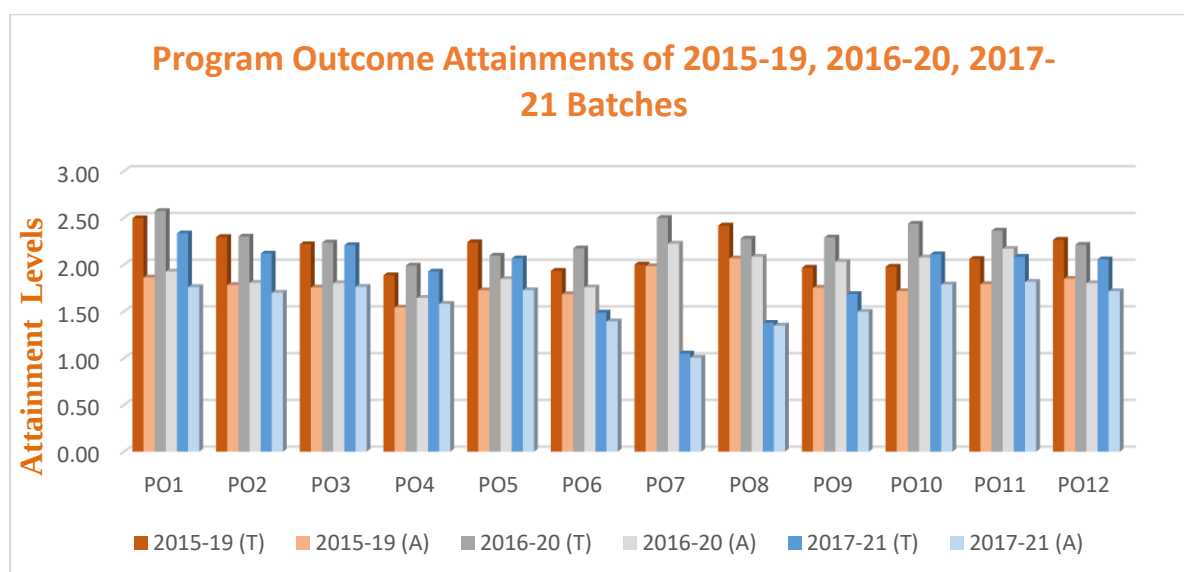


Figure 7.2.2: PO Attainment 2017-21, 2016-20, 2015-19 batches

SUBJECT	TARGET PO1	ATTAINED PO1	ATTAINMENT PERCENTAGE	PO1-Y/N	DIFFERENCE
17MAT11	2.11	2.11	100	Y	
17PHY12/22	2.00	2.00	100	Y	
17CHE12/22	1.11	1.11	100	Y	
17CIV13/23	2.10	2.10	100	Y	

17PCD13/23	2.05	2.05	100	Y	
17EME14/24	3.00	3.00	100	Y	
17CED14/24	3.00	3.00	100	Y	
17ELE15/25	2.00	2.00	100	Y	
17ELN15 /25	1.94	1.94	100	Y	
17WSL16/26	3.00	3.00	100	Y	
17CPL 16 /26	1.60	1.60	100	Y	
17PHYL17 /27	3.00	3.00	100	Y	
17CHEL17/27	1.68	1.68	100	Y	
17MAT22	2.00	2.00	100	Y	
17CIV18/28	3.00	3.00	100	Y	
17MAT31	2.20	2.01	91.3	N	8.6
17CS32	2.50	1.63	65.2	N	34.8
17CS33	2.83	1.68	59.3	N	40.7
17CS34	3.00	1.83	61.0	N	39.0
17CS35	1.50	1.76	100	Y	
17CS36	3.00	1.52	50.0	N	50
17CSL37	2.67	2.60	97.3	N	2.7
17CSL38	2.83	2.30	81.2	N	18.8
17MAT41	2.20	2.06	93.6	N	6.4
17CS42	2.33	1.57	67.4	N	32.6
17CS43	2.67	1.61	60.2	N	39.8
17CS44	3.00	1.60	53.33	N	46.7
17CS45	1.83	1.49	81.4	N	18.6
17CS46	2.83	1.75	67.8	N	32.4
17CSL47	2.83	2.63	92.9	N	7.2
17CSL48	3.00	2.33	77.6	N	22.4
17CS51	1.17	2.06	100	Y	
17CS52	2.40	1.58	65.8	N	34.2
17CS53	1.83	1.33	72.6	N	27.4
17CS54	2.17	1.65	76.0	N	23.9
17CS553	2.67	2.18	81.6	N	18.3
17CS564	2.00	1.73	86.5	N	13.5
17CS565	2.33	1.19	51.0	N	49.0
17CSL57	2.00	2.30	100	Y	
17CSL58	2.67	2.90	100	Y	
17CS61	1.67	2.50	100	Y	
17IS62	2.00	2.28	100	Y	
17IS63	2.33	2.56	100	Y	
17CS64	1.00	2.63	100	Y	
17CS651	3.00	2.72	91.0	N	9.0
17CS653	2.20	2.32	100	Y	
17CS664	1.67	2.17	100	Y	

17ISL67	3.00	2.90	97.0	N	3.0
17ISL68	2.17	2.66	100	Y	
17CS71	3.00	1.45	48.0	N	51.0
17IS72	2.67	2.24	83.8	N	16.1
17CS73	2.00	2.05	100	Y	
17CS742	3.00	2.03	67.7	N	32.3
17CS743	2.33	2.69	100	Y	
17CS754	2.00	2.15	100	Y	
17CSL76	2.17	2.93	100	Y	
17CSL77	2.50	2.82	100	Y	
17CS81	2.17	2.17	100	Y	
17CS82	2.17	2.17	100	Y	
17IS832	3.00	3.00	100	Y	
17CS834	1.33	1.33	100	Y	
17CS84	2.33	2.33	100	Y	
17CSP85	2.17	2.17	100	Y	
17CSS86	2.00	2.00	100	Y	

Table B7.6: Target and Attainment of PO1

Target Average PO1	2.23
Final Attainment Average	2.10
Average Target Attained	89.38%

Table B7.7: Average Target and Attainment of PO1

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
17MAT31	17PCD13	17PCD13	17PCD13	17MAT31	17CS45	17CS45	17CS33	17CS33	17CS32	17CS32	17PCD13	17CS32	17PCD13
17CS32	17MAT21	17MAT31	17MAT31	17CS32	17CS51	17CS52	17CS45	17CS42	17CS34	17CSL38	17CS32	17CS33	17CPL16
17CS33	17CS32	17CS32	17CS32	17CS33	17CS52	17CS53	17CS51	17CS45	17CSL38	17CS45	17CS33	17CS34	17CS32
17CS34	17CS33	17CS33	17CS33	17CS35	17CS562	17CS54	17CS53	17CS51	17CS44	17CSL48	17CS34	17CS35	17CS33
17CS36	17CS34	17CS34	17CS34	17CS41	17CS834		17CS553	17CS53	17CS45	17CS51	17CS35	17CS36	17CS34
17CSL37	17CS35	17CS35	17CS36	17CS42			17CS62	17CS553	17CS51	17CS553	17CS36	17CS42	17CS36
17CSL38	17CS36	17CS36	17CS41	17CS45					17CS565	17CS562	17CS42	17CS43	17CS42
17MAT41	17CS41	17CS41	17CS42	17CS46					17CS73	17CS565	17CS43	17CS44	17CS43
17CS42	17CS42	17CS42	17CS43	17CS52					17CS81	17CS664	17CS44	17CS45	17CS44
17CS43	17CS43	17CS43	17CS44	17CS53							17CS45	17CS46	17CS46
17CS44	17CS44	17CS44	17CS45	17CS553							17CS51	17CS53	17CS52
17CS45	17CS45	17CS45	17CS46	17CS562							17CS52	17CS54	17CS53
17CS46	17CS46	17CS46	17CS52	17CS565							17CS53	17CS562	17CS54
17CSL47	17CS52	17CS52	17CS53	17CS664							17CS54	17CS565	17CS562
17CSL48	17CS53	17CS53	17CS54	17CS73							17CS553	17CS664	17CS565
17CS52	17CS54	17CS54	17CS562	17CS742							17CS562	17CS71	17CS71
17CS53	17CS562	17CS562	17CS565	17CS834							17CS664	17CS73	17CS742
17CS54	17CS565	17CS565	17CS653								17CS73	17CS742	17CS834
17CS553	17CS71	17CS71	17CS73								17CS742	17CS754	
17CS564	17CS73	17CS73	17CS742								17CS754	17CS834	
17CS565	17CS742	17CS742	17CS834										
17CS651	17CS834	17CS754											
17ISL67		17CS834											
17CS71													
17IS72													
17CS742													
26	22	23	21	17	05	04	06	06	09	09	20	20	18

Table B7.8: List of subjects not attained POs and PSOs for [2017-2021] Batch

Actions are taken in order to complete the gap:

Based on the feedback/suggestions given by the PAC and the Course Coordinators and Subject Lead, the faculty of the concerned subject may execute some of the following steps that are appropriate for the subject in order to reduce the gap.

1. Additional learning materials prepared and distributed to students
2. Assignments may be given to slow learners to improve their understanding.
3. Solving all the examination and exercise problems in the class itself
4. Encouraging students to take up mini-projects wherever possible enabling them to work in a team.
5. Arranging Technical talks / Seminars on specialized topics by experts from academia / industry.
6. Participating in FDPs for better understanding and update of subject knowledge.
7. Taking special/extra classes for weaker students.
8. Conducting presentations/exhibitions to motivate students
9. Conducting workshops for students to improve their skills.
10. Encouraging students to prepare reports on the practicing projects and mini- projects in order to improve their communication and presentation skills.

7.3 Improvement in Placement, Higher Studies, and Entrepreneurship (10)

Assessment is based on improvement in:

- **Placement:** Number, quality placement, core industry, pay packages etc.
- **Higher studies:** performance in GATE, GRE, GMAT, CAT etc., and admissions in premier Institutions.

Item	LYG (2016-17)	LYGm1 (2015-16)	LYGm2 (2014-15)
Total No. of Final Year Students (N)	87	105	71
No. of Students placed in companies or Government Sector (x)	72	69	47
No. of students admitted to higher studies with valid qualifying score (GATE or equivalent state or National level Tests, GRE, GMAT etc.) (y)	6	5	3
No. of students turned entrepreneur in engineering/technology (z)	00	00	00
$x + y + z =$	78	74	50
Placement Index: $(x + y + z) / N$	0.90	0.70	0.70
Average placement = $(P1 + P2 + P3) / 3$	0.77		

Table B7.9: Placement, Higher Studies and Entrepreneurship

Year of Passed out	Total Number of Final Year Students	Number of Students Placed
2020-21	87	72
2019-20	105	69
2018-19	71	47

Table B7.10: Placement Details

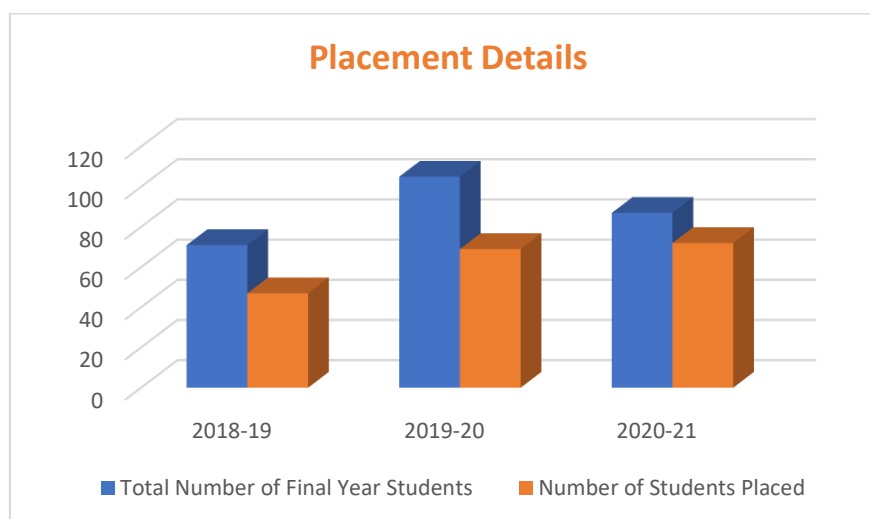


Figure 7.3.1: Placement Details

Year of Passed out	Number of Students admitted for Higher Studies
2020-21	06
2019-20	05
2018-19	03

Table B7.11: Higher Studies Information

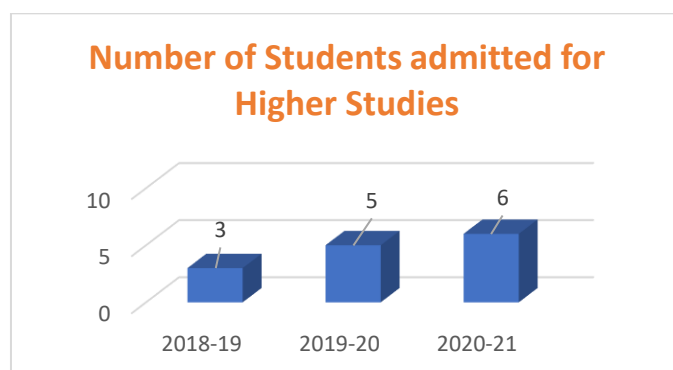


Figure 7.3.2: Higher Studies Information

7.4 Improvements in the quality of Students admitted to the program (10)

- Assessment is based on improvement in terms of rank/score in qualifying state level /national level entrance tests, percentage marks in physics, chemistry and mathematics in 12th standard, and percentage marks of the lateral entry studies.

Item		CAY 2020-21	CAYm1 2019-20	CAY m2 2018-19
National level entrance Examination (Name of the entrance examination COMED-K)	Number of students admitted	-	-	-
	Opening Score / Rank	-	-	-
	Closing Score / Rank	-	-	-
State/university/level entrance Examinations/others (Name of the entrance examination CET)	Number of the students admitted	57	52	80
	Opening Score/Rank(GM)	21160	30134	28608
	Closing Rank (GM)	110323	111908	58717
Name of the entrance examination lateral entry or Diploma CET	Number of students admitted	--	--	02
	Opening Score/Rank(GM)	--	8977	3925
	Closing Rank(GM)	--	8977	8520
Average CBSE /any other board result of admitted students (physics, chemistry and mathematics)		76.38%	74.12%	74.76%

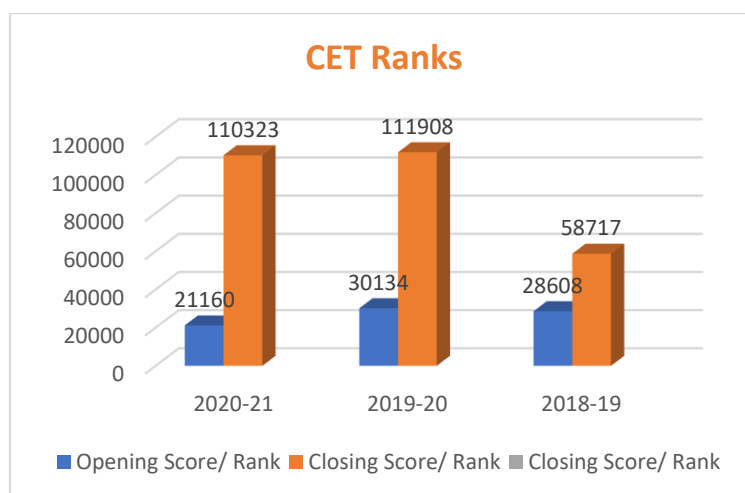
Table B7.12: Quality of Students admitted to the program

a). National Level Entrance Examination (COMED-K)

Year	Opening Score/ Rank	Closing Score/ Rank	Number of Students Admitted
2020-21	NIL	NIL	NIL
2019-20	NIL	NIL	NIL
2018-19	NIL	NIL	NIL

Table B7.13: COMED-K Admission Information**b). State/University Level Entrance Examinations/others (CET)**

Year	Opening Score/ Rank	Closing Score/ Rank	Number of Students Admitted
2020-21	21160	110323	57
2019-20	30134	111908	52
2018-19	28608	58717	80

Table B7.14: CET Admission Information**Figure 7.4.1: CET Ranks.****c). Entrance Examination for Lateral Entry or Lateral Entry details (Diploma CET)**

Year	Opening Score/Rank	Closing Score/Rank	Number of Students
2020-21	--	--	--
2019-20	--	--	--
2018-19	3925	8520	02

Table B7.15: Diploma Admission Information

e) Over All Continuous Improvement of the Department

Program Outcome Attainments of 2015-19, 2016-20, 2017-21 Batches

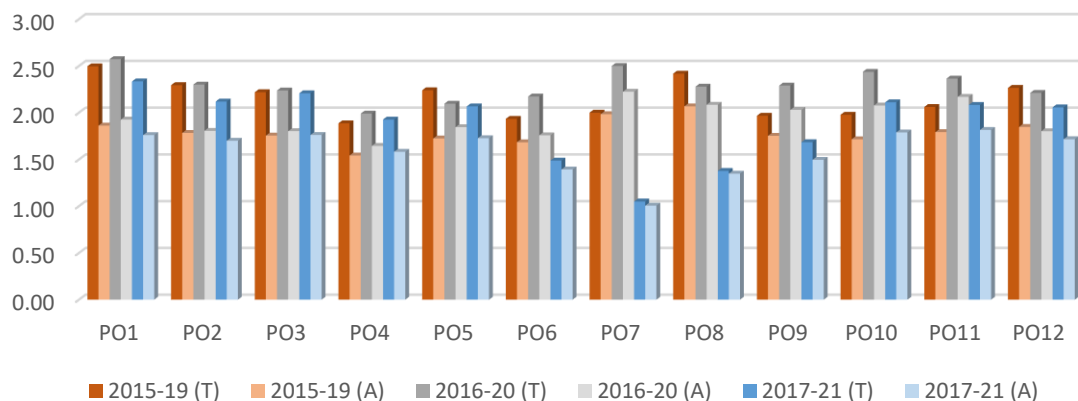


Figure 7.4.2: PO Attainment 2017-21, 2016-20, 2015-19 batches

Placement Details

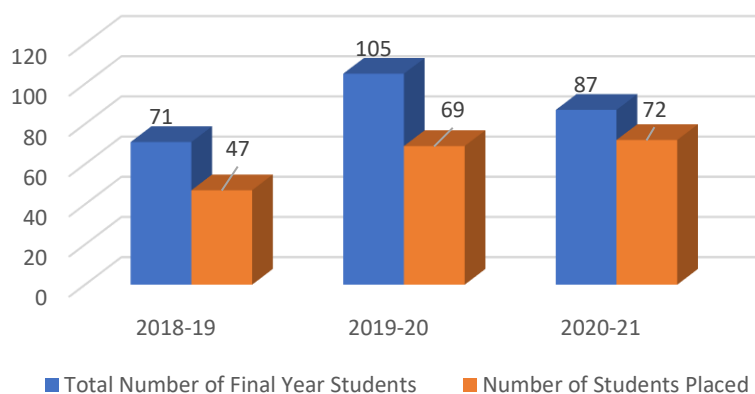


Figure 7.4.3: Placement Details

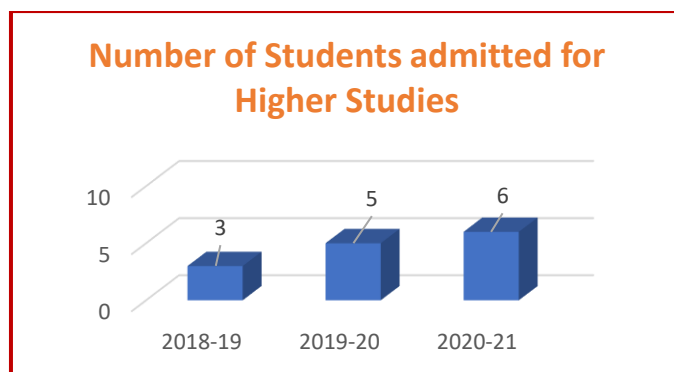


Figure 7.4.4: Higher Studies Information

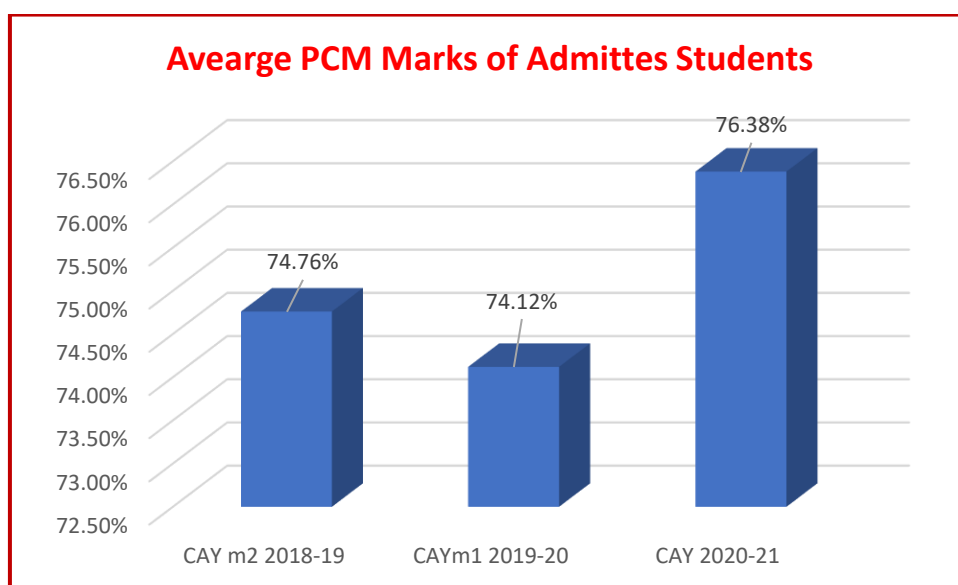


Figure 7.4.5: Quality of Students Admitted to The Program

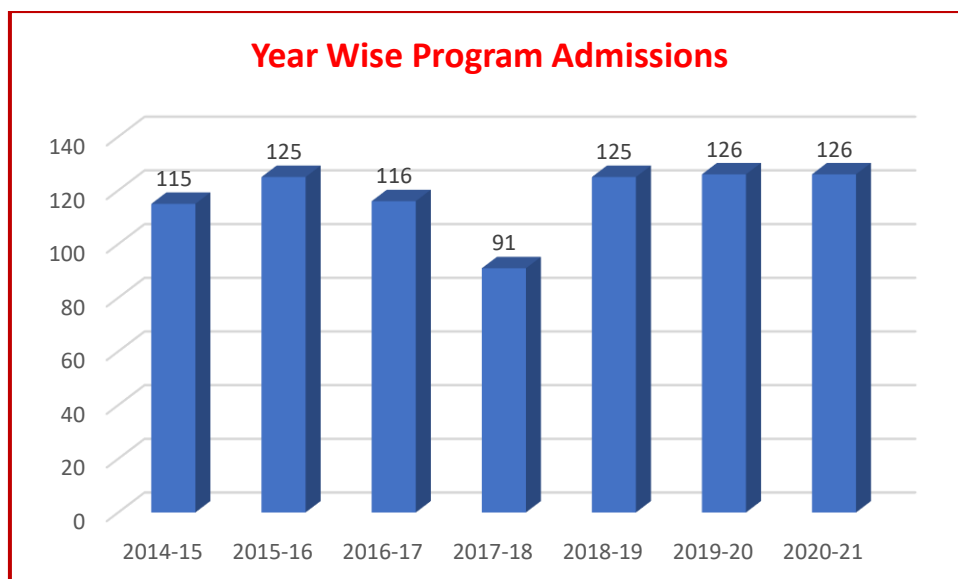


Figure 7.4.6: Year Wise Program Admissions

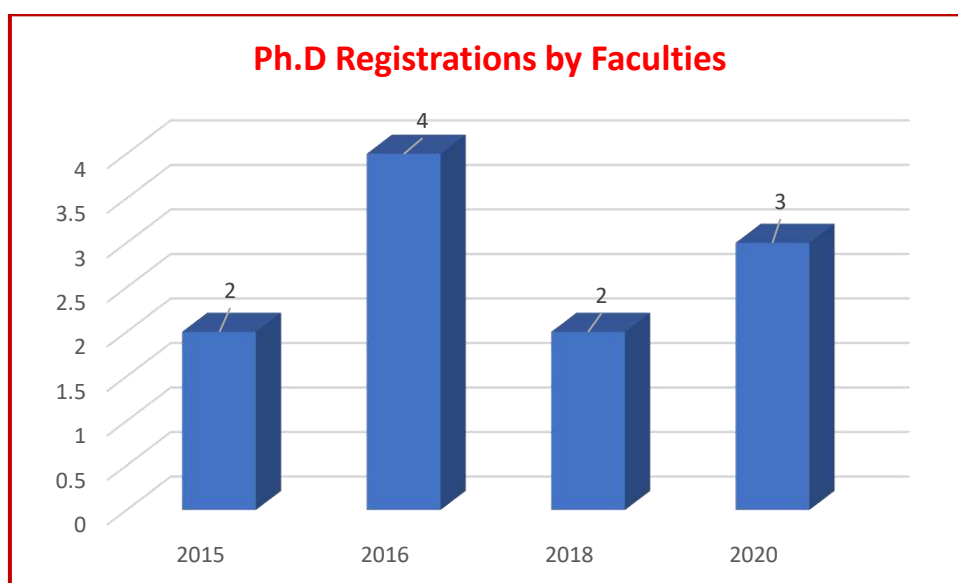


Figure 7.4.7: Ph. D Registrations by Faculties

PART B

Institute Level Criteria

CRITERIA 8

First Year Academics

CRITERION 8	First Year Academics	50

8. FIRST YEAR ACADEMICS (50)

8.1 First year Student-Faculty Ratio (FYSFR) (5)

The data related to first year courses namely number of students, number of faculty and the first year student's faculty ratio given in table 8.1.

Year	Number of Students (Approved Intake Strength)	Number of Faculty Members (Considering fractional load)	FYSFR	Assessment= (5 x20)/ FYSFR (Limited to Max. 5)
CAY (2020-21)	840	42	20	5
CAYm1(2019-20)	840	42	20	5
CAYm2(2018-19)	720	38	19.0	5
Average	800	40	19.0	5
Average assessment				5.0

Table. 8.1: First Year Student's Faculty Ratio

8.2. Qualification of Faculty Teaching First Year Common Courses (5)

Assessment of qualification = $(5x + 3y)/RF$, x= Number of Regular Faculty with Ph. D, y = Number of Regular Faculty with Post-graduate qualification RF= Number of faculty members required as per SFR of 20:1.

The qualification details of faculties who are involved in handling first year common courses are given in table 8.2.

Year	X	Y	RF	Assessment of faculty qualification (5x + 3y)/RF
2020-21 (CAY)	6	36	42	3.23

2019-20 (CAYm1)	5	37	42	3.38
2018-19 (CAYm2)	6	32	36	3.44
Average Assessment			3.35	

Table 8.2: Qualification of Faculty Teaching First Year**8.3. First year Academic Performance (10)**

Academic Performance = ((Mean of 1stYear Grade Point Average of all successful Students on a 10-point scale) or (Mean of the percentage of marks in First Year of all successful students/10)) x (number of successful students/number of students appeared in the examination)

Successful students are those who are permitted to proceed to the second year.

Formula used for evaluating academic performance is shown in the below example.

Academic Performance = (Mean of the percentage of marks in First Year of all successful students/10)) x (number of successful students/number of students appeared in the examination)

First year academic performance for the three assessment years are presented in the below table.B.8.3.

Academic Year	Branch	Appeared for Examination	No. Successful Students	Mean of the percentage of marks in First Year of all successful students	API	Average API
2019-20	Information Science & Engineering.	126	121	7.88	7.57	7.30
2018-19		125	121	6.90	6.68	
2017-18		89	81	7.10	6.46	

Table .8.3 First Year Students Academic Performance for the year 2019-20,2018-19,2017-18**8.4. Attainment of Course Outcomes of first year courses (10)****8.4.1. Describe the assessment processes used to gather the data upon which the evaluation of Course Outcome of first year is done. (5)**

The various assessment methods used to gather the data, upon which the evaluation of Course Outcomes of first year is done are as follows. The course outcomes are defined by

faculty. The course contents are delivered both at theory and lab classes. Course Outcome (CO) & Semester End Examination (SEE) targets are fixed for various courses at the department level, based on the earlier performance of the students in the semester end examination. The Evaluation of the students' performance is done through Internal Assessment. In case of theory courses, three Internal Assessment tests are conducted, namely Internal Assessment – 1, Internal Assessment - 2, Internal Assessment - 3 and then the average of three Internal Assessment with Assignment marks are considered for course attainment evaluation. However, in case of lab courses, assessment is done based upon continuous evaluation, which include conduction of experiments, lab record, viva – voce and lab Internal Assessment.

If Attainment % is $\geq$ CO Target in Internal Assessment test & Attainment % is $\geq$ CO Target in Semester End Examination target is met, then the final course attainment level is calculated giving 40% weightage to marks in Internal Assessment test (theory or lab) and 60% weightage to marks in Semester End Examination.

. If the set target is not attained, action plan will be prepared for the next academic period. Under the action plan various academic activities will be proposed and implemented to achieve set targets.

Assessment tools are categorized into two methods to assess the course outcomes as:

1. Direct method

2. Indirect method

1. Direct methods: The student's knowledge and skills from their performance in the continuous internal assessment tests, semester examinations, seminars, class room and laboratory assignments etc. These methods provide a sampling of what students know and/or can do and provide strong evidence of student learning.

2. Indirect methods: surveys on students learning. They assess opinions or thoughts about the course knowledge or skills and their valued by different stakeholders.

The following table 8.4.1 shows the Direct and Indirect Assessment methods for CO attainment.

Direct Assessment Methods			
Sl. No	Assessment Method	Description	Frequency
1	Internal Assessment Test(IA)	Internal tests are conducted for 30 marks for 2017 scheme & 40 marks for 2018 scheme by covering the course syllabus.	Three times in a semester as per the schedule

2	Semester End Examinations(SEE)	University will be conducting semester end exam as follows • 60 Marks for 2017 scheme • 100 Marks for 2018 scheme	End of the Semester
3	Lab Assessment(Internal)	Lab internals are conducted for 10 marks for 2017 scheme and 25 marks for 2018 scheme by covering the course experiments. Evaluation of lab record is as follows • 30 marks for 2017 scheme • 40 marks for 2018 scheme	• Lab Record Evaluation-Weekly • Lab Internal - once per Semester (End of each semester)
4	Practical examinations	As per the university guidelines Lab externals are conducted for 60 marks for 2017 scheme & 100 marks for 2018 scheme by covering the course experiments.	End of the Semester
5	Assignment (Applicable only for CBCS scheme)	Students are assigned with questions relevant to courses and will be evaluated for 10 marks for the 2017 & 2018 scheme.	As per the subject requirement
Indirect Assessment Method			
6	Course Exit Survey	Collecting variety of information about course content delivery from the student end.	End of the semester

Table.8.4.1 Direct and Indirect Assessment methods

The following Flow chart 8.4.1 depicts the process followed for CO attainment using both the assessment methods.

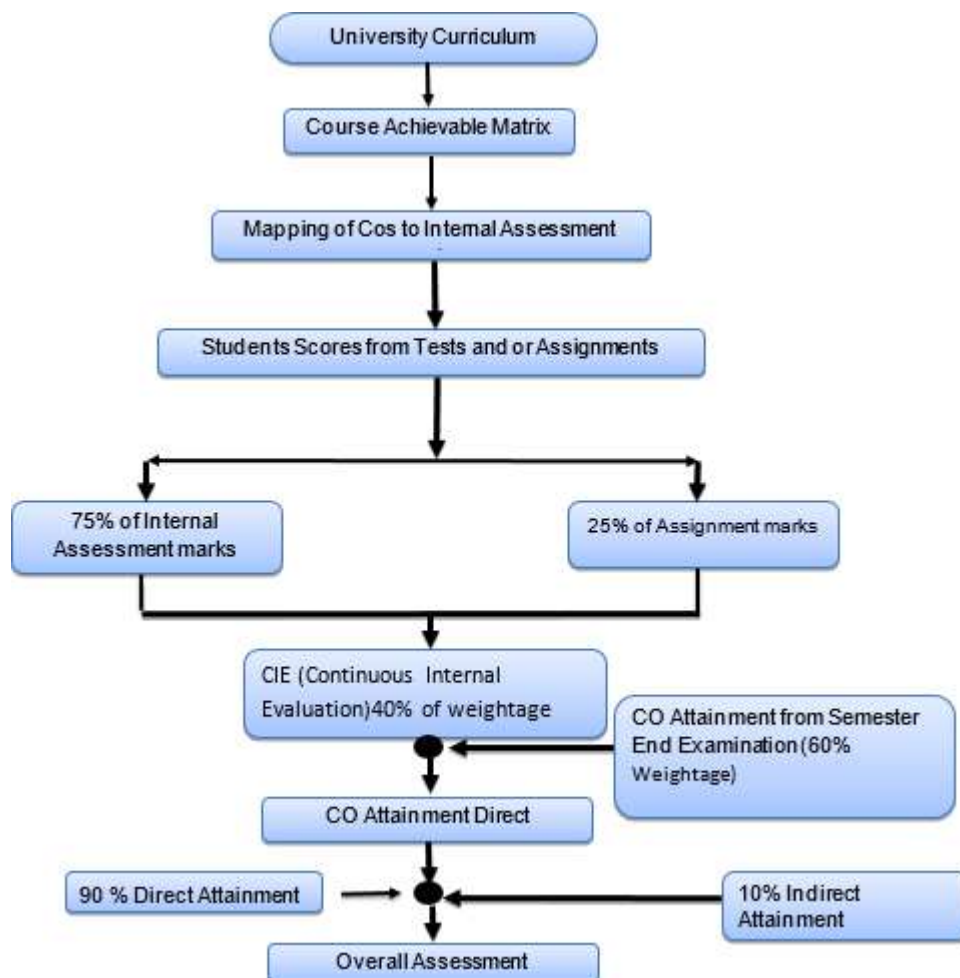


Figure 8.4.1: Flow chart for Assessment process

Direct method

The components used for direct assessment method are Internal Assessment (IA) and Semester End Examination (SEE) with a weightage of 40% and 60% respectively. IA assessment for theory courses is based on marks scored by a student in Tests, Assignment.

CO Attainment through IA

Course Outcome (CO) attainment illustrates the performance of a student in a particular course. CO attainment is calculated based on students score in each assessment tools.

Course Achievable Matrix

The course outcomes for every course are defined based on the Bloom's taxonomy learning levels. The course achievable matrix is derived from the course content. The course coordinator ensures the distribution of COs in each question paper which will be further verified by Program Coordinator.

Test (IA)

CO attainment is calculated by considering the marks of each question in the question paper for all the three tests. Each question in test question papers is mapped with COs. Through this mapping we get the student score for each CO.

Laboratory

Laboratory associated courses contributes to CO attainment through the marks scored in conduction of experiments and laboratory test by the end of each semester.

CO Attainment through SEE

CO attainment through SEE will be derived from the Marks scored by the students in the university examination in that particular course.

Indirect method

Indirect method includes course end survey for particular course in a semester. Feedback will be collected at the end of every course are mapped to COs. All these components contribute to 10% of CO attainment.

8.4.2. Record the attainment of Course Outcomes of all first year courses. (5)

Program shall have set the target levels for all first year courses

Process for the CO attainment: Course Outcome for a course identifies the knowledge and skills gained by the students upon completion of the course. Course attainment is a measure of the course outcomes acquired by the students. The COs is discreetly defined based on the Syllabus of each course.

Expected Attainment: The expected attainment level is the threshold of attainment, which the student has to gain after completion of each course. The expected attainment levels for each course are set based on the previous attainment level for that course or based on class average marks. The students are required to achieve the expected CO attainment level which facilitates the CO attainment of that particular course. If the attainment of the course is not meeting the target level, course coordinators retrospect the reason and recommend for modification of course curriculum or the delivery/assessment method, to improve the CO levels. If the course is introduced for the first time the target level is set based on the inputs from faculty expertise in that course.

Course Outcome Attainment: The process of CO attainment, based on direct and indirect methods is as depicted in Figure below. The CO of every course is mapped with PO as defined by NBA. Question papers of CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) are mapped with CO to arrive at individual CO weightage. CO attainment of each

student is calculated based on CIE, SEE, laboratory, assignment and self-study performance. The CO attainment of students is averaged to obtain target attainment level

Course Outcome attainment Target levels for all first year courses 2019-20

Table 8.4.2: Assessment target for Course Outcomes Evaluation (2019-20)

Course outcome Attainment				
Sl.No	Assessment Method	Maximum Marks	Course outcome Target	
			Percentage	Marks
1	Internal Assessment Test(IA)	40	40%	24
2	Semester End Examinations(SEE)	60	60%	30
3	Lab Assessment(Internal)	40	40%	24
4	Practical Examinations	60	60%	30

Set attainment level for above course outcomes targets are:

Attainment Level 1: 50% of students scored more than set target level in the final examination.

Attainment Level 2: 55% of students scored more than set target level in the final examination.

Attainment Level 3: 60% of students scored more than set target level in the final examination.

Attainment of Course Outcomes [2019-20 Batch]			
Sl No.	Course Code	CO Attainment of 1 st year course	
		Title of the Course	. Information science & Engg
1.	C101	CALCULUS AND LINEAR ALGEBRA	2.06
2.	C102	ENGG. CHEMISTRY	3
3.	C103	C PROGRAMING FOR PROBLEM SOLVING	2.1
4.	C104	BASIC ELECTRONICS	3
5.	C105	ELEMENTS OF MECHANICAL ENGG.	3
6.	C106	ENGG. CHEMISTRY LAB	3
7.	C107	COMPUTER PROGRAMMING LAB	3
8.	C108	TECHNICAL ENGLISH I	3
9.	C109	ADVANCED CALCULUS AND NUMERICAL METHODS	2.43

10.	C110	ENGG. PHYSICS	2.07
11.	C111	ELEMENTS OF CIVIL ENGG. & MECHANICS	1
12.	C112	ENGG. GRAPHICS & DESIGN	3
13.	C113	BASIC ELECTRICAL ENGG.	2.10
14.	C114	BASIC ELECTRICAL LAB	2.2
15.	C115	ENGG. PHYSICS LAB	3
16.	C116	TECHNICAL ENGLISH-2	3

Table 8.4.2: Attainment of Course Outcomes of all first year courses for the academic yearCAY 2019-20

8.5. Attainment of Program Outcomes from first year courses (20)

8.5.1 Indicate results of evaluation of each relevant PO and/or PSO, if applicable (15)

The relevant program outcomes that are to be addressed at first year need to be identified by the institution. Program Outcome attainment levels shall be set for all relevant POs and/or PSOs through first year courses.

The assessment tools used for CO attainment levels are internal assessment, semester End Examination, continuous evaluation of lab course, assignment indirect assessment.

PO is estimated using the formula $(\text{PO average value from CO PO matrix} \times \text{Final CO attainment level})/3$.

The following flow chart indicates the results of evaluation of each relevant PO

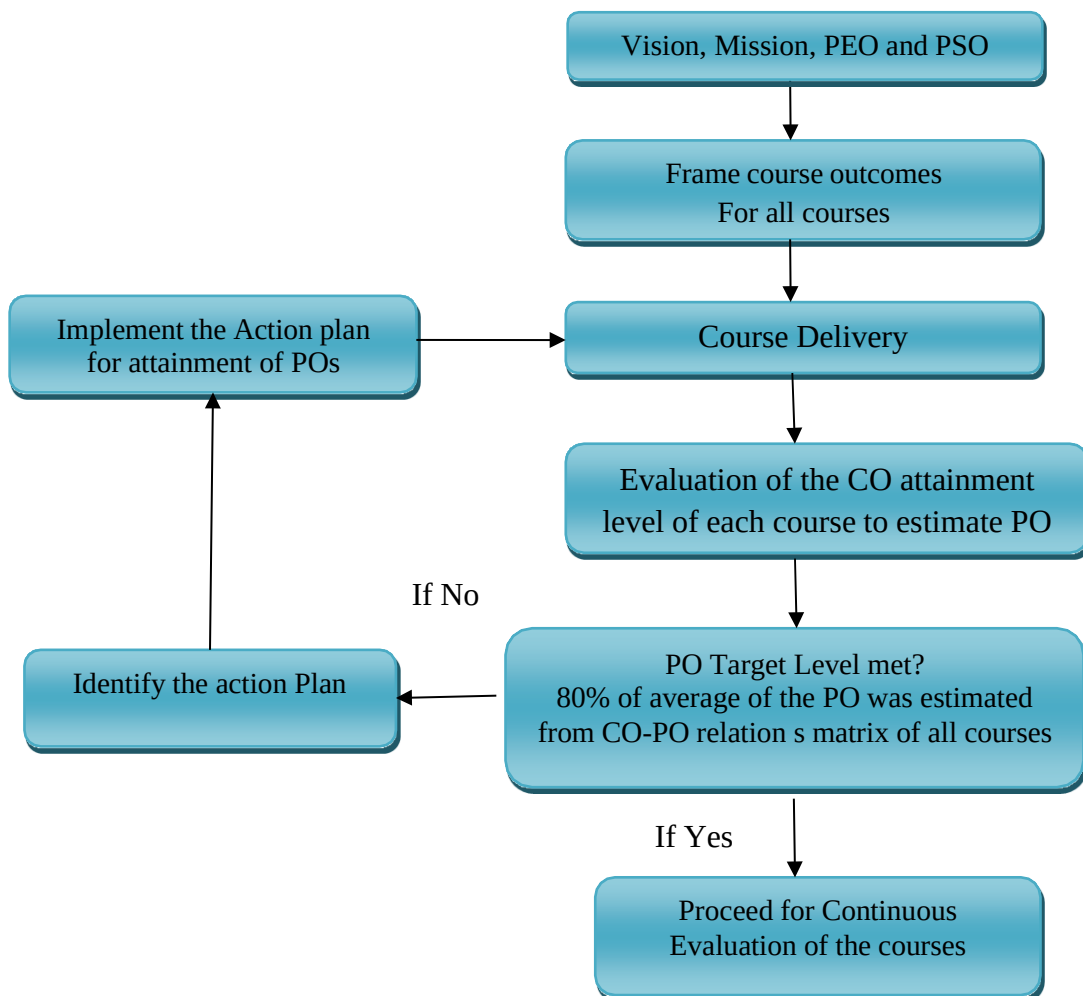


Figure 8.5.1: Results of evaluation of each relevant PO

PO attainments of First year courses of three assessment years

Course-PO Matrix [2019-2020] - ISE												
Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101 Engg. Maths 1	1.65	1.37	0.58	1.37	0.69							0.69
C102 Engg. Chemistry	3.00	2.00					2.00					
C103 C programing for solving problems	1.50	1.17	1.17	0.67	1.17						1.17	1.00
C105 Elements of mechanical engineering	3.0	2.0	2.0	1.0	-	-	-	2.0	2.0	-	-	-

C104 Basic Electronics Engineering	2.50	3.0	3.0	3.0	-	-	-	-	2.0	-	-	1.0
C106 Engg. Chemistry lab	3.00	1.00	-	-	-	-	-	-	1.00	-	-	-
C107 Comp. Programming lab	2.4	2.4	2	2	2	-	-	-	-	-	-	2
C108 Technical English 1	2.00	2.40	1.80	2.00	1.00	2.0	2.0	1.80	2.80	3.00	2.40	3.00
C109 Engg. Maths II	2.04	1.98	1.00	1.43	0.81							0.81
C110 Engg. Physics	2.07	1.38				-	-	-	-	-	-	
C111 Basic Electricals	2.11	1.52	1.41	0.00	0.00	-	-	-	-	-	-	-
C112 Elements of Civil Engg.	0.87	0.75	1.00		0.67					0.33		
C113 Engg. Graphics	3.00	2.00	2.00	1.00				2.00	2.00			
C114 Engg. Physics lab	2.50	1.83	1.66	-	-	-	-	-	-	-	-	-
C115 Basic Electrical lab	1.80	1.20	0.96	-	-	-	-	-	-	-	-	0.24
C116 Technical English- 2	1.0	2.00	1.50	1.60	0.63	1.80	1.6	1.2	2.20	2.50	2.00	2.50
Actual Average PO Attainment	2.15	1.69	1.51	1.44	1.0	1.90	1.65	1.67	2.0	1.94	1.79	1.40
Over all Attainment												
Expected Attainment	2.64	2.04	1.81	1.62	1.29	2.10	1.85	1.80	2.00	2.33	1.98	1.67
Actual Average Attainment	2.15	1.69	1.51	1.44	1.0	1.90	1.65	1.67	2.0	1.94	1.79	1.40

PSOs Attainment:

Course	PSO1	PSO2
C101 CALCULUS AND LINEAR ALGEBRA	0.7	0.7
C102 ENGG. CHEMISTRY	1	1
C103 PROGRAMING FOR PROBLEM SOLVING	2.1	1.4
C104 BASIC ELECTRONICS	2.2	0.73
C105 ELEMENTS OF MECHANICAL ENGG.	1	1

C106 ENGG. CHEMISTRY LAB	1	1
C107 COMPUTER PROGRAMMING LAB	3	1
C108 TECHNICAL ENGLISH I	1	-
C109 ADVANCED CALCULUS AND NUMERICAL METHODS	0.80	0.80
C110 ENGG. PHYSICS	0.70	0.70
C 111ELEMENTS OF CIVIL ENGG. & MECHANICS	0.33	0.33
C112 ENGG. GRAPHICS & DESIGN	1	1
C113 BASIC ELECTRICAL ENGG	0.73	0.73
C114 BASIC ELECTRICAL LAB	0.73	0.73
C115 ENGG. PHYSICS LAB	1	1
C116 TECHNICAL ENGLISH-2	1	-
Average	1.14	0.87

8.5.2 Actions taken based on the results of evaluation of relevant POs (5)

PO Attainment Levels and Actions for improvement for CAY (2019-20) Mention for relevantPOs.

CAYm1 (2019-20) - ISE Branch			
POS	Expected PO Target Level (Avg)	Attained PO Target Level (Avg)	Observations
PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an Engineering specialization to the solution of complex engineering problems.			
PO1	2.64	2.15	PO1 is not achieved.18% Gap. Students lack in applying knowledgeof Mathematics , C programing , Basic Electronics, Basic ElectricalEngineering , Elements Of Civil Engineering & Physics in solving complex engineering problems..
Action 1: Planning to conduct tutorial, remedial classes.			
Action 2. Planning to conduct Bridge courses, more complex problems are distributed to the students.			

PO2: Problem analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and Engineering sciences.			
PO2	2.04	1.69	PO2 is not achieved. 17% Gap. Students could not have identified, formulate & analyze complex problems in Mathematics, C programming, Basic electronics, Basic Electrical Engineering.
Action 1. Planning to conduct additional classes in order to complex problems coated by the students. Action 2. Higher learning level questions CIE assessment level is increased in all these subjects.			
PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.			
PO3	1.81	1.51	PO3 not is achieved. 16% Gap. Students lack in Designing solution for complex problems in the subjects like mathematics, Basic electronics, Basic Electrical Engineering.
Action 1: planning to conduct Special classes. Action 2: planning to conduct one extra hour which is more than the university prescribed number of hours.			
PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.			
PO4	1.62	1.44	PO4 is not achieved. 11% Gap. Students lack in using ideology based knowledge for analyzing Mathematical problems, Basic electronics, Basic electrical Engineering, elements of civil engineering
Action 1: Planned to counsel the students and advised to attend extra coaching classes beyond the regular planned Classes. Action 2: Coaching classes were conducted for Programming beyond the regular planned classes.			
PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.			
PO5	1.29	1.0	PO5 is not achieved, 22% Gap. Students could not apply and use modern tools in modelling complex activities in the subjects like Mathematics, elements of civil engineering, basic electrical engineering
Action 1: planning to conduct Extra classes, assignments and handouts.			
PO6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.			
PO6	2.10	1.90	PO6 is not achieved, 9% Gap. Students could not apply contextual knowledge of in assessing societal safety.

Action 1: planned to conduct various activity to create awareness about the societal life activities through NSSprogram, induction program etc.			
Action 2: planned to organize Special lectures			
PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in Societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.			
PO7	1.85	1.65	PO7 is not achieved. Gap 11% Students could not understand the impact of professional engineering solutions.
Action1: Planned to conduct Professional society activities in higher semester.			
Action 2: Planned to conduct Special classes & extra additional experiments are to be demonstrated.			
PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice			
PO8	1.80	1.67	PO8 is not achieved .Gap 7%. Students could not follow the ethics and fundamentals in subjects.
Action 1: Planned to organize special classes and motivational sessions in terms Universal Human values.			
PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse Teams, and in multidisciplinary settings.			
PO9	2.0	1.7	PO9 is not achieved. Gap 15% Students could not function as an individual, leader in multidisciplinary activities.
Action 1: Planned to give assignments in individual / in team.			
PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
PO10	2.33	1.94	PO10 is not achieved, 16% Gap. Students could not communicate, present and write reports effectively.
Action 1. Planning to organize seminars, presentations & report writing skills in a group wise.			
PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
PO11	1.98	1.79	PO11 is not achieved. 9% Gap. In the first level all the courses are not mapped with PO properly.
Action1: planned to conduct workshops on project management to demonstrate knowledge and understanding of the engineering and management principles.			
PO12 : Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
PO12	1.67	1.40	PO12 is not achieved, 16% Gap. Students could not able to engage inlifelong learning.
Action1: planned to Encourage students to conduct seminars , literature survey on current trends			

PSOs Attainment Levels and Actions for Improvement- (2019-20)

PSO	Target Level	Attainment Level	Observations
PSO 1 : Apply the knowledge of data structures, database systems, system programming, networking, web development and AI & ML techniques in Engineering the software.			
PSO1	1.33	1.14	PSO1 is not Achieved .14% Gap. Students lack in applying knowledge of Mathematics, Chemistry, C programming for problem , Basic Electronic Engineering , Basic electrical Engineering & Physics in datastructure system networking web development,etc.
Action1: Planned to conduct Extra Classes and assignments are given in the respective subjects . Action2: Planned to conduct additional problems are solved in the class hours .			
PSO2	1.07	0.87	PSO2 is Not Achieved .18% Gap .Students could not have identified, formulate& analyze complex problems in Mathematics, Chemistry, CProgramming, Basic Electronics, Basic Electrical Engineering, physics,Elements of civil Engineering.
Action1: Planned to conduct extra hours to solve complex problems coated by the students. . Action2: Planned to give question bank of higher order problems in the respective subjects .			

Table B.8.5.1b

CRITERIA 9

Student Support Systems

Criterion 9	Student Support Systems	50

9. STUDENT SUPPORT SYSTEMS (50)

9.1 Mentoring System to help at Individual level (5)

The Institution has well defined mentoring process for all the programs. The mentoring system is established with the following objectives.

1. Interact with the students and help them to face challenges.
2. Monitor academic progress
3. Enhance interpersonal skills
4. Understand the student potential and enabling carrier planning.
5. Motivate students to take part in co-curricular and extra-curricular activities.

Through the mentoring system a complete track of the student activities like academic, co-curricular, extracurricular achievements, social activities and the details of parent-teacher meeting are registered.

A standard mentoring register (Proctorial Performa) has been developed and the staff members record the data in the register. Each staff is allocated with 20 students under the mentoring system. The faculties will have a meeting with the students periodically and the frequency of meeting is three times in a semester. The academic progress and all his activities are discussed and recorded. Any discrepancies would be addressed by the mentor. On case to case basis student would be taken up for high level counseling.

The institution has four level mentoring systems. The nature of mentoring at different levels is represented in the Table B.9.1.

Sl. No.	Proctor level	Particulars	
1	Level -1 Proctor System	Mentors	Teaching faculty act as Mentor
		No. of students per mentor	20
		Frequency of meeting	Meeting is conducted every month after internal assessment Test (three time in a semester)
		Parents Teachers Interaction	The Parents feedback is collected after every meet by respective mentors
2	Level-2 Proctor System	Proctor Coordinator/HOD	The feedback analysis will be referred by the Proctor Coordinator/HOD for

		counseling	corrective measures based on the need.
3	Level-3 Proctor System	Counseling by the Principal	After the second level of counseling the students would be counseled by the Principal based on the need.
4	Level-4 Proctor System	Professional counseling	After the third level of counseling the students would be counseled by the Professional Counselor based on the need.

Table B.9.1 Different levels of mentoring systems

The mentoring process has improved the academic performance of the students which intern has reduced the student dropouts.

9.2. Feedback analysis and reward / corrective measures taken, if any (10)

The institution has established feedback process for all the courses. The students give the feedback on the performance of the faculty through teacher appraisal form.

Teacher appraisal feedback form is designed at the institution level by considering different dimensions of the teaching learning process. The objective of this appraisal is to evaluate the performance of the faculty members. This is collected from the students once in a semester. The mode of collecting the feedback is online.

The performance of faculty member is assessed by taking feedback from students on the following ten points.

1. Preparation of the class
2. Stressing on Important ideas and points
3. Communication of the lecturer
4. Response to the Questions and doubts.
5. Coverage of syllabus
6. Availability of Teacher outside the class hours
7. Usefulness of notes given
8. Knowledge gained by attending the class
9. Maintenance of discipline in the class
10. Overall ranking of performance of teacher

Rating Scale

Excellent-A

Good-B

Satisfactory- C

Poor-D

Requirement: $A+B \geq 85\%$

The feedback data is analyzed and the consolidated report is submitted to the respective

HOD's for further corrective measures. If a faculty gets below 85% of feedback, detailed analysis would be made by the faculty and analyze the route cause for the low performance. Such faculty would submit explanation report to the HOD. The HOD makes necessary recommendations. Performance rating of faculty through student feedback system is one of the factors in evaluating the annual performance and to release the annual increments. HOD of concern program creates awareness about the feedback systems and its importance among the students and in general about 80% of students participate in the feedback process.

9.3. Feedback on facilities (5)

The objective of institution is to provide best facilities to the students. The Institute has a mechanism for collection of feedback from outgoing students on facilities, curricular activities, co-curricular activities, extra-curricular activities, library facilities, administration and others. The frequency of collecting data is once in a year from outgoing students. Every department analyses the feedback and report is forwarded to the Principal for initiate appropriate actions. The standard format for collecting feedback on facilities is presented in TableB.9.3.

Sl. No.	Activities	Excellent	Good	Satisfactory	Not Satisfactory
1.0	Curricular activities				
1.1	Quality of Teaching				
1.2	Laboratory Conduction				
1.3	Faculty competency				
1.4	Adequacy of Class Rooms				
1.5	Laboratory Facilities				
1.6	Usage of Teaching Aids				
2.0	Co - Curricular activities				
2.1	Seminars/Workshop's usefulness				
2.2	Industrial Visits				
2.3	Career guidance & entrepreneur activities				
2.4	Placement & Training activities				
3.0	Extra-curricular activity				
3.1	Cultural Activities				
3.2	Sports Activities				
4.0	Library facilities				
4.1	Availability of text/reference books				
4.2	Availability of General/Technical Journals				

4.3	Accessibility to books/journals				
4.4	Staff Assistance				
4.5	Working hours				
5.0	Office and administration				
5.1	Admission procedure				
5.2	Examination Procedures				
5.3	Procedure of distribution of certificates, marks cards etc.				
5.4	Response to enquiries				
6.0	Other facilities				
6.1	Canteen				
6.2	Transportation				
6.3	Hostel				
6.4	Bank				
6.5	General amenities (water, security, common room)				

Table B.9.3 Format for collecting feedback on facilities

A sample copy Aeronautical Engineering Department have collected feedback on facilities as follows

S. J. C INSTITUTE OF TECHNOLOGY, CHICKBALLAPUR - 562 101
Student Satisfaction Survey Form - Aeronautical Engg.
8th Semester (2018-19)Batch

No. of Forms =32
8th Semester AED

Activities	Excellent	Good	Satisfactory	Not Satisfactory
1.0 Curricular activities	%	%	%	%
1.1 Quality of Teaching	14 43.75	10 50.00	2 6.25	0 0.00
1.2 Laboratory Conduction	12 37.50	10 50.25	2 6.25	0 0.00
1.3 Faculty competency	12 37.50	10 50.25	2 6.25	0 0.00
1.4 Adequacy of Class Rooms	15 46.88	11 34.38	5 15.63	1 3.13
1.5 Laboratory Facilities	16 50.00	12 37.50	4 12.50	0 0.00
1.6 Usage of Teaching Aids	16 50.00	10 31.25	6 18.75	0 0.00
2.0 Co - Curricular activities				
2.1 Seminars/Workshop's usefulness	12 37.50	10 50.25	2 6.25	0 0.00
2.2 Industrial Visits	14 43.75	10 50.00	2 6.25	0 0.00
2.3 Career guidance & entrepreneurial activities	11 34.38	9 28.13	10 31.25	2 6.25
2.4 Placement & Training activities	5 15.63	15 46.88	6 18.75	6 18.75
3.0 Extra-curricular activity				
3.1 Cultural Activities	10 31.25	14 43.75	6 18.75	2 6.25
3.2 Sports Activities	10 31.25	13 40.63	4 12.50	5 15.63
4.0 Library facilities				
4.1 Availability of text/reference books	7 21.88	11 34.38	10 31.25	4 12.50
4.2 Availability of General/Technical Journals	7 21.88	12 37.50	9 28.13	4 12.50
4.3 Accessibility to books/journals	7 21.88	12 37.50	9 28.13	4 12.50
4.4 Staff Assistance	12 37.50	16 50.00	3 9.38	1 3.13
4.5 Working hours	14 43.75	13 40.63	4 12.50	1 3.13
5.0 Office and administration				
5.1 Admission procedure	8 25.00	15 46.88	3 9.38	6 18.75
5.2 Examination Procedures	8 25.00	13 40.63	5 15.63	6 18.75
5.3 Procedure of distribution of certificates, marks cards etc.	7 21.88	17 53.13	3 9.38	5 15.63
5.4 Response to enquiries	7 21.88	15 46.88	3 9.38	7 21.88
6.0 Other facilities				
6.1 Canteen	6 18.75	4 12.50	7 21.88	15 46.88
6.2 Transportation	9 28.13	13 40.63	7 21.88	3 9.38
6.3 Hostel	5 15.63	7 21.88	13 40.63	7 21.88
6.4 Bank	8 25.00	4 12.50	13 40.63	7 21.88
6.5 General amenities(water, security, common room)	5 15.63	6 18.75	9 28.13	12 37.50

Received
2018/19

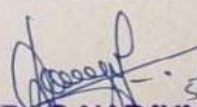
(V.Raj MOO)
29/5/19
PROFESSOR & HEAD
Department of Aeronautical Engineering
S.J.C. Institute of Technology
CHICKBALLAPUR-562101

A sample copy Civil Engineering Department have collected feedback on facilities as follows

S. J. C INSTITUTE OF TECHNOLOGY, CHICKBALLAPUR - 562 101
Student Satisfaction Survey Form - Department of CIVIL Engineering
8th Semester (2020-21)Batch

No. of Forms = 97

	Activities	Excellent		Good		Satisfactory		Not Satisfactory	
1.0	Curricular activities		%		%		%		%
1.1	Quality of Teaching	46	47.42	47	48.45	4	4.12	0	0.00
1.2	Laboratory Conduction	45	46.39	48	49.48	3	3.09	1	1.03
1.3	Faculty competency	42	43.30	52	53.61	3	3.09	0	0.00
1.4	Adequacy of Class Rooms	47	48.45	45	46.39	5	5.15	0	0.00
1.5	Laboratory Facilities	41	42.27	52	53.61	4	4.12	0	0.00
1.6	Usage of Teaching Aids	37	38.14	53	54.64	6	6.19	1	1.03
2.0	Co - Curricular activities								
2.1	Seminars/Workshop's usefulness	36	37.11	53	54.64	7	7.22	1	1.03
2.2	Industrial Visits	33	34.02	48	49.48	12	12.37	4	4.12
2.3	Career guidance & entreneural activities	34	35.05	48	49.48	12	12.37	3	3.09
2.4	Placement & Training acstivities	33	34.02	39	40.21	16	16.49	9	9.28
3.0	Extra curricular activity								
3.1	Cultural Activities	38	39.18	42	43.30	16	16.49	1	1.03
3.2	Sports Activities	37	38.14	43	44.33	16	16.49	1	1.03
4.0	Library facilities								
4.1	Availability of text/reference books	51	52.58	45	46.39	1	1.03	0	0.00
4.2	Availability of General/Technical Journals	43	44.33	48	49.48	5	5.15	1	1.03
4.3	Accessability to books/journals	48	49.48	42	43.30	6	6.19	1	1.03
4.4	Staff Assistance	43	44.33	50	51.55	4	4.12	0	0.00
4.5	Working hours	43	44.33	50	51.55	4	4.12	0	0.00
5.0	Office and administration								
5.1	Admission procedure	36	37.11	49	50.52	9	9.28	3	3.09
5.2	Examination Procedures	36	37.11	53	54.64	6	6.19	2	2.06
5.3	Procedure of distribution of certificates, marks cards e	35	36.08	49	50.52	11	11.34	2	2.06
5.4	Response to enquiries	32	32.99	49	50.52	12	12.37	4	4.12
6.0	Other facilities								
6.1	Canteen	34	35.05	54	55.67	7	7.22	2	2.06
6.2	Transportation	37	38.14	54	55.67	6	6.19	0	0.00
6.3	Hostel	36	37.11	52	53.61	7	7.22	2	2.06
6.4	Bank	33	34.02	50	51.55	11	11.34	3	3.09
6.5	General amenities(water, security, common ro	42	43.30	50	51.55	3	3.09	2	2.06

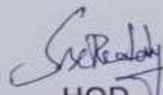

DR. G. NARAYANA
 Professor & Head
 Dept. of Civil Engineering
 SJC Institute of Technology,
 Chickballapur-562101

A sample copy Information Science and Engineering Department have collected feedback on facilities as follows

S.J.C INSTITUTE OF TECHNOLOGY, CHICKBALLAPUR
STUDENT SATISFACTION SURVEY FORM

Course/Branch: Information Science & Engg. Year: 2019
Number of forms received: 82

Sl	Activities	Excellent		Good		Satisfactory		Not Satisfactory	
			%		%		%		%
1	Curricular Activities:								
1.1	Quality of Teaching	45	54.88	30	36.59	7	8.54	0	0.00
1.2	Laboratory Conduction	40	48.78	40	48.78	2	2.44	0	0.00
1.3	Faculty competency	40	48.78	30	36.59	12	14.63	0	0.00
1.4	Adequacy of Class rooms	46	56.10	30	36.59	6	7.32	0	0.00
1.5	Laboratory Facilities	50	60.98	32	39.02	0	0.00	0	0.00
1.6	Usage of Teaching Aids	35	42.68	47	57.32	0	0.00	0	0.00
2	Co-Curricular Activities								
2.1	Seminars/Workshop's usefulness	45	54.88	23	28.05	14	17.07	0	0.00
2.2	Industrial Visits	40	48.78	25	30.49	15	18.29	2	2.44
2.3	Career guidance & entrepreneurial	45	54.88	25	30.49	9	10.98	3	3.66
2.4	Placement & Training activities	40	48.78	28	34.15	9	10.98	5	6.10
3	Extra – curricular Activities								
3.1	Cultural Activities	35	42.68	35	42.68	8	9.76	4	4.88
3.2	Sports Activities	40	48.78	25	30.49	13	15.85	4	4.88
4	Library Facilities								
4.1	Availability of text/reference books	30	36.59	28	34.15	21	25.61	3	3.66
4.2	Availability of General/Technical	35	42.68	25	30.49	18	21.95	4	4.88
4.3	Accessibility to Books/Journals	35	42.68	25	30.49	16	19.51	6	7.32
4.4	Staff assistance	35	42.68	25	30.49	18	21.95	4	4.88
4.5	Working hours	35	42.68	30	36.59	17	20.73	0	0.00
5	Office and Administration								
5.1	Admission procedure	30	36.59	25	30.49	16	19.51	11	13.41
5.2	Examination procedures	30	36.59	32	39.02	20	24.39	0	0.00
5.3	Procedure of distribution of certificates,	35	42.68	35	42.68	12	14.63	0	0.00
5.4	Response to enquiries	35	42.68	31	37.80	16	19.51	0	0.00
6	Other facilities								
6.1	Canteen	14	17.07	12	14.63	28	34.15	28	34.15
6.2	Transportation	30	36.59	30	36.59	12	14.63	10	12.20
6.3	Hostel	20	24.39	31	37.80	30	36.59	1	1.22
6.4	Bank	38	46.34	28	34.15	16	19.51	0	0.00
6.5	General amenities (Water, security,	25	30.49	25	30.49	15	18.29	17	20.73


 HOD
 Prof & Head
 Department of Information Science & Engg.
 SJC Institute of Technology
 Chickballapur-562101.

9.4. Self-Learning (5)

The academic performance of the student enhances through self-learning. It helps the students in gaining knowledge and learning beyond the syllabus. The institute takes maximum care to provide the necessary facilities to ensure self-learning. These facilities include library (at college level, as well as at department level), internet facility, online journal subscription, open access system, Resource for taking competitive exams, repository of university question papers (e-copy), university consortium e-resources, VTU Edusat and others.

Library facility

The institution has well-furnished, spacious central library with reference section, Periodical section, stock area, Internet & Digital library. Presently the center has 86137 volumes of books and subscription of VTU Consortium e-Resources. Apart from this each engineering program has established department library. The department library has Reference Books, Journals and project reports pertaining to the respective domain. Adequate computers with internet facility are available for accessing e-resources.

Library also has collection of newspapers, journals back volumes, competitive exam books, VTU UG/PG previous years e-question papers and syllabus of all the branches. There is a vast array of materials that provides insights and information to enhance overall personality development.

Internet facility

The details of the Internet facility are provided in the following Table B.9.4.2.

- Name of the internet provider: AIRTEL/TATA
- E-learning facility : Yes
- Wi-Fi availability : Yes

Wi-Fi zone enables the students to use the facility any time (even beyond college hours)

Sl. No.	Details	Remarks
1	Type of Internet connection	Leased LAN1:1
2	Bandwidth of the Institute/Library Network	500 Mbps AIRTEL/TATA
3	IP Address (Static IP Ranges of your College)	103.105.226.242

Table B.9.4.2 Details of Internet facilities established at the central library

Digital Library

The Institution has set up Digital Library with 30 computers having adequate internet connectivity. It is collaborated with national information network agencies (VTU Consortium e- resources & DELNET) and also provided with Wi-Fi facility to access required information. It provides access to different kinds of e-Books/e-journals.

NPTEL Online Course

The Institute has established facility to enable the students take up professional courses through NPTEL. The departments educate students about the importance of NPTEL online courses. Details of Staff and Students have registered for the NPTEL online courses are provided in the following Table. B.9.4.3.

Table. B.9.4.3. Details of No. of candidates registered NPTEL Courses

S.L. No.	Year	No. of candidates registered NPTEL Courses
1	2020-21	677
2	2019-20	467
3	2018-19	308

VTU Edusat Program

EDUSAT is satellite-based distance education facility to provide interaction/guidance/feedback tools to learners and act as a facilitator between the experts and the students. This is supported by Visvesvaraya Technological University, Belagavi. An exclusive infrastructure, to take care of Edusat program is available in the Institution. The Students are benefitted from live lectures delivered by subject experts as part of EDUSAT program.

VTU Consortium e-Resources -2019-2020

The students can access e-Books/e-journals through Wi-Fi at defined zones in college campus, hostels and digital library. The Library contains the reference section with variety of resources, study area, office with a photocopier. The collection comprises textbooks, general reference material, question bank and career-oriented resources. The details of e-resources under VTU Consortium are given in the Table B.9.4.6.

Sl. No.	Name of the E-Resources	Web Address
1	Elsevier Science Direct E-Journals	www.sciencedirect.com
2	IEEE Proceedings Order Plan (POP)	www.ieeeexplore.ieee.org
3	Springer Nature E-Journals	https://link.springer.com/
4	Taylor & Francis E-Journals	https://www.tandfonline.com/
5	Emerald E-Journals	https://www.emeraldinsight.com/
6	ProQuest- Architecture & Allied branches of Engineering	www.proquest.com/165290
7	Knimbus Platform and Remote Access	https://new.knimbus.com
8	NetAnalytiks Sententia Grammar Writing Tool	https://sententia.online/
9	Turnitin Similarity Check *	www.turnitin.com/

Table B. 9.4.6 Details of online journal subscriptions

Contents beyond syllabus

The Institution encourages and facilitates students to acquire knowledge beyond the university syllabus. The department addresses the content beyond syllabus in the following forms

1. Case Studies
2. Mini Projects
3. Assignments
4. Technical Paper Presentation
5. Workshops

9.5. Career Guidance, Training, Placement (10)

Career Guidance Cell

The institution has set up Career Guidance Cell (CGC) with an objective of providing information on pursuing higher studies at national and international institutions and information related to competitive examinations. The Placement and Training department initiates and conducts career guidance programs in coordination with the different engineering departments. The details of career guidance program conducted in the previous assessment years are presented in the following Table B.9.5.1.

Sl. No.	Academic year	Resource details	Branch	Date	Venue	No of students participated	Program details
1	2020-21	Mr. Joel Noronho	All branches Final year students	13.5.2021	Online	200	Career pathway and study abroad opportunities
2	2019-20	Mr. Supreeth YS (Tequed Labs)	All Pre-Final Years students	14.01.2020	CSE Seminar hall	178	Career Guidance
		Dell company ltd.	Pre-Final year CSE/ISE	19.02.2020	CSE Seminar hall	127	Career Guidance, Technical Profile Building & C 2 C - industry readiness
3	2018-19	Mr. Shubham Agrwal & Deepanshu Singh (NEXT IAS)	1 st Year students	10.12.2018	Auditorium	664	Career in Services
		TCS (Recruitment team)	Pre-Final Year students	21.03.2019	Auditorium	325	Pre-Placement talk
		Videsh consultancy	6 th Sem ECE	10.05.2019	Class Room	49	Career Guidance
		Prasad Chitta (TCS)	Final Year students of CSE/ISE	22.02.2019	CSE Seminar hall	75	Machine Learning

Table B.9.5.1 Details of Career Guidance related activities

Training and Placement

Training Activities: The training and placement cell of the institute organize training activities for the students on soft skills, aptitude, technical and placement. The structure of training and placement and its content as follows.

- HR Training (1st to 6th Sem): The department of training and placement imparts training programs, which are integrated in the time table and is mandatory for all the students.
- Technical Trainings: These trainings are imparted during the vacations between

3rd and 6th Sem. and culminates with a project.

- Placement Training: Placement focused training is imparted during the vacation period between 6th and 7th Sem. Regular mock tests are conducted to evaluate the students.

The structure and content of training program conducted for semester levels are provided in the following Table B.9.5.2a

Sl. No.	Year	Training Program	Contents	
1	1 st year (I & II Semester)	Soft skills Verbal	Soft skills	Verbal
			Resume Building Extempore Speaking Power Presentations Picture Perfect Group Discussions Personal Grooming Personal Interviews Self Inventory Mgmt.	Parts of Speech ,Tenses Subject Verb Agreement Error Spotting Reading Comprehension Essay/Paragraph writing E-mail writing &Etiquettes Logical Reasoning and verbal Ability ,Vocabulary Analogies
2	2 nd year (III & IV Semester)	Soft skills Verbal Basics of Aptitude/ Case studies	Basics of Aptitude/ Case studies Number Theory Percentage, Profit & Loss Ratio's, Proportions & Partnership Alligations & Mixtures Time & Work Time, Speed & Distances Syllogism and set theory Permutation & Combination Probability Geometry Logical Reasoning	
3	3 rd year (V & VI Semester)	Aptitude Soft skills	Basics of Aptitude/ Case studies Number Theory Percentage, Profit & Loss Ratio's, Proportions & Partnership Alligations & Mixtures Time & Work Time, Speed & Distances Syllogism	

			and set theory Permutation & Combination Probability Geometry Logical Reasoning
4	4 th year (VII & VIII Semester)	JANUS training	C & C++ Data Structures Networking Java Microcontroller Microprocessor, Solid Edge, Catia, Auto CAD STAAD, Quality Control

Table B.9.5.2a Structure and contents of training program for different semester levels

The summary of various training activities conducted by the training and placement department is provided in the following Table B.9.5.2b

SL. No	Academic year	Name of the Program	Number of students Trained	Name of Training Institute	Program Details
1	2020-21	JANUS-2020-21	198	ZESTECH Global Pvt. Ltd, Bengaluru	JANUS is a short term vocational training program, conducted mainly to make the students industry ready. This program focused on the final year students of SJCIT, Chickaballapur to enhance their Quantitative Aptitude, Verbal Aptitude and Soft Skills along with Technical Skills.
2		PSET/CLC - Code Like Corporates-2020-21	NIL	NIL	NIL
3		Pragnyan-2020-21 ODD & EVEN Semesters Except 1st year	1212	ZESTECH Global Pvt. Ltd, Bengaluru	Pragnyan' 18 ODD Semester is a long term training program to develop the students' skills set in Quantitative Aptitude, Verbal Aptitude and Soft Skills. This is mainly focused on 1st, 3rd and 5th Semester B.E. students of SJCIT, Chickaballapur.
1	2019-20	JANUS-2019-20	403	ZESTECH Global Pvt. Ltd,	JANUS is a short term vocational training program,

				Bengaluru	conducted mainly to make the students industry ready. This program focused on the final year students of SJCIT, Chickaballapur to enhance their Quantitative Aptitude, Verbal Aptitude and Soft Skills along with Technical Skills.
2		PSET/CLC - Code Like Corporates- 2019-20	141	ZESTECH Global Pvt. Ltd, Bengaluru	CLC is a Technical Training Program conducted for the pre final year students of SJCIT, Chickaballapur. The program mainly focused on improving the students' skills in Coding in languages like C, JAVA.
3		Pragnyan-2019-20 ODD & EVEN Semesters	1951	ZESTECH Global Pvt. Ltd, Bengaluru	Pragnyan an '18 ODD Semester is a long term training program to develop the students' skill sets in Quantitative Aptitude, Verbal Aptitude and Soft Skills. This is mainly focused on 1st, 3rd and 5th Semester B.E. students as well as 1st and 3rd MBA students of SJCIT, Chickaballapur.
1	2018-19	JANUS	403	ZESTECH Global Pvt. Ltd, Bengaluru	JANUS is a short term vocational training program, conducted mainly to make the students industry ready. This program focused on the final year students of SJCIT, Chickaballapur to enhance their Quantitative Aptitude, Verbal Aptitude and Soft Skills along with Technical Skills.
2		CLC - Code Like Corporates	141	ZESTECH Global Pvt. Ltd, Bengaluru	CLC is a Technical Training Programme conducted for the pre-final year students of SJCIT, Chickaballapur. The programme mainly focused

					on improving the students' skills in Coding in languages like C, JAVA.
3		Pragnyan	1951	ZESTECH Global Pvt. Ltd, Bengaluru	Pragnyan ¹⁸ ODD Semester is a long term training program to develop the students' skills set in Quantitative Aptitude, Verbal Aptitude and Soft Skills. This is mainly focussed on 1st, 3rd and 5th Semester B.E. students SJCIT, Chickaballapur. JANUS is a short term vocational

Table B.9.5.2b Details of placement related training programs conducted

Placement activities: The training and placement cell plans campus recruitment drives for all the programs. The placement cell conducts the student registration process through which the entire student data is collected. The department communicates the campus visits schedule with students and conducts the campus drive. The list of companies visiting the Institute for campus recruitment annually is shown in the following Table B.9.5.2c.

Sl. No.	Name of the Company
1	Tata Consultancy Services Limited, Bengaluru
2	Wipro Limited
3	Capgemini Technology Services India Limited
4	Mind Tree Limited
5	NTT Data Global Services Private Limited
6	L & T Infotech Limited
7	Tech Mahindra Limited
8	Amazon
9	Aricent Global Design and Engineering Company
10	Assystems Engineering Services Company
11	Bharath Electronics Limited
12	Brigade Group
13	First American Financial Corporation Company
14	HP India Private Limited
15	Trident Groups

16	Innovative Tools Private Limited
17	Titan Eyewear Private Limited
18	Triveni Turbines
19	TVS Motors Company Limited
20	Mphasis Limited
21	Prime Focus Technologies Private Limited
22	Wissen Infotech
23	Envestnet Yodlee India Private Limited
24	Accord Software & Systems Private Limited
25	Shobha Limited

Table B.9.5.2c Partial list of Companies visiting the Institute for Campus Drive

The number of students placed, companies visited for conducting campus recruitment drive and the percentage placement during last three assessment years is shown in the following Table B.9.5.2d.

Sl. No.	Academic Year	No. of Companies Visited	No. of Students Placed	Percentage of Placement
1	2020-21	58	254	75.15
2	2019-20	32	190	68.0
3	2018-19	42	227	80.10

Table B. 9.5.2d Summary of Placement details during previous assessment years

The training and placement department has got recognitions for the performances.

Achievements:

- Received Excellence in Recruiter's Perception (South) from Dataquest T-School Survey in the year-2015
- Received Exemplary Placement Services award from the Higher Education Review-2016

9.6. Entrepreneurship Cell (5)

The Institution has established formerly called as BGS Research & Incubation Centre for Entrepreneurship (BGS-RICE) now a company formed called as BGS SJCIT INCUBATION FOUNDATION (BGS SIF) to take care of incubation activities.

The objectives of the center is to

1. To inculcate innovation culture within the teaching faculty and students of all educational streams.
2. Establish collaboration with government and non-government funding agencies to enhance research, innovation and entrepreneurial related activities.
3. To motivate and support academic faculty and student community, in converting their ideas and innovative processes into working prototype through mentoring and funding support.
4. To enable commercialization of innovative solutions and IP developed within the academic setup by supporting in taking the products to the market.
5. To generate employment and create a robust entrepreneurial ecosystem.
6. To build a vibrant student entrepreneurial community and provide the required resources for start-ups to contribute in the societal development through innovation activities
7. To conduct workshops, programs, events activities for developing business skills, to make networking events accessible, to impart information related to market opportunities and to create a platform to showcase technological solutions
8. BGS SIF Coordinates with the different departments in the college to initiate related activities. The team member details of this center are presented below.

Sl. No.	Name of the Member	Designation	Cell
1	Dr. T. Munikenche Gowda	Director	Team Lead - BGS Research & Innovation center for Entrepreneurship
2	Mr. C. Narendra Babu	Asst. Professor, CSE	Coordinator
3	Mrs Safira Begaum	District innovation Assistant	Innovation Assistant
4	Mr Suresh Kumar	Programmer	Assistant Coordinator

Table B.9.6.1 BGS Research & Incubation Centre Details

The Entrepreneurship related activities are conducted during the assessment years by BGS SIF are presented in the following Table B.9.6.2

Table B.9.6.2 Entrepreneurship activities conducted during the previous years

Sl. No.	Assessment Year	Program title	Resource Person	Date of Conduction	Number Students

				& Venue	participated
1	2020-21	E-Step Bootcamp	Mr. Vishnu Nagaraj Founder CEO, Carve Startup Labs	24-05-2021 Online	162
		Workshop on Entrepreneurship Awareness	Mr. Nikshep Ramesh Director Ellipses Innovation	10-03-2021 CS seminar hall	140+
		Webinar on “Innovation Ideation and Entrepreneurship”	S. Mukul Manohar Vemana Business Incubation Center Vemana Institute of Technology Bengaluru	24-12-2020 Online	160+
		Webinar on “Innovation and Entrepreneurship in India: An overview”	Mr. A N Manjunath Research Scholar IIM, Bangalore	10-12-2020 Online	565
2	2019-20	Effectual Thinking in Entrepreneurship	Mr. Mr. A N Manjunath, IRS, Deputy Commissioner, Bengaluru South GST Commissionerate, Bengaluru.	12.03.2020 CS seminar hall	203
3	2018-19	Inauguration - Camp Objective, Why Entrepreneurship (general concepts)	Dr. Raman Gujral Regional Head, Entrepreneurship Development Institute of India (EDII), Bengaluru.	23.10.2019 25.10. 2019 CS seminar hall	93
		Technology - assistance from R&D labs and other institutions on choice of Technology etc.	Prof. Srinivas M. Jamkhandi Project Scientist, Dept. of ESE, IISc., Bengaluru.		
		Historical background-Indian values vis - a-vis Entrepreneurship and the present scenario & Creativity and business - the man behind the venture - the behavioral	Prof. Ananda Murthy H V Deputy Director, IISc. - MSME Centre of Excellence, IISc., Bengaluru.		

	scientist's approach			
	How to start a SSI unit (General concept about the Govt. formalities, rules & regulation, location, and different aspect of an industrial venture)	Mr. Rajendran B Asst. Director, MSME Development Institute, Bengaluru.		
	Technical & commercial aspects of SSI unit	Mr. Mohamed Ateequlla Shariff Joint Director, DIC, Chickballapur.		
	Schemes of assistance and Support available from Govt. agencies, banks, financial institutions, SFCs etc	Dr. Vijayalakshmi S. Warad Branch Manager, KSFC, Chickballapur.		
	Identification of Business opportunities and Mechanisms of product selection	Mr. Ranga Prasad S N, Consultant and Former Director, MSME Development Institute, Rajajinagar, Bengaluru.		
	Communication skills for better results in business	Mrs. RekhaGopal, Managing Director Padmajyothi Industries, Leading Women Entrepreneur.		
	Financial aspects of SSI unit including salient features of a project report	Mr. Basavaraja O Lead District Divisional Manager, Lead Bank Office, Chickballapur.		
	BOOTCAMP Karnataka Innovation and Technology Society, Department of IT, BT and S&T	Mr.B.Kamal Babu ,Mikrotek Machines Ltd. Mr, Vishnu Nagaraj, Start-up Evangelist	13.08. 2019	127

	Innovation taking place in the field of IOT (internet of things), Cutting edge.	Dr. T. V Prabhakar Principal Research Scientist, DESE, IISc, Bengaluru	11.10.2018- 12.10.2018	57
	Innovation to prototype	Mr. Srinivas M. Jamkhandi Project Scientist, DESE, IISc, Bengaluru		
	MSME schemes supporting MSME's	Mr. Ananda Murthy H. V Deputy Director (Rtd.,)		
	Pre – Hackathon	Mr. Sanjeev Koushik General Management Program, IIMB Mr. Nayaz Ahmed COOJU incubator	05.10.2018	65

Incubation Activities at Centre

Proposals Approved by Karnataka innovation and Technology Society (KITS), Department of Electronics, IT, BT and S&T Government of Karnataka.

Sl. No.	IDEAS	Branch	Amount in Lakhs
1.	Coconut and Areca Nut Harvesting Drone	AE	2,50,000
2.	Sustainable Power Project To Remote Areas	ECE	2,50,000
3.	Automation in Cars to Alert Drivers	CSE	2,31,000
4.	Controlled Use of Water For Irrigation and Fertilisers in Farming	CSE	2,41,000
5.	Air Conditioning By Geothermal Heat Pump	CE	1,88,000
6.	Brain Computer Interface For Patients With Disorder Of Consciousness And Stroke	ECE	2,40,000
7.	Smart Traffic Handling System	ISE	2,50,000
8.	A-Drishiti-A Step Towards Alternate Vision	ECE	2,22,000
9.	Smart Helmets For Bikes	TCE	2,30,000
10.	Design and Fabrication of Road Cleaning Machine	ME	2,10,237
11.	Poorni-The Public Assistant	CSE	2,17,513
12.	Virtual SIM	ISE	2,37,250
13.	An Application To Pay Fine For Traffic Rules Violation	CSE	2,33,000
Total			30,00,000

Table B.9.6.3 Sanctioned entrepreneurship ideas in the academic year 2018-19

Sl. No.	IDEAS	Department	Amount in INR

1.	Academeasy- Your Academic Friend	CSE	1,46,000
2.	Exo-Skeleton	ME	2,30,000
3.	Andriod Based Intelligent Smart Vehicle for Disables Using Brain Computer Interface and Voice Assistant	CSE	2,45,000
4.	Book Market Inside the Campus	CSE	1,67,890
5.	Design and Development of Semi-Automatic Manhole Cleaning Machine	ME	2,73,900
6.	Tissue culture - A Helping Hand in Agriculture	ME	2,65,730
7.	Automated Overhead Tank Cleaning System	ME	2,56,650
8.	Innovative and Effective Use of Resources Along with Advanced Home Automation System	CSE	2,27,000
9.	Notatia - The Solution of The People	CSE	2,78,000
10.	Low Cost Manually Operated Seed Sowing Machine	ME	2,65,000
Total			23,55,170

Table B.9.6.4. Ideas approved during academic year 2020-21

Technology Business Incubator (TBI) – A Scheme for Promotion of Innovation, Rural Industries and Entrepreneurship (ASPIRE), Sanctioned by Ministry of Micro, Small and Medium Enterprises, Government of India.

DAE - Technologies Display and Dissemination Facility DDF)

Sanctioned by:

Baba Atomic Research Center (BARC), Mumbai, Government of India

Technologies sanctioned are

1. Tissue Culture
2. Nisargruna Bio-Gas Plant
3. Fluoride Detection Kit for Ground Water (FDK)
4. Soil Organic Carbon Detection Kit (SOCDK)
5. On-line Domestic Water Purifier Based on Ultrafiltration Polysulfone Membrane
6. Foldable Solar Dryer (FSD)

9.7. Co-Curricular and Extra-Curricular Activities (10)

Students are engaged in co-curricular and extracurricular activities through student coordinators and forums, which provide opportunities for students to explore new fields of interest, cultivate leadership skills, and learn teamwork. In this regard institution has framed various committees for participating and organizing the cultural and sports activities. The following are the co-curricular and extracurricular activities that are conducted on regular basis in the college.

Co-Curricular Activities	Extra-Curricular Activities
Industry interaction	NCC
Industrial Project tour	NSS
Guest lecture	Cultural fest
Paper presentation	Sports
Project exhibition	Societal activities

Co-Curricular Activities (Technical talks/paper presentations/project exhibition/ visits to various public and private sector/ Industrial Project tour)

Industry interaction

Academic year	Programs			TOTAL
	AE	Civil	ISE	
2020-21	0	8	0	8
2019-20	5	5	0	10
2018-19	1	7	01	9

Experts invited to college /Guest lecture

Academic year	Programs			TOTAL
	AE	Civil	ISE	
2020-21	4	2	06	12
2019-20	2	7	1	10
2018-19	3	12	5	20

Industrial Project tour

Academic year	Programs			TOTAL
	AE	Civil	ISE	
2020-21	0	0	00	0
2019-20	0	0	00	0
2018-19	0	11	00	11

Paper presentations

Academic year	Programs			TOTAL
	AE	Civil	ISE	
2020-21	1	24	07	32
2019-20	2	0	02	4
2018-19	5	04	03	12

Student Papers awarded as Best Papers (Civil Engineering)

Sl. No.	Student Name	Guide Name	Presented at	Year
1	Shravani K	Ravindra M V	Dr. TTIT Virtual Expo-2021	2020-21
2	Krithi C N	Mr. Kiran KM	Manthana-2021	2020-21
3	Mallika B S	Mr. Manjunath K A	Manthana-2021	2020-21
4	Chethan Kumar K J	Mr. Rajeev S J	Manthana-2021	2020-21
5	Bhoomika K R	Ms. Sushma M	Manthana-2021	2020-21
6	Shwetha M	Ravindra M V	MANTHANA-2018	2017-18

Project exhibition

Academic year	Programs			TOTAL
	AE	Civil	ISE	
2020-21	6	1	3	10
2019-20	5	4	2	7
2018-19	4	4	4	12

All the engineering departments regularly conduct the co-curricular activities. The college encourages the students to take part in these activities. The number of co-curricular activities conducted by the engineering departments is shown in the following TableB.9.7.1a

Academic year	Summary of number of co-curricular activities conducted by the departments			TOTAL
	AE	Civil	ISE	
2020-21	11	35	16	62
2019-20	14	16	5	35
2018-19	13	38	13	64

Table B.9. 7.1a Summary of number of co-curricular activities conducted by the departments

Extra-Curricular Activities

The Institution organizes various extracurricular activities. Apart from the regular activities, the college has units like National Cadet Cops & National Service Scheme initiates various activities. The cultural events and sports events are organized on annual basis.

National Cadet Cops (NCC): The institute has established National Cadet Corps (NCC) unit in the academic year 2016-17. Mr. Umesh Chougla, Assistant Professor, Mechanical Engineering department is the NCC Coordinator. The NCC unit has number: COY 135/A, 8 KAR BN NCC BGLR. The NCC provides exposure to the cadets in a wide

range of activities, with a distinct emphasis on Social Services, Discipline and Adventure Training. The statistics of student enrolment for the NCC unit and the activities conducted by the NCC unit is presented in the following Table B. 9.7.2a and 9.7.2b.

Sl. No.	Particular	Target Regiment Group (TRG)														
		Academic Year 2018-19					Academic Year 2019-20					Academic Year 2020-21				
		I	II	III	IV	Total	I	II	III	IV	Total	I	II	III	IV	Total
1	SD (Senior Division)	12	10	8	--	30	10	10	10	--	30	12	10	10	--	32
2	SW (Senior Wing)	08	6	7	--	21	8	8	4	--	20	7	6	6	--	19
	Total	51					50					51				

Table B.9. 7.2a Statistics of student Enrolment for NCC unit

Sl. No.	Events organized	Attended	Venue	Date
1	Combined Annual Training Camp(Catc)	21	Delhi Public School Bangalore	01.04.2018
2	International Yoga Day	40	SJCIT	21.07. 2018
3	Independence Day	30	SJCIT	15.08.2018
4	National Unity Day	35	SJCIT	31.10. 2018
5	Kannada Rajyotsava	35	SJCIT	01.11.2018
6	Republic Day	40	SJCIT	26.01.2019
7	Awareness To Reduce Blindness Camp	150	SJCIT	01.03.2019
8	B And C Certificate Exams At SJCIT	120,96	SJCIT	01.04.2018
9	Talk On CDS And SSB Exam Procedure	60	SJCIT	10.04.2019
10	International Yoga Day	250	SJCIT	21.07.2019 (5KAR Bn NCC)
11	School Bell Event	25	Marenahalli	21,22.09.2019
12	Sri M V Birth Anniversary	35	SJCIT	15.09.2019
13	Independence Day	30	SJCIT	15.08.2019
14	Kannada Rajyotsava	30	SJCIT	01.11.2019
15	Thalasainik Camp (TSC) Total 50 Days	1	Delhi Public School Bangalore	July to September 2019
16	Catc Pre Rdc Camp	1	Delhi Public School Bangalore	05,14.09.2019
17	Combined Annual Training Camp (Catc)	11	Delhi Public School Bangalore	09 to 18.09.2019
18	Combined Annual Training	05	Delhi Public School	22to 31.10.2019

	Camp (Catc)		Bangalore	
19	B Certificate Exams	283	SJCIT	16.02.2020
20	C Certificate Exams	84	SJCIT	23.02.2020
21	Covid-19 Duties	20	SJCIT	26.04.2020
22	World Environment Day	10	SJCIT	05.06.2020
23	Ncc Enrolment Process	150	SJCIT	22.01.2021
24	Republic Day	25	SJCIT	26.01.2021
25	Cadre Camp	150	SJCIT	01 to 05.02.2021
26	B Certificate Exams	330	SJCIT	21.02.2021
27	C Certificate Exams	160	SJCIT	28.02.2021

Table B.9. 7.2b Details of activities conduct by the NCC unit

NATIONAL UNITY DAY:

Rashtriya Ekta Divas (National Unity Day) was introduced by the Government of India. The intent is to pay tribute to SARDAR VALLABHBHAI PATEL Who was instrumental in keeping India is united. it is to be celebrated on 31 October every year as an annual commemoration of birthday of the iron man of India Sardar Vallabhbhai Patel, One of the founding leaders of Republic of India.

The National Unity Day celebrates the birthday of Patel because, during his term as Home Minister of India, he is credited for the integration of over 550 independent princely states into India from 1947-49. He is known as the “BISMARCK of India.



Figure 9.1 Rastriya Ekta Divas (National Unity Day) celebrated on 31 October 2019

KANNADA RAJYOTSAVA:

Kannada Rajyotsava is also known as Karnataka Formation day, is celebrated on 1 November of every year. This was the day in 1956 when all the Kannada language-speaking regions of South India were merged to form the state of Karnataka.



Figure 9.2 Kannada Rajyotsava celebrated on 1st November 2019

REPUBLIC DAY:

Republic day honors the date on which the Constitution of India came into effect on 26 January 1950 Replacing the Government of India Act (1935) as the governing document of India. The Constitution was Adopted by the Indian Constituent Assembly on 26 November 1949, and came into effect of 26 January 1950 with a Democratic Government system, Completing the country's transition towards becoming An Independent Republic.



Figure 9.3 Republic day celebrated on 26th January 2019

The 'B' CERTIFICATE EXAMINATION:

B Certificate examination is a culmination of NCC training for NCC cadets who are in the second year of NCC. The certificate has been recognized and those who successfully obtained it can get some benefits if they try to find jobs in the security forces.



Figure 9.4 B Certificate examination for the second year NCC cadets

THE 'C' CERT EXAMINATION:

C Certificate examination is a culmination of NCC training for NCC cadets who are in the Third year of NCC. The certificate has been recognized and those who successfully obtained it can get some benefits if they try to find jobs in the security forces.



Figure 9.5 C Certificate examination for the third year NCC cadets

AVOIDABLE BLINDNESS CAMP:

Avoidable blindness is defined as blindness which could be either treated or prevented by known, cost-effective means. In Today's generation one of the major diseases is blindness so it is very important for each and everyone to know about the causes of the blindness and how to avoid the blindness. So for the awareness of blindness we have conducted one day camp about "AVOIDABLE BLINDNESS" in SJCIT College on March 2019. Some of the eye diseases are Ageing and the eye, cataract, childhood blindness, diabetic retinopathy, glaucoma, low vision etc. Some of the Protective measures for eye disease are as follows.

1. Avoid smoking
2. Eat healthy foods
3. Stay active
4. Control your blood pressure
5. Protect your eyes from the sun

SAKSHAM is a National Organization catering to the needs of all section of disabled persons.

SAKSHAM has taken up a project CAMBA (Cornea AndhatvMukt Bharat Abhiyan) in Bengaluru Rural District consisting of four Taluks viz., Hoskote, Devanahalli, Doddaballapur and Nelamangala, wherein we will make a survey of about 100 villages reaching every home and recording the number of persons suffering from any avoidable blindness [cornea, cataract, pterygium, glaucoma, squint, uncorrected refractive errors etc.].

INTERNATIONAL YOGA DAY

International Yoga Day is celebrated on 21st June throughout the world. For the first time it was celebrated on 21 June, 2015. As, we all know environment is changing and the world is becoming more competent yoga help us to deal with this type of environment and also makes us healthy. This article deals with the theme, objectives of International Yoga Day, why it is celebrated on 21st June etc.



Figure 9.5 C Certificate examination for the third year NCC cadets

SCHOOL BELL EVENT

Most of the social activities outside the school are free of charge. These events are a great way to practice your English outside of your lessons. It is also an opportunity to make friends and chat to teachers away from the classroom. Your teacher will let you know about the next social activity in your lessons, or you can look on our social activity calendar on the first floor or check social media.



Figure 9.5 C Certificate examination for the third year NCC cadets

Thala Sainik Camp (TSC)

Thala Sainik Camp is a camp which gives a Army NCC cadet no. of opportunities. It's main purpose is to produce more and more cadets who'd be able to represent their group, contingent , and directorates in inter NCC competitions. there are several competitions.

For Thal Sainik Camp for 50 days, a cadet is trained in eight subjects.

- Obstacle race-individual and group
- shooting-snap and advanced
- Judging distance
- Health and hygiene
- Field signals
- Map reading
- Tent pitching
- Line area

CATC COMBINED ANNUAL TRAINING CAMP(CATC)

Combined annual training camp (CATC)/Annual training camp (ATC) are held within the state. Basically, these camps help us to build stamina that to within 10days of training. These camps are meant to introduce the cadets into the regimental environment. These camps are meant to introduce the cadets into the regimental environment.



Figure 9.8 Photographs of CATC combined annual training camp (CATC) and thala sainik camp (TSC)

Now coming to the activities which are held at the CATC.

1. Daily morning and evening PT.
2. Marching and drill competition.
3. Firing competition
4. Football.



Figure 9.9 COVID-19 Duties (26-04-2020)**Figure 9.10 Cadre Camp (1st Feb to 5th Feb 2021)****Figure 9.11 Photographs of B and C Certificate Exam-Feb 2021**

National Service Scheme (NSS)

The Institution has established National Service Scheme Cell. Mr. Shashi Kumar, Assistant Professor, Civil Engineering department is the NSS Program Officer. The Cell conducts regular NSS activities and special camping programs. The Institution has been conducting various Community service programs like Blood Donation Camps/Awareness programs and activities from time to time. In a concrete attempt to make the campus relevant to the needs of the community and with a view to developing healthy contacts between the students and teachers [on a voluntary basis] on one hand and establishing a constructive linkage between the campus and the community on the other hand, the institution has established a NSS [National Service Scheme] unit. The unit conducts regular NSS activities and special camping programs. The institution has

been conducting various community service programs like blood donation camps/awareness programs and activities from time to time thereby discharging its societal commitment.

Sl. No	Event Description
1.	Independence Day celebration
2.	NSS orientation Programme
3.	NSS Day celebration
4.	Awareness rally on say no to crackers and yes to life
5.	Blood Donation Camp
6.	vigilance awareness week
7.	International women's week
8.	Blood Donation Camp
9.	Free health checkup camp
10.	Tree plantation program
11.	11 Government school renovation done at Chickballapur and kolar districts
12.	19 days Technology barrier reduction program conducted at SJCIT campus for Government school students.
13.	Five thousand seed balls prepared and distributed to various GPs at Bagepalli taluk
14.	580 samplings distributed to students under one student one tree campaign
15.	Free health camps for adopted villages
16.	Conducted household and village survey for adopted villages and submitted to local governance
17.	Organized two residential camps and one special camp at adopted villages.

Table B.9.7.2c Details of Programs conducted by NSS unit

As a participating institution the college has adopted five villages under NSS & Unnat Bharath Abhiyan 2.0 and completed village and house hold survey in Kanivenarayanapura of Muddenahalli GP, Chickballapur, Taluk and other adopted villages with the help of all the Gram Panchayath & Village members and identified Some of the common problems which are observed in village and house hold survey in all the villages as follows

- Scarcity of water for drinking and irrigation
- Know how on precision farming techniques is lacking



Figure 9.12 Photographs of House hold survey in the villages

Village sanitation and health issues

- Knowledge about digital literacy is lacking
- Pollution due to dust and mining activities
- Some percentage of villagers is still following conventional cooking using firewood.
- Very less student's strength found in Govt. Schools.
- Depletion of Plantation area.

After successful completion of gram sabha and discussed about the above mentioned problems the college had taken some of the immediate action plans those are

- Provide door to door awareness about sanitation and its impact on health
- Under NSS & Unnat Bharath Abhiyan 2.0 Gram Sabha meeting were at Kondikonda village of M.Nallaguttalapalli GP, Bagepalli, Taluk and briefed about precision farming techniques and shared some of the photographs and study materials collected from Dr. M.K.Tiwari, school of water resources, IIT Kharagpur during Two Days Workshop on Water Management held 26th & 27th April 2019 at IIT Kharagpur

As the direction NSS & Unnat Bharath Abhiyan and IIT Delhi student volunteers conducted door to door awareness about plastic free village campaign in adopted villages and collected plastic waste.

As per the direction of UBA & VTU NSS, about swachhata Hi Sewa Campaign, Our College student volunteers are actively participated in Swachsharath activities in the adopted villages.



Figure 9.13 Awareness about plastic free villages Campaign

- Under NSS Unit SJCIT & Unnat Bharath Abhiyan 2.0, student's volunteers done

renovation work such as cleaning, painting etc. of Govt. Schools to attract the student strength in few adopted villages in association with NGO called campus to community, Bengaluru.



Figure 9.14 Swach Bharath Activities at adopted villages

As per the direction of UBA & NSS VTU about swachhata Hi Sewa Campaign, Our College student volunteers are actively participated in Swach Bharath activities in the adopted villages.



Figure 9.15 Swach Bharath Activities at adopted villages

As the direction Unnat Bharath Abhiyan and IIT Delhi and NSS VTU student volunteers conducted door to door awareness about plastic free village campaign in adopted villages and collected plastic waste.

- Under Unnat Bharath Abhiyan 2.0 & National Service Scheme [NSS] student volunteers & villages peoples are planted more than 2300 saplings and sown 5000 seed balls surroundings of Kondikonda village M.Nallaguttalapalli GP, Bagepalli, Taluk to improve green and the forest area in association with local forest department and GP offices.



Figure 9.16 Under Unnat Bharath Abhiyan 2.0, AICTE and NSS VTU conducted awareness camp on one student one tree campaign at our campus.



Figure 9.17 Under Unnat Bharath Abhiyan 2.0 & National Service Scheme[NSS] student volunteers are planted more than 2300 sampling.

As per the direction of UBA about Jal Shakti campus and Jal Shakti village, our student volunteers are done some paintings regarding conservation of water at Govt. Schools premises.



Figure 9.18 Painting Under Unnat Bharath Abhiyan 2.0 & National Service Scheme [NSS]

As per the direction of UBA and NSS VTU about Jal Shakti campus and Jal Shakti village, our student volunteers are done some paintings regarding conservation of water at Govt. Schools premises at kolar and Chickballapur districts.

As per the direction of UBA and NSS VTU about Jal Shakti campus and Jal Shakti village, our student volunteers are done some paintings regarding conservation of water at Govt. Schools premises Malur taluk, Kolar district.



Figure 9.19 Painting Under Unnat Bharath Abhiyan 2.0 & National Service Scheme [NSS]

Under VTU NSS and Unnat Bharath Abhiyan 2.0, student's volunteers done renovation work such as cleaning, painting in 12 Govt. Schools to attract the student strength in few adopted villages in association with NGO called campus to community, Bengaluru, at kolar and Chickballapur districts in the year 2019-20.



Figure 9.20 Painting Under Unnat

Bharath Abhiyan 2.0 & National Service Scheme [NSS]

Under Unnat Bharath Abhiyan 2.0 and AICTE conducted awareness camp on one student one tree campaign at our colleges and brief more about UBA and its activities to involve more students and faculties.

Societal activities:

B G S Rotary club: Rotary International is an international service organization whose stated purpose is to bring together business and professional leaders in order to provide humanitarian services, encourage high ethical standards in all vocations, and to advance goodwill and peace around the world. The purpose of a Rotary club is to connect people who then work together to serve the community. In view the B G S Rotary club is established in the year 2017 and Rotary Dist. 3190.

➤ Mega donation blood camp:

The Rotarians of BGS Club jointly organized with Rotary Vijayapura actively participated in the blood donation camp which was part of Guinness World record and we have collected almost an average of **400** units and we bagged **3rd** Position for the Mega Blood Donation Camp.

TALK ON IMPORTANCE OF BLOOD DONATION

Dr. PANINDRA given talk on importance of blood donation What are the criteria for blood donation, benefit to donor & beneficiaries Following NSS CO-ORDINATORS from various department attended session

Sl. No.	NAME	USN	BRANCH/SEM
1.	Rakshitha M R	1SJ20BA040	MBA 3 RD SEM
2.	Tejas Gowda C	1SJ20BA051	MBA 3 RD SEM
3.	Pooja R	1SJ20BA032	MBA 3 RD SEM
4.	Adbullah	1SJ20BA022	MBA 3 RD SEM
5.	Nitish Kumar N	1SJ20BA030	MBA 3 RD SEM
6.	Uday Kiran J	1SJ20EC162	ECE 3 RD SEM
7.	Tejas G S	1SJ20EC152	ECE 3 RD SEM
8.	Hemanth R K	1SJ19EC062	ECE 5 TH SEM
9.	Darshan S R	1SJ19EC041	ECE 5 TH SEM
10.	Bharath B P	1SJ19EC016	ECE 5 TH SEM
11.	Manjusri N	1SJ20CS082	CSE 3 RD SEM
12.	Meghana R	1SJ20CS087	CSE 3 RD SEM
13.	Kishaore G D	1SJ20CS071	CSE 3 RD SEM
14.	Radhika	1SJ18EC126	ECE 7 TH SEM
15.	Prapulla M S	1SJ18EC120	ECE 7 TH SEM
16.	Nirmala	1SJ18EC106	ECE 7 TH SEM
17.	Kiran Kumar B C	1SJ18CV052	CIVIL 7 TH SEM
18.	Abhishek T S	1SJ18CV004	CIVIL 7 TH SEM



Figure 9.21 Digital banking awareness program



Figure 9.22 Digital banking awareness program

Program for B Com students of BGSIMS was held on 28th sept.2021 at civil seminar hall. More than 100 students attended.

➤ National voters day

Report on election commission of Karnataka in view of celebration of national voters day 2022 events are organized at college on 2nd November 2021 at 11.00am in civil seminar hall. Conducted easy writing competition.

EASY WRITING					
Winner	Name	Sem/Sec	Phone No:	Mail Id	Department
1	RAKSHA A (1SJ19EC132)	5 TH C	8088239963	rakshaamurthy@gmail.com	ECE
2	NAVYASHREE A G (1SJ19IS075)	5 TH B	8431984279	nsag146@gmail.com	IS
POSTER DESIGN					
1	NANDEESH N (1SJ19EC408)	7 TH A	9902004479	nandigowda475@gmail.com	ECE
2	CHANDAN GOWDA S (1SJ18EC025)	7 TH A	9071120115	chandangowda2701@gmail.com	ECE



Figure 9.23 Essay Writing Competition

Vaccination drive is organized by NSS TEAM SJCIT in association with ROTARY BGS CHIKKABALLAPURA at 11:30 AM in Academic Block ground floor all the beneficiaries are requested to reap the Benefit of the program on 8/9/2021.



Figure 9.24 1st Vaccination drive

Organized by NSS TEAM SJCIT, CHIKKABALLAPURA at 10:30 AM in Admin Block ground floor, program on 29/10/2021 Friday. Registration link address: <https://forms.gle/o24dHFweWe8NwwPb7>

Total vaccination: 110



Figure 9.25 2nd Vaccination drive

Swachh Chickballapur Abhiyana:

Swachh Chickaballapur Abhiyana in the mark of our Swachh Bharath. This initiative has been taken from the local Web world Infotech Pvt Ltd along with the Rotary Chickballapur BGS to clean the city and give awareness to all the locality of Chickballapur. Event was held at June 4th 2017 and the same event will continue every month of 1st Sunday in Chickballapur from July 2017. Photographs of the event are presented.



Figure 9.26 Swachh Chickballapur Abhiyana



Figure 9.27 Photo graphs of Swachh Chickballapur Abhiyana

Wash in Schools:

- Wash IN Schools (WINS) program was been conduct on 6th June 2017 from Rotary Chickballapur BGS. WashIn Hands program means giving an Awareness Program to the school students to be Hygienic and clean the hands before & after having Food and after using the toilets.
- Rotary Chickballapur BGS Conducted Wash In hands Program for 3 Schools in Chickballapur and more than 3000 Students along with the Principals & Faculties Members of Schools took part and we also gave a demo for all the students and made them to wash their hands using Hand wash and water.
- Rotary Chickballapur voluntarily took initiative in providing the sanitary for Wash In Hands Program and made it to wash all the individual students of all the 3 schools by using the sanitary available on June 6th 2017.



Figure 9.28 Wash In Hands Program



Figure 9.29 Wash In Hands Program

In association with Shikshana Foundation, Hitachi power grids, Distributed Free laptops for Meritorious SEVEN Girls students and TEN Thousand Scholarship through cash on 16.08.2021



Figure 9.30 Free laptops Distribution to Meritorious SEVEN Girls Pictures and paper cutting Vijayavani on 17.08.2021

College fest:

Sambhrama is a Cultural fest and it is a annual Techno-cultural extravaganza successfully conducting since establishment of this Institution. Sambhrama has been setting the stage for students community to showcase their talents, Innovations and

creativity with zeal and zest. Ethnic day is celebrating every year.

Events conducted in the SAMBHRAMA

Sl.No.	Events
1	Rangoli
2	Sudoku
3	Mehendi
4	Essay Writing (English/Kannada)
5	Debate (English/Kannada)
6	Quiz
7	Pick N Speak (English/Kannada)
8	Pot Painting
9	Sketching
10	Cooking without fire
11	Painting
12	Dumb Charades
13	Anthakshari
14	Solo singing

Sports Facilities and Activities:

The Institution supports sports activities and has provided the various sports facilities to meet the students need for both indoor and outdoor games. The sports facilities meet the national standard. There is a well-equipped gym encouraging students maintain physical fitness. Students are encouraged to participate in various zonal and inter-zonal tournaments. Students participate in inter collegiate and university tournaments. Sports day is celebrated with various sports events like Athletics, Long Jump, Cricket, Volleyball, Kabbadi, Hockey, Basket Ball, Throw Ball, Football, Kho-Kho, Ball Badminton, Badminton, Table Tennis, Chess, and Carom etc.

Table B.9.7.2d. shows details of Sports Facilities available in the Institution.

Sl. No.	Sports / Games	Facilities	Facilities
A. Outdoor Games			
1	Athletics	400mts, 8 lane tract of International standard with facilities for all field & tract events	
2	Cricket	Cricket Field	
3	Foot Ball	Foot Ball Field	
4	Hockey	Hockey Field	

5	Basket Ball	Basket Ball concrete court	01
6	Volley Ball	Volley Ball courts.	03
7	Kho - Kho	Kho – Kho Court	01
8	Kabbadi	Kabbadi Court	01
9	Throw Ball	Throw Ball Court	01
10	Lawn Tennis	Lawn Tennis Court	01
B. Indoor Games			
1	Badminton	Badminton Court	02
2	Table Tennis	Table Tennis Boards	03
3	Chess & Carrom	Chess & Carrom	01 room
4	Billiards	Billiards Table	01
		Billiards Sticks	04
		Billiards Q. Ball	02
5	Gymnasium – Multi Gym	Multi Gym	12 stations
		Power Ball	01
		Stepper	02
		Rowing Machine	03
		Cycle	04
		Bench Press	04
		Jogger Manual	04
		Dumbles Stand	01
		Dip Stand	5 pairs
		Dumbles	1000Kg
		Weights	1000Kg
		Weight Lifting Bars	15 Nos.

List of important sports events conducted by the college during assessment years are presented in the following Table B.9.7.2e.

Table B.9.7.2.d Details of Indoor and Outdoor sports facilities at the Institution

Sl. No.	Academic year	Events Organised	Date
1	2020-21	Nil	Nil
2	2019-20	VTU inter collegiate Bangalore north zone and inter zone Cricket tournament men and Cricket selection trails	15 th March to 17 th April 2019
		VTU inter collegiate Bangalore north zone HOCKEY tournament (Men)	16 th May 2019
		VTU Single Zone Judo & Wrestling (Men & Women) Competition 2019	06 th to 07 th August 2019
3	2018-19	VTU inter collegiate Bangalore zone hand ball women tournament	19 th March 2018
		VTU inter collegiate Bangalore north zone and inter zone Kho-Kho and selection trails men tournament	06 th to 10 th April 2018

	21 st VTU inter collegiate ATHLETIC MEET	26 th to 29 th October 2018

The following section shows photographs of the various sports activities organized by the Institution.



Figure 9.31 Kabaddi team participated and secured 2nd Place in VTU Inter Collegiate Kabaddi tournament (women) which was held at Sai Ram College, Bangalore



Figure 9.32 VTU Inter Collegiate Throw Ball tournament (Women) participated and secured 2nd Place at Sai Vidya College, Bangalore



Figure 9.33 VTU Inter Collegiate Bangalore north zone Cricket (Men) Tournament during 19th to 29th March 2017

Achievements:

SJCIT has received a meritorious Institution cash prize award of rupees one lakh for the academic year 2016-17 from VTU, Belagavi.



Figure 9.34 Photograph displaying receipt of Institution Cash Award at VTU, Belagavi

- Our college Throw Ball team participated in VTU Inter Collegiate Bangalore north zone and inter zone Throw ball (Women) Tournament during 6th to 10th Oct 2017 at NMIT Bengaluru Team won 2nd Place.
- Our college Kabaddi team participated in Inter Collegiate Kabaddi tournament 2018 (woman) which was held at Sai Ram College, Bangalore. They secured 2nd Place.
- Our college kabaddi team participated in VTU Inter Collegiate Bangalore North Zone and Inter Zone kabaddi Tournament (Men) 2018 which was held at Zone at Dr TTIT KGF Kolar, They secured 1st Place .Inter Zone at VCET PUTUR, and inter zone they secured 3rd Place.
- Our college Volley Ball team participated in VTU Inter Collegiate Volley Ball tournament (Men) which was held at Acharya IT, Bangalore. They secured 2nd Place.
- Our college staff participated in state level cricket Tournament held at PES Bangalore on 19th to 20th November 2018.
- Our college students participated in VTU state level Wrestling & Judo (men & women) Competition at Sapthagiri CE On 9th and 10th November 2018 Men-wrestling 2nd place, 3rd place. Judo 1st Place, 2nd place. Women - wrestling 1st place, 2nd place and 3rd place, Judo 1st Place, 2nd place and was also selected for Nationals.
- Our college Table Tennis team participated in VTU Inter Collegiate Table Tennis tournament (Women) which was held at Vijay Vitala It Bengaluru. On 3rd to 4th September 2018 Secured 2nd Place.

- Our college kabaddi team participated in VTU Inter Collegiate Bangalore Zone and Inter Zone kabaddi Tournament (Women) 2019 which was held on Zone level at SVIT Bengaluru, They secured 1stPlace. And Inter Zone on VSMSRKIT NIPANI. They secured 2nd Place.
- Our college students participated in VTU state level Wrestling & Judo (men &women) Competition at SJC INSTITUTE OF TECHNOLOGY On 6th to 7th September 2019.
- SJCIT Women team have grabbed VTU Wrestling Champion Trophy with 3 Gold Medals and 3 silver Medals with 2 Bronze Medals.
- SJCIT Men team have grabbed VTU Wrestling Runner Trophy with 2 Gold Medals and 1 silver Medals with 2 Bronze Medals.
- SJCIT Women team have grabbed VTU judo Runner Trophy with 1 Gold Medals and 1 silver Medals with 1 Bronze Medals.

NSS Student Coordinator for Sports Division Level “BGS Memorial Sports Championship-2021

Sl. No.	Name	Department	Sem/Sec
1	Hemanth R K	ECE	5 th /A
2	Ganesh K	ECE	5 th /A
3	Darshan S R	ECE	5 th /A
4	Tejas	ECE	3 rd /C
5	Punith	ECE	3 rd /B



Figure 9.35 Photograph BGS Memorial Sports Championship-2021

CRITERIA 10

**Governance, Institutional
Support and Financial
Resources**

CRITERION 10	GOVERNANCE, INSTITUTIONAL SUPPORT AND FINANCIAL RESOURCES	120

Photograph displaying receipt of Institution Cash Award at VTU, Belagavi

Our college Throw Ball team participated in VTU Inter Collegiate Bangalore north zone and inter zone Throw ball (Women) Tournament during 6th to 10th Oct 2017 at NMIT Bengaluru Team won 2nd Place.

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SJCIT Women team have grabbed VTU wrestling Champion Trophy with 3 Gold Medals and 3 silver Medals with 2 Bronze Medals. SJCIT Men team have grabbed VTU Wrestling Runner Trophy with 2 Gold Medals and 1 silver Medals with 2 Bronze Medals.

SJCIT Women team have grabbed VTU judo Runner Trophy with 1 Gold Medals and 1 silver Medals with 1 Bronze Medals.

NSS STUDENT COORDINATOR FOR SPORTS DIVISION LEVEL “BGS MEMORIAL SPORTS CHAMPIONSHIP-2021

SI NO	NAME	DEPARTMENT	SEM/SEC
1	HEMANTH R K	ECE	5 th /A
2	GANESH K	ECE	5 th /A
3	DARSHAN S R	ECE	5 th /A
4	TEJAS	ECE	3 rd /C
5	PUNITH	ECE	3 rd /B

10. GOVERNANCE, INSTITUTIONAL SUPPORT AND FINANCIAL RESOURCES (120)

10.1 Organization, Governance and Transparency (40)

10.1.1 State the Vision and Mission of the Institute (5)

Vision :

Preparing Competent Engineering and Management Professionals to Serve the Society

Mission :

- Providing students with a sound Knowledge in fundamentals of their branch of study Promoting Excellence in Teaching, Training, Research and Consultancy
- Exposing students to emerging frontiers in various domains enabling Continuous Learning Developing Entrepreneurial acumen to venture into innovative areas
- Imparting Value based Professional Education with a sense of social responsibility

10.1.2 Governing body, administrative setup, functions of various bodies, service rules, procedures, recruitment and promotional policies (10)

The Governing Body

The Governing Council of the college is the main administrative body. It is constituted as per the guidelines framed by All India Council for Technical Education, affiliating University and government of Karnataka. The main objective of the governing council is to offer quality education in the best possible means to ensure that the graduates are employable and socially acceptable. The Governing Council is guided by the spiritual and religious leaders of the Sri Adichunchanagiri Mahasamsthana Mutt. The Council is headed by His Holiness Jagadguru Sri Sri Sri Dr. Nirmalanandanatha Mahaswamiji, President, Sri Adichunchanagiri Shikshana Trust® and comprises of eminent personalities in the society, Academicians, and Industry experts. The distinguished members are drawn from different cross-sections of the society as shown in Table B.10.1.2a.

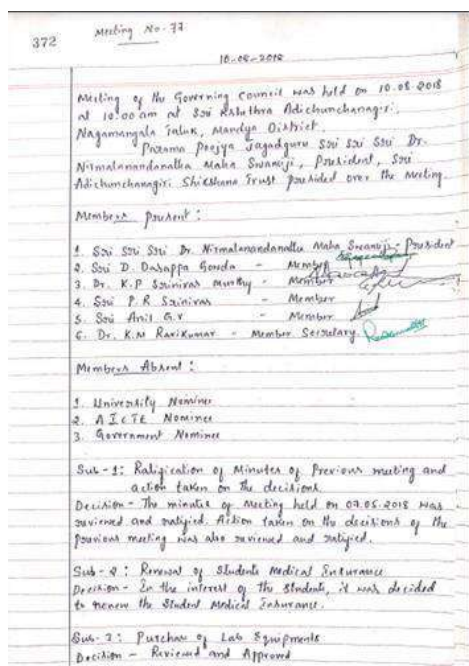
Table B.10.1.2a: Structure of Governing Council of SJCIT

Sl. No	Name of the Member	Profession	Designation
1	Sri Sri Sri Dr. Nirmalanandanatha Mahaswamiji	President Sri Adichunchanagiri Shikshana Trust ®	Chairman
2	Sri Sri Mangalanatha Swamiji	Sri Adichunchanagiri Shikshana Trust ®, Chickaballapura Shakha Mutt	Secretary
3	Dr. K P Srinivas Murthy	Doctor	Member
4	Sri. Anil G V	Industrialist	Member
5	Sri. K Govindraj	MLC	Member
6	Sri. P R Srinivas	Industrialist	Government Nominee
7	Dr. B S Dhaliwal	Vice Chancellor	University Nominee
8	Sri. R Manjunatha	Director of Technical Education	Government Nominee
9	Dr. R Sakthivel	Regional Officer and Assistant Director, South Western Regional Office	AICTE Nominee
10	Prof. P K MahaPathra	Professor	AICTE Nominee
11	Dr. G T Raju	Principal	Member Secretary

The Governing Council meets regularly twice in a year. All the activities of the Institute, the performance of students, academic matters, research progress and strategic plans for the overall development will be presented by the Principal / Member Secretary. All the matters will be reviewed and suitable suggestions for improvement will be sought from the Honourable members of the Governing Council. Minutes of the Governing Council meeting will be circulated to all the members after taking approval from Chairman of Governing Council. The Governing Council meeting details are presented in the Table B.10.1.2b. A sample of minutes of meeting is shown in figure 10.1

Table B.10.1.2b: Governing Council meeting held during Previous Years

Sl. No.	Year	Number of Meeting	Date of Meeting
1	2020	2	25/06/2020
			06/01/2020
2	2019	2	08/09/2019
			26/05/2019
3	2018	3	04/12/2018
			10/08/2018
			07/05/2018



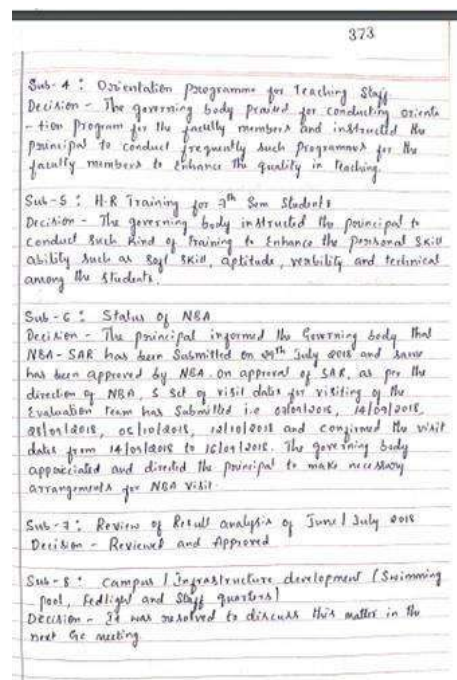


Figure 10.1. A snap shot showing contents of Minutes of Meeting held in the year 2018

The Administrative setup:

The Institute believes in a transparent and decentralized work culture. The employees are empowered to initiate development actions for the improvement of quality education. The Organization structure is as shown in Figure 10.

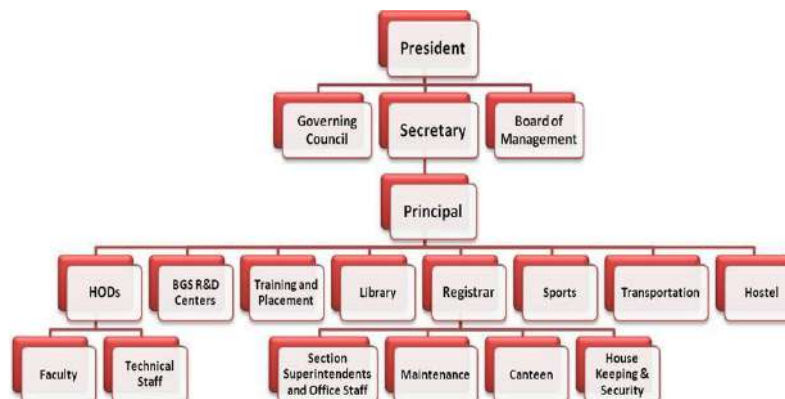


Fig.10.2: Organization Structure of the Institute

The above organization structure indicates the major portfolios and their reporting structure. However, the Institute has identified other key responsible areas and has been assigned to different faculty members. This is the core teams which lead the processes at the Institution Level. The functions and responsibilities of various positions are defined and presented in the following Table B.10.1.2c.

Table B.10.1.2c Functions of various bodies and positions

POSITION	FUNCTIONS
Governing Council	Frame directive principles and policies. Amend and approve policies from time to time. Approve Budgets.
Principal	• Head of the Institution. • Academic and administrative management of the institution. • Policy planning and providing academic and administrative leadership. Monitoring and Evaluation of academic and research activities. • Promotion of industry-institution interaction. Providing Consultancy services. • Participation in policy planning at the regional/National level for development of technical education. • Allocation of budget and budget monitoring. • Managing the Quality Management System of the Institution. • Teaching. • Student and stakeholders' satisfaction. • Monitoring the Implementation of ISO 9001-2015 systems and standards across the organization. • Approval of Master timetable, Quality Manual and Quality System Procedures and changes to the same, Calendar of Events, Institution related documents.
Director [Research and Incubation Centre for Entrepreneurship]	• Create Awareness about Entrepreneurship and Intellectual Property Rights • Initiate new ideas to solve local problems through IDEATHON & HECKATHON process and convert ideas into proof of concept. • Establish collaboration with government and non government funding agencies to enhance research, innovation and entrepreneurial related activities. • Guide & motivate the students to become entrepreneurs. • Research & Development, Publications and Funding

•
•
•
•
•

Registrar	• Preparing regular financial and administrative reports Managing office supplies stock and placing orders • Prepare reports and presentations with statistical data, as assigned • Organize a filing system for important and confidential Institute documents. Office Administration. • Administration of the Institution as per the directions of Management and Principal. • Co-Ordinate with the MR in the Institution related matters. Manages the financial matters of the college. • Budget monitoring. • Liaisoning administrative activities with Management, University, Central and State Government and Bodies, Local administration and Authorities, Principal, Staff, Students and Parents. • Managing and Monitoring the Purchase and Stock Verification activities. Co-Ordination with the Supporting Sections Staff in organizing Extra/Co-Curricular activities. • Monitoring the Admission, Examination, Establishment and Recruitment Activities of the Institution. • Monitoring the Security activities & General Amenities across the Institution. Monitoring the Implementation of ISO 9001-2015 Systems & Standards in the Office and its related area. • Approval of Office related work instruction. Housekeeping.
Head of Department	• Head of Department/Teaching/Research/Training. • Academic and administrative management of the department. Teaching and research activities. • Implementation of ISO 9001 -2015 Systems & Standards Review of Lesson Planning, Review of Test Question papers. • Providing leadership in both post-graduate and undergraduate courses in relevant field of specialization. • Consultancy services. • Policy planning, Monitoring and Evaluation and Promotional activities both at departmental and institutional level. • Curriculum development and developing resource materials. Design and development of new programmes. • Continuing education activities. Interaction with industry and society. Students counselling and interaction. • Administration both at Departmental and institutional levels. Student and stakeholders' satisfaction. • Housekeeping.

Librarian	• Library Head. • General administration of library. • Budgeting, Planning and developing the library. • Books, periodicals, videotapes selection, acquisition & Storage. Supervising of cataloguing and indexing. Automation aspects. Maintenance of library books, periodicals, videotapes, catalogues etc. E learning resources. • Student satisfaction. • Implementation of ISO 9001 -2015 systems and standards. Approval of Library work instruction. • Housekeeping, Development of Digital Library .
Placement Officer	• Industry Interaction. • Organizing the Campus Recruitment. • Interaction with Industries and arrange Industrial visits, Technical Seminars. Organizing Career Guidance and Personality Development Programs. • Organizing General Aptitude Tests. • Assisting the academic departments to get projects. • Organizing for Training as per academic department's requirements. Implementation of ISO 9001-2015 systems and standards. • Approval of Placement work instruction and Letters.
Warden	• Hostel Activities. • Overall Monitoring of Hostel Activities. • Implementation of ISO 9001-2015 systems and standards. Approval Routine Hostel Documents. • Maintenance of Discipline in the Hostel, Housekeeping.
Professors/ Associate/ Assistant Professors	• Teaching /Laboratory Maintenance. Conduction of theory and practical classes. • Planning laboratory work & Maintenance of Laboratories. Support HOD/Professor in Lab / Workshop Maintenance. Preparation of lesson planning and test question papers. Student Counselling and Interaction by the Proctors. • Support department in organizing curricular and extracurricular activities. Implementation of ISO 9001-2015 systems and standards. • Awarding Internal Assessment Marks. Housekeeping.

Foreman, Lab instructors, System programmers	• Laboratory Maintenance. • General Maintenance of Laboratory and equipment. Maintenance of Computer Hardware & Software in the lab. Maintenance of Problem and Maintenance Registers. • Updating of Stock Registers. • Supervising the activities of supporting lab Staff. Assisting in the conduction of the Laboratory classes. Student satisfaction. • Implementation of ISO 9001 -2015 systems and standards. Updating Stock Registers and Maintenance Registers. • Housekeeping.

Service Rules:

Service rules are constituted by Sri AdichunchanagiriShikshana Trust and are documented in Sri AdichunchanagiriShikshana Trust manual. The Service rules are made available for all the employees of the organization. The Services rules are under the guidelines of AICTE, affiliating University and Government of Karnataka. The establishment section maintains Service Book for every staff member. The Institution has Standard Operating Process is defined for all the activities of the Institution. The Recruitment procedure for the appointment of teaching faculty is presented below.

- Staff requirement details will be collected from the HODs through prescribed format during the academic year and will be placed before the Management for approval to advertise in the newspapers.
- Advertisement will be given in different newspapers by mentioning Qualifications, Experience, Pay Scales, etc.
- After receiving the applications / resumes, it will be scrutinized and shortlisted. Shortlisted candidates will be called for interview on the prescribed date.
- The Selection Committee meeting will be called on the prescribed date and the representative from VTU, AICTE, Governing Council Members with respective HOD and Subject Expert will be invited for the Interview.
- The Committee prepares the Merit List (Selection List).
- A letter signed by Principal shall be issued to the selected candidate (In the case of delay in obtaining signature of the President). The President of the Trust shall issue Appointment Order. The candidate will meet the Principal and report to duty within the specified joining date as mentioned in the letter signed by the Principal/President and submit all his / her original documents to the Office. In case, the candidate requests for an extension of joining period, the same shall be examined by the Principal and suitable decision will be conveyed to the candidate. In case, the chosen candidate does not report within the prescribed time, his / her appointment stands cancelled and a fresh Appointment Order is issued to the waitlisted candidate.
- The HOD will be informed about the reporting of duty.
- Name of the staff who has joined will be informed to the Library, Transportation section and hostels.

Promotional Policies:

Policies regarding promotion are as per AICTE norms. Additional increments are given to the faculty who excel in academics and research.

10.1.3 Decentralization in working and grievance redressal mechanism

(10)

The Institution has identified various committees and is empowered to take appropriate decisions to ensure over all functioning of the institution are smooth. The committee in general consists of faculty members, key Officers from the Government of Karnataka, Industry Representatives, Alumni's and Student Representatives. The various committees, team members and its responsibilities are presented in the following Table B.10.1.3.

Table B.10.1.3: Committees, members and its responsibilities

Sl.No.	Name of the Committee	Members	Roles and Responsibilities
1.	Discipline Committee	1. Dr. Srinivas Reddy Perla, HOD, Maths 2. College level committee member 3. Department level committee member	To oversee and monitor the overall discipline of students in the college, and review it periodically. To take decisions and actions related to indiscipline activities of the students in the college as and when required
2.	Anti Ragging Committee	1. Dr.G.Narayan, CED,Chairman 2. Dr.M.N.Manjunath, , Chemistry 3. Dr.Nataraj S N, MED 4. Circle Inspector, Chikkaballapur 5. Sub Inspector,Rural Police Station 6. Mr. Chethan, Student Representative 7. Mr. Manoj Kumar, Student Representative	• Anti-Ragging Committee will be the Supervisory and Advisory Committee in preserving a Culture of Ragging Free Environment in the college Campus. • The Anti-Ragging Squad- office bearers will work under the Supervision of Anti Ragging Committee and to engage in the works of checking places like Hostels, Buses, Canteens, Classrooms and other places of student congregation. • Anti-Ragging Committee will be involved in designing strategies and action plan for curbing the Menace of Ragging in the college by adopting array of activities.

3.	Anti Ragging Flying Squad	1. Prof.Ravindra, CED, Chairman 2. Prof.Kalaiah J B, ECE 3. Prof. Srinivas Murthy, CSE 4. Prof.Yogaraj, ISE 5. Prof. Harish S, MED 6. Prof.Rohith L G, AE 7. Prof. Mahesh, Maths	• Anti-Ragging Squad will be working under the Monitoring of Anti Ragging Committee and will seek advice from the Anti-Ragging Committee. • The functions of Anti-Ragging Squad will be to keep a vigil and stop the incidences of Ragging, if any, happening / reported in the places of Student aggregation including, Classrooms, Canteens, Buses, Grounds, Hostels etc. • The Squad will also educate the students at large by adopting various means about the menace of Ragging and related Punishments there to. • A gamut of positive reinforcement activities are adopted by Anti-Ragging Squad for orienting students and molding their personality for a better cause. They shall work in Consonance and Guidance of Anti Ragging Committee.

4.	Internal Quality Assurance Cell (IQAC)	1. Dr.B.N Shobha, ECE,Chairman 2. Management Representatives 3. Dr T Munikenche Gowda, BGS R&D 4. All HODs	Development of quality benchmarks/parameters for various academic and administrative activities of the institution and carry out the gap analysis for SJCIT Facilitating the creation of a learner-centric environment conducive to quality education and faculty maturation to adopt the required knowledge and technology for participatory teaching and learning process carrying out periodic check of course outcome attainment and action taken from each faculty and its mapping on to POs, PEOs. Monitor the action taken by departments on feedback response from students, parents and other stakeholders on quality-related institutional processes; Dissemination of information on various quality parameters of higher education; Organization of inter and intra institutional workshops, seminars on quality related themes and promotion of quality circles; Documentation of the various programmes / activities leading to quality improvement; Acting as a nodal agency of the Institution for coordinating quality-related activities, including adoption and dissemination of best practices; Development and maintenance of institutional database through MIS for the purpose of maintaining /enhancing the institutional quality; Development of Quality Culture in the institution; Preparation of the Annual Quality Assurance Report (AQAR) and submit to NAAC.

5.	Students Grievance Redressal Cell:	1. Dr.Nagendra Kumar N, ECE, Chairman 2. Dr.Manjunath Kumar HB, HOD, CSE 3. Prof.Deepa M S, HOD, AE 4. Dr.Bharathi M, CSE 5. Prof.Sharada S A,CED	To develop an organizational framework to resolve Grievances of Students. To provide the Students access to immediate, hassle free recourse to have their Grievances redressed. To enlighten the Students on their duties and responsibilities.
			To establish structured interactions with Students to elicit information, academic and administrative process on their expectations. To institute a monitoring mechanism to oversee the functioning of the Grievance Redressal Policy.
6.	Anti- Sexual Harassment Committee	1. Dr.Manjunath Kumar HB, CSE, Chairman 2. Dr. Suma, MBA 3. Prof.Deepa M S, AE 4. All HODs	To provide conciliation to settle the matter between her and the respondent. Conduct inquiry within the time frame (90days) as prescribed in the Act. Prepare inquiry and settlement reports & submit the same to the Director. Ensure confidentiality in conciliation proceedings and conducting inquiry as well as in keeping records. Easy accessibility.

7.	Alumni Association Committee	1. Prof.Satheesh Chandra Reddy, ISE, Chairman 2. Mr.Sunil Kumar 3. Ms.Geetha Vivekan and 4. R.Venkates hKempa Reddy 5. Mr.Shaik Mahammad Raffi 6. Mr.Ravi Chandra 7. Mr Naveen 8. Mr.Pramodh Gowda 9. Mr.Anilkumar .P.V. 10. Mr.Venkatesh .Kolaram	To maintain alumni data base, ensure alumni meetings, establish alumni interaction, to promote alumni awareness engagement and commitment to the Institute, support a strong relationship between the alumni association and current students.

8.	Committee of Wardens	1. Dr Vija G R, ISE, Warden 2. Sri J Suresha, Registrar 3. Prof. Chethan H V, ISE 4. Prof. Susheelamma, ISE	To plan and monitor the maintenance of all the infrastructure facilities concerned with the Hostel To supervise all facilities/amenities and their up keep, receive complaints from students, redress of grievances etc. To control, counsel the behavior of students in the hostel, monitor study schedules and patterns, etc. To plan for all the infrastructure facilities required as per Responsible for proper maintenance of the lodging and boarding facilities of the hostel and for smooth running of the hostel Responsible for the receipts and the payments of the hostel.
9.	Library Committee	1. Dr. Nataraj S N, Chairman 2. Mr. Lohith, Librarian 3. All HODs	The Library Committee provides a forum for discussion of matters relating to the Library and its services. To decide and adopt policies to govern the management and programme of the library. To prepare the annual budget, rules and regulations of the library. The committee also looks into students' complaints, if any. The Library Committee is a standing committee of the Academic Council.
10.	Canteen Committee	1. Dr. G. Narayana, CED, Chairman 2. Prof. Kiran K M, CED 3. Prof. Vathsala M N, CED 4. Student representative from every dept.	To supervise, take steps for the maintenance of canteen facilities with hygiene To maintain and control the quality of food supplied in the canteen To modernize the canteen equipment and cooking procedures To control and make suggestions to the canteen management To plan for all the infrastructure facilities required as per norms

11.	Career Guidance Cell	1. Mr. Sunil Kumar Nayak B, TPO, Chairman 2. Dr. Ravi Kumar T R, MED 3. Prof. Narendra Babu, CSE 4. Prof. Aravinda Thejas Chandra, ISE 5. Prof. Ravindra, CED 6. Dr. Sudhir P, ECE 7. Prof. Deepa M S, AE	Collects and maintains the students database for the purpose of HR activities. Does the training need analysis for all third year students. Based on the same, plans for imparting the necessary skills such as soft skills, hard skills and technical skills. Responsible for identifying placement opportunities across reputed organizations. Arrange for interaction with industry and bridge the gap between Institute and industry. Arranges for better conduct of industry – specific Training programmes. Assists companies in the recruitment process by conducting interviews, group discussions, written tests etc. in the Campus. Arranges the special sessions for providing the contemporary trends and development in the technologies and tools to the students. The Training and placement Cell conducts lectures on personality development, communication skills and conduct mock sessions for improving presentation skills. Plan, designs, and imparts Soft skills to the students. Plan, designs and imparts personality development to the students. Plan, designs and implements finishing schools to the students. Coordinates with Training Officer for identifying the training requirements related to Soft and communication skills.
12.	Student Welfare Committee	1. Prof. Satheesh Chandra Reddy, ISE, Chairman 2. Dr. Manjunath Kumar H B, CSE 3. Prof. Ravi Kiran, CED 4. Mr. Shivaram, Administrative Office	Coordinating problems in the distributions of BC, MBC, SC/ST scholarship to the deserving candidates. Monitoring students facilities, organizing financial support to deserving students.

13.	Transportation Committee	1. Dr. P. Rukmangadha ,MED, Chairman 2. Sri. J. Suresha, Registrar 3. Mr. Byrappa, Transport section	To organize route schedule, to monitor maintenance of vehicles, liaison with Government, to address issues related to man power
14.	College Internal Complaints Committee (CICC)	5. Dr.B.N Shobha, ECE, Chairman 6. Dr.Manjunath KumarH B, CSE 7. Dr. Suma S, MBA 8. Smt. Geethadevi K.L,CED 9. Ms. Hamsa, Student,CSE 10. Ms. Spoor thi, Student,M ED 11. Ms. L Harshit h, Student ,AED 12. Smt. LeelaSriramai ah,NGO Member	Creates awareness about the internal complaint committee among the Institute academic and administrative units. Promotes effective communication and collaboration among those responsible for complaints Ensures that the complainant and witnesses are not victimized or discriminated because of theircomplaint. Encourages an open-dialogue with the complainantfrom the committee members. Monitors emerging complaint trends and circulate the information as needed. Serves as a resource in developing or improving complaint related processes. Works with the University Policy Review Committee to ensure proper reporting of the complaints and their follow-up procedures. Makes recommendations to senior management as to any resources or actions required for Institute compliance.

15.	Central Mentoring-Cum-Counselling Committee at College/Departments under VTU	1. Dr.Ranganath R, MED, Chairman 2. Dr. B. N Shobha, ECE, 3. Prof.Satheesh Chandra Reddy, ISE 4. Prof.Deepa M S, AED 5. Mr. Chandan T, PED 6. Mr. Lohith G.N, Librarian 7. Prof.Sridha J, MED	• • To support the students in molding their character with self-confidence. To de-stress the students by listening their problems and suggest solutions. To conduct periodical meetings to address issues related to student academics. To counsel and mentor the specific case of students for academic improvement, career advancement and overall development. To review the counseling process conducted by faculty.
16.	Internal Committee for the Students with disabilities in Universities/College	1. Dr. Ravi Kumar M, ASE, Chairman 2. Dr. Manjunathkumar B, CSE 3. Dr. S. Bhargavi 4. Sri. Venkatesh A, Parent 5. Sri. Nataraj. S, Parent 6. Ms. Spoorthi, 3rd year student, MED 7. Mr. Sudeep, 4th year student, ECE	To take care of day to day needs of differently able persons as well as for implementation of the schemes existing and to be devised in future.

17.	Accreditation (NBA/NAAC) Committee	1. Dr.Ranganath R, MED,College level NBA Coordinator 2. Dr. Ravi Kumar M, ASE,College level NAAC Coordinator 3. Department level NBA Coordinators 4. Department level NAAC Coordinators	To apply for NAAC/NBA certification. To conduct periodical review meetings to monitor the progress of NAAC/NBA certification work. To attend the seminars/conferences related to NAAC/NBA certification. To organize training programmes for staff members by external resource persons to create awareness about NAAC/NBA certification. Periodically reviewing the updation of NBA/NAAC related activities in the college.
18.	College Website and Internet Maintenance Committee	1. Prof. Aravinda Thejas Chandra, ISE Chairman 2. Prof. Nagesh R, ISE, Coordinator 3. Mr. Somashekar, System administrator 4. Mr. Syed Imdad, System administrator	To maintain and update the contents in the college website periodically. To promote news, events related to college in the website regularly.
19.	Central Computing Facility And Computer Maintenance Committee	1. Prof. Abdul Khadar, ISE, Coordinator 2. Mr. Somashekar, System administrator 3. Mr. Syed Imdad, System administrator	To provide central computing facility for the first year students To maintain all the computers, LCD projectors, printers in the college
20.	University Examination Committee	1. Dr. Suresha Gowda M V, ASE, Chairman 2. Mr. Krishnappa, Exam Section 3. Chief Time-table Coordinator (CTTC)	To conduct and monitor the University Examinations as per the time table systematically with proper arrangements

21.	Internal Examination Committee	1. All the Head of Departments 2. All Departments Test Coordinator	To conduct and monitor the three periodical tests as per the schedule systematically with proper arrangements
22.	Signboard In charge/ Maintenance Committee	1. Dr. G Narayan, Chairman 2. Prof. Manjunath K A, CED 3. Mr. Somashekar, System administrator 4. Mr. Syed Imdad, System administrator	To install signboards in the college as and when required To monitor and maintain the Power supply, Generators, UPSs, A/Cs available in the college and hostels . .
23.	Publicity and College News Promotion Committee	1. Prof. Narendra Babu C, CSE 2. Dr. K M Rajashekar, Physics 3. Dr. Suma S, MBA	To send advertisements, news items to the newspaper about the college or events organized in the college. To bring press reporters to the college functions through invitations or by phone. To make promotional activities about the college in the newspaper and website.

24.	Purchase Committee	1. Secretary, Sri Adichunchanagiri Shakha Math, Chickballapur branch 2. Dr. N Shivarama Reddy, CAO 3. Dr. G T Raju, Principal 4. Sri. J Suresha, Registrar 5. All the Head of Departments	To make arrangements for purchase of the equipments/items/devices required by any department in the college as per the guidelines. After receiving the item /device/equipment in good quality, make arrangements for payment. To make arrangements for servicing/repairing of faulty items/devices/equipments.
25.	Central Time Table Committee	1. Dr. Bharithi M, CSE, Chairman 2. Department level Time Table coordinators	To coordinate the time table preparation for first year classes at college level in consultation with HODs in every semester. To prepare master time table of the college during every semester .
26.	Estate Maintenance Committee	1. Dr. G Narayan, CED 2. Mr. Rakesh M R, CED 3. Mr. Srinivas, CED	To do works related to campus cleaning, gardening and do the maintenance work (including carpentry and plumbing works) of all buildings in the college and hostel premises. .
27.	Security Committee	1. Sri J Suresha, Registrar 2. Chief Warden 3. Residential Warden 4. Supervisors	To maintain duty chart of securities in the Academic Blocks, Boys Hostel, Girls Hostel and in College Main Gate .
28.	Professional Societies Activities: ISTE, CSI, IEEE/ IETE Committee	1. Dr. Manjunath Kumar B H, CSE, Chairman 2. Dr. Chandra Mohan HK, MED 3. Prof. Ravikiran, ECE	To promote ISTE/CSI/IEEE/IETE memberships among students in the college. To conduct mini project competition for all second/third year students during even semester in every year

29.	AICTE – Approval and VTU – Affiliation Process Committee	1. Prof. Nagaraj G, ISE, Chairman 2. Mr. Surendranatha Reddy B, CSE	To do works related to AICTE Approval and VTU Affiliation process
30.	Research Council	1. Dr. T Munikenche Gowda T, Chairman 2. Dr. Nagendra Kumar, ECE 3. Dr. Vijay G R, ISE 4. Dr. Thyagaraj N R, MED 5. Dr. Murthy SVN, CSE 6. Dr. Bino Prince Raja D, AE 7. Prof. Shashi Kumar A, CED	To review the Research and Development activities of the college each year and make suggestions for further improvements

31.	Academic Calendar Committee	1. Dr. Ranganath R, MED, Chairman 2. All the Head of Departments	To prepare and publish the academic calendar at the beginning of every semester.
32.	College Magazine Committee	1. Dr. B N Shobha, ECE, Chairman 2. Department level Coordinators	To prepare and publish College Annual Magazine at the end of every academic year.
33.	NSS/NCC Committee	1. Prof. Shashi Kumar N V, CED 2. Prof. Umesh A Chougala, MED 3. Department level Coordinators (NSS)	To conduct NSS related activities in the college. To conduct NCC related activities in the college.

34.	Institute Innovation Council, IPR and Entrepreneur Development Cell	1. Dr.S Bhaskar, ECE,Chairman 2. Dr.Bino Prince Raja, AE 3. Prof. Pradeep kumar,ECE 4. Prof. Narendra Babu C,CSE 5. Department level Coordinators	To promote Innovation culture at Institute levelTo assist in IPR related services To promote and conduct EDC related activities in thecollege To support and sustain Startups at Institute Level
35.	Cultural Activities Committee	1. Dr.Nagendra Kumar,ECE, Chairman 2. Department level Coordinators	To conduct cultural activities in the college duringCollege Day and during other events. To accompany with students for cultural events to beorganized in other colleges/Universities
36.	Sports Committee	1. Mr. Chandan T, PED 2. Department level Coordinators	To promote and develop sports activities in thecollege among students and staff members. To organize intra-college and inter-college sportsevents in the college. To accompany with students for sports events tobe organized in other colleges

37.	Planning Committee	1. Dr.Madhusudhana S V,ASE, Chairman 2. Prof. Nagaraj G, ISE 3. Prof. Y R Manjunath,ECE 4. Prof.Vikas Reddy S, CSE 5. Prof.Chandrakala, CED 6. Prof.Deepa M S, AE 7. Dr.Thyagaraj N R, MED	To make a planning of academic/co-curricular/extra-curricular activities for the forthcoming semester/academic year. As well, to review the activities of the previous semester/year and make recommendations to the Principal/CAO/Managementfor further improvement. To overview the financial viability of the college in each financial year and based on the report of the auditor it will make suggestions /recommendations to the Principal/CAO/Management about further facilities/amenities/laboratories to be included in theforthcoming semester/year.
38.	Admission Committee	1. Sri J Suresha, Registrar, Chairman 2. Prof. Narendra Babu C,CSE 3. Prof.Manjunath B C,Phy 4. All the Head of Departments	To promote admission related activities throughoutthe year Design, Plan and implement college Brand BuildingActivities Present ideas, mechanisms, tools and techniqueto improve admissions
39.	SEED	1. Prof.Vikas Reddy S,CSE, Chairman 2. Dr.Madhusudhana S V,ASE 3. Prof.Rohit G, AED 4. Prof. Harish S, MED 5. Prof. Y R Manjunath,ECE 6. Prof.Ravindra M V, CED 7. Prof. Abdul Khadar A,ISE 8. Dr.Rajskhekar K M, Phy 9. Prof. S M Padmavathi,MBA	·To mentor students to accomplish their ambition ofbeing results oriented. To instill in students the discipline of systemsthinking to facilitate into viewing problems holistically. To educate students on the basics of life hacking onhow to excel in social and personal life. To promote to peer learning

10.1.3 Delegation of financial powers (10)

The Financial decisions for carrying out administrative, curricular, co-curricular, extracurricular and infrastructure development related activities are delegated at different levels. This is illustrated in the following table 10.1.4.1

Table 10.1.4.1: Delegation of Financial Power

Sl. No.	Designation	Financial Quantum Activities
1	President	- Major allocation of funds for infrastructural development and any - other activities which involves funds greater than 10 lakhs
2	Governing Council	Purchases of Laboratory equipment and general accessories required for Institutional activities
3	Principal	Salary disbursement, VTU fees payment, Invoice settlement of recurring and non-recurring expenditures Expenditures incurred for carrying out curricular, co-curricular and extracurricular activities in various departments Maintenance and settlement of - expenditures related to Professional societies - R&D and Incubation related - expenditures

Delegation of financial power for day to day activities of the Institution.

Head of the departments have been empowered with financial powers up to the maximum of Rs.5000 at a time. They can draw advance to meet the department expenditure for any department related activities. They are free to draw this advance any number of times in a month. Any staff member can initiate departmental activities and seek financial assistance with the approval from Principal. The following table indicates the imprest amount that the members can have to meet contingency expenses.

SL.NO	DESIGNATION	IMPREST AMOUNT (IN RS.)
1	Principal	50,000/-
2	Head of Department	5,000/-
3	Librarian	5,000/-
4	Registrar	5,000/-
5	Hostel Wardens	10,000/-
6	Transportation In-charge	10,000/-
7	Placement & Training Officer	5,000/-

10.1.4 Transparency and availability of correct/unambiguous information in public domain (5)

All the information about the Institute, Infrastructure, Staff, equipment details, students and facilities are being put up on the website in “Mandatory disclosure”. The Program specific information is made available to all the aspirants through the website.

10.2 Budget Allocation, Utilization, and Public Accounting at Institute level (30)

Summary of current financial year's budget and actual expenditure incurred (for the institution exclusively) in the three previous financial years :

Total Income at Institute level: For CFY, CFYm1, CFYm2 &

CFYm3 CFY : (Current Financial Year),

CFYm1 : (Current Financial Year minus

1), CFYm2 : (Current Financial Year minus

2) and CFYm3 : (Current Financial Year

minus 3)

Table 1 - CFY 2020-21

Total Income 235847913				Actual expenditure(till...): 195618442			Total No.Of Students 2775
Fee	Govt.	Grants	Other sources (specify)	Recurring including salaries	Non Recurring	Special Projects/Any other,specify	Expenditure per student
186429627	8395808	3059355	37963123	189043933	6574509	0	70493.13

Table 2 - CFYm1 2019-20

Total Income 313208949				Actual expenditure(till...): 290208332			Total No. Of Students 2694
Fee	Govt.	Grants	Other sources (specify)	Recurring including salaries	Non Recurring	Special Projects/Any other, specify	Expenditure per student
245489243	7445157	3989845	56284704	252991658	17557428	19659246	107723.95

Table 3 - CFYm2 2018-19

Total Income 282588774				Actual expenditure(till...): 297510687			Total No.Of Students 2681
Fee	Govt.	Grants	Other sources (specify)	Recurring including salaries	Non Recurring	Special Projects/Any other, specify	Expenditure re per student
224545886	7245755	3226289	47570844	258534757	19316684	19659246	110970.04

Table 4 - CFYm3 2017-18

Total Income 282180941				Actual expenditure(till...): 340063802			Total No. Of Students 2568
Fee	Govt.	Grants	Other sources (specify)	Recurring including salaries	Non Recurring	Special Projects/Any other,specify	Expenditure re per student
223544833	1944610	5514550	51176948	227198201	32193257	80672344	132423.60

Items	Budgeted in 2020-21	Actual Expenses in 2020-21 till	Budgeted in 2019-20	Actual Expenses in 2019-20 till	Budgeted in 2018-19	Actual Expenses in 2018-19 till	Budgeted in 2017-18	Actual Expenses in 2017-18 till
Infrastructure Built-Up	39342869	1480000	29863789	17269423	28139787	23896834	113829330	81400102
Library	709250	816713	1685000	1183296	2235000	1708633	1680000	1577061
Laboratory equipment	26445025	5696796	44803834	12473138	55833465	13928198	61374535	23101094
Laboratory consumables	2079243	329204	1293792	366874	2007722	650599	686568	887599
Teaching and non-teaching staff salary	179626389	119360733	176774795	152357687	162724820	146636876	157481767	133443733
Maintenance and spares	175000	45720	175000	306348	140000	212863	110000	213304
R&D	2365000	1089110	3437165	1081911	4655160	1241551	4999998	2697610
Training and Travel	5750000	4969582	9557000	8772745	9400000	8128059	10750000	11051928
MISCELLANEOUS	77472594	33778825	78930010	54812945	59944210	56676525	57991166	50120716
Others, specify								
Total	333965370	167566683	346520385	248624367	325080164	253080138	408903364	304493147

Table A Budget Allocation and Expenses

10.1.5 Delinquency of budget allocation (10)

S J C Institute of Technology is an Engineering Institution under the private unaided self-financing category. The revenue generation is through the fee received from the students.

The Budget proposal for the academic year is prepared by the individual departments as per the guidelines by Sri Adichunchanagiri Shikshana Trust and Principal office. The collective budget proposals are scrutinized by the budget committee at the college level and further taken to governing council for approval and sanction. Once it is sanctioned, the Principal and AO will issue the budget order. The budgetary details of the institution are presented in the following Tables B.10.2a to B.10.2e

10.1.6 Utilization of allocated funds (15)

The budget utilization details for the last four assessment years are presented in the following Table B.10.2.2.

Table B. 10.2.2 Allocated funds (In Rupees) during 2013- 2017

SL. NO.	ASSESSMENT YEAR	BUDGET ALLOCATION IN RS.	ACTUAL EXPENDURE IN RS.	PERCENTAGE OF UTILIZATION
1	CFY(2020-21)	333,965,370	167,566,683	50.17
2	CFYm1(2019-20)	346,520,386	248,624,366	71.75
3	CFYm2(2018-19)	325,080,164	253,080,137	77.85
4	CFYm3(2017-18)	408,903,366	304,493,147	74.47

10.1.7 Availability of the audited statements on the institute's website (5)

The audit statements of the academic years are available in the institute website: www.sjcit.ac.in (<http://www.sjcit.ac.in/>). The copy of Audited Statement is shown below.

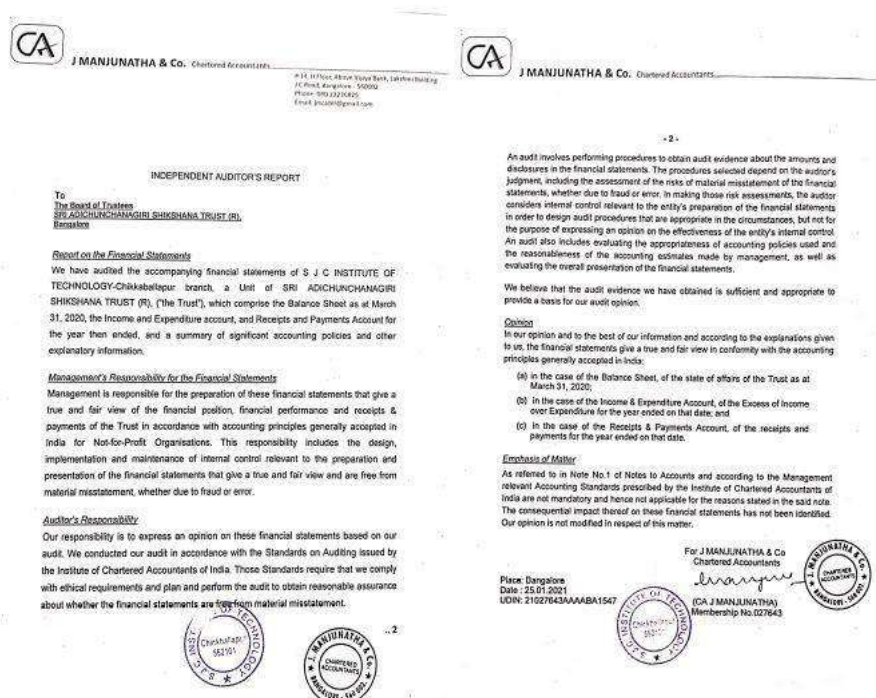


Figure: Image of Audited Statement for the year 2019-2020

10.2 Program Specific Budget Allocation, Utilization (30)**Table 1 :: CFY 2020-21**

21389927		Actual expenditure (till...): 13703755		Total No. Of Students 459
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per student
2375405	19014522	492638	13211117	29855.68

Table 2 :: CFYm1 2019-20

17108312		Actual expenditure (till...): 14154831		Total No. Of Students 429
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per student
551091	16557221	447388	13707443	32994.94

Table 3 :: CFYm2 2018-19

17420781		Actual expenditure (till...): 13705239		Total No. Of Students 425
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per student
609120	16811661	187380	13517859	32247.62

Table 4 :: CFYm3 2017-18

16723114			Actual expenditure (till...): 14668139				Total No. Of Students 393	
Non Recurring		Recurring	Non Recurring		Recurring		Expenditure per student	
498815		16224299	743347		13924792		37323.51	
Items	Budgeted in 2020-21	Actual Expenses in 2020-21 till	Budgeted in 2019-20	Actual Expenses in 2019-20 till	Budgeted in 2018-19	Actual Expenses in 2018-19 till	Budget ed in 2017-18	Actual Expenses in 2017-18 till
Laboratory equipment	2210000	312493	360000	0	300000	0	31000	487092
Software	0	0	0	312493	0	0	200000	0
Laboratory consumable	337900	15813	202900	20106	482000	4907	0	23880
Maintenan ce and spares	15000	3850	20000	5550	20000	0	0	3650
R & D	165405	180145	191091	134895	309120	187380	267815	256255
Training and Travel	661622	804887	1334321	1195398	1309661	1026563	1224299	1410873
Establishment expenses	18000000	12386567	15000000	12486389	15000000	12486389	15000000	12486389
Total	21389927	13703755	17108312	14154831	17420781	13705239	16723114	14668139

10.3.2 Utilization of allocated funds (20)

The budget utilization details for the last four assessment years are presented in the following Table B.10.3.2.

Table B.10.3.2: Budget utilization (In Rupees) 2017-2021

SL. NO.	ASSESSMENT YEAR	BUDGET ALLOCATION IN RS.	ACTUAL EXPENDITURE IN RS.	PERCENTAGE OF UTILIZATION
1	CFY (2020-21)	2,389,927	13703755	64.07
2	CFYm1 (2019-20)	17,108,312	1,415,4831	82.74
3	CFYm2 (2018-19)	17,420,781	13,705,239	78.67
4	CFYm3 (2017-18)	16,723,114	14668139	87.71

10.3.1 Adequacy of budget allocation (10)

The budget allocation and actual expenditure details for the last four assessment years are presented in the following Table B.10.3.1.

SL. NO.	ASSESSMENT YEAR	BUDGET ALLOCATION IN RS.	ACTUAL EXPENDITURE IN RS.	ADEQUATE / INADEQUATE
1	CFY (2020-21)	2,389,927	13703755	ADEQUATE
2	CFYm1 (2019-20)	17,108,312	1,415,4831	ADEQUATE
3	CFYm2 (2018-19)	17,420,781	13,705,239	ADEQUATE
4	CFYm3 (2017-18)	16,723,114	14668139	ADEQUATE

Table B 10.3.1: Adequacy of budget allocation (In Rupees)

10.3.1 Library and Internet (20)**10.3.2 Quality of learning resources (hard/soft) (10)**

The SJCIT Library is an important learning resource center with open access system encouraging the user to browse freely in the stock area. The library is housed in a spacious block. Presently library has 81440 volumes of books and periodicals/magazines. The library comprises of reference section, periodical section, stock area, digital library with internet facility. Library also has collection of newspapers, journals back volumes, competitive exam books, GATE question papers and University question papers and syllabus of all the branches. The basic infrastructure, working duration, internet availability and membership details of central library is presented in the Table B.10.4

Number of Volumes	81440
Number of Titles	13599
Carpet Area of library (in m ²)	656 square meters
Reading Space (in m ²)	1884.40 square meters
Number of Seats in reading space	155 Seats
Number of Users (Issue Book) per day (2020-21)	246
Number of Users (Reading space) per day (2020-21)	76
Timings Working day	8.30 am to 8.30 pm
Timings: Weekend	8.30 am to 5.00 pm
Timings: Vacation	8.30 am to 5.00 pm
Number of Library Staff	10
Computerization for search, indexing, issue/return records	Available
Bar Coding Used	Yes
Library Services on Internet/Intranet	Yes
Availability over Internet/Intranet	Yes
Availability of exclusive space/room	Yes
Number of users per day.	140
INDEST/DELNET and other similar membership	DELNET ° VTU Consortium. ° Indian Institute of ° Science NDL ° CMTI

Table B.10.4: Details of Central Library facility

The college central library facility has obtained no deficiency report from the VTU Local Inquiry Committee (LIC) for all the assessment years. To enhance the efficiency of library operation, the centre is automated with **LIBSUIT** software to provide speed service to the library users.

10.4.1 Quality of learning resources (hard/soft) (10) Relevance of availability learning resources

including e-Resources

The Institution has taken up membership from Visvesvaraya Technological University consortium for enabling utilization of e-resources. The VTU Consortium acts as a single-window service for Technical Institutions with their diverse research and academic interests. These e-resources can be accessed through IP based in the campus through web addresses. The various e-resources that can be accessed by the faculty and student members are presented in section 9.4 (Criteria 9).

Accessibility to students

Computers and internet facility is provided in central library where students can access different types of e- journals. There is open access for books. The students can access the e-books/e-journals through Wi-Fi facility at library centre. The learning resource facility is kept open for 12 hours a day for use and will be extended on requirement.

Support to students for self-learning activities

Digital Library: The Institution has set up Digital Library with 30 computers having adequate internet connectivity. The objective of this facility is to support self-learning activities. About 6000 online video lectures are made available in the digital library for assisting self-learning.

Apart from the availability of e- resources through VTU consortium, the college central library has established NPTEL local chapter. Mr.Harshavardhan D, Asst. Professor, Computer Science and Engineering department is the single point of contact to enable student registration to NPTEL online courses. The central library provides necessary information to the students for registering to these online courses. During the year 2020-21, 502 members (both Staff and Students) have registered for the NPTEL online courses.

10.4.2 Internet (10)

Name of the Internet provider	INFYNIX Data Services Private Limited
Available band width	500Mbps
WiFi availability	Yes. Campus is WiFi enabled
Internet access in labs, classrooms, library and offices of all Departments	Yes. Access is there are labs, classrooms, library and offices of all departments
Security arrangements	Firewalls

Annexure I

PROGRAM OUTCOME (POs)

Engineering Graduates will be able to:

1. **Engineering Knowledge :** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

(A) PROGRAM SPECIFIC OUTCOME (PSOs)

PSO1	Apply the knowledge of data structures, database systems, system programming, networking, webdevelopment and AI & ML techniques in Engineering the software.
PSO2	Exhibit solid foundations and advancements in developing software / hardware systems for solving contemporary problems.

PART-C

DECLARATION BY

THE INSTITUTION

Declaration

The head of the institution needs to make a declaration as per the format given -

- I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for this application, rules, regulations, notifications and NBA expert visit guidelines in force as on date and the institution shall fully abide by them.
- It is submitted that information provided in this Self Assessment Report is factually correct.

Head of the Institute Name :

Dr. G T Raju Designation :

Principal Signature :



Seal of The Institution :

Principal
S.J.C. Institute of Technology
Chickballapur-562101

Place :

Chickballapur

Date : 13-12-

2021 15:42:17

