

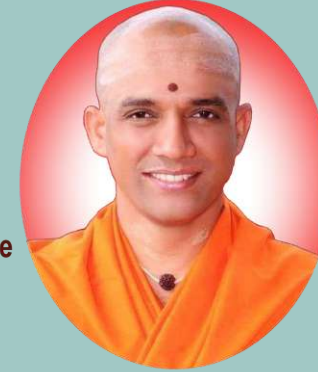
|| Jai Sri Gurudev ||

Sri Adichunchanagiri Shikshana Trust (R)

SJC Institute of Technology

Chickballapur - 562 101, Karnataka

VTU Affiliated, AICTE Approved, Accredited by NAAC & NBA (CSE, ECE, ME), Gold Rated by QS I-Guage



Estd : 1986



March 25-27, 2022



www.sjcit.ac.in

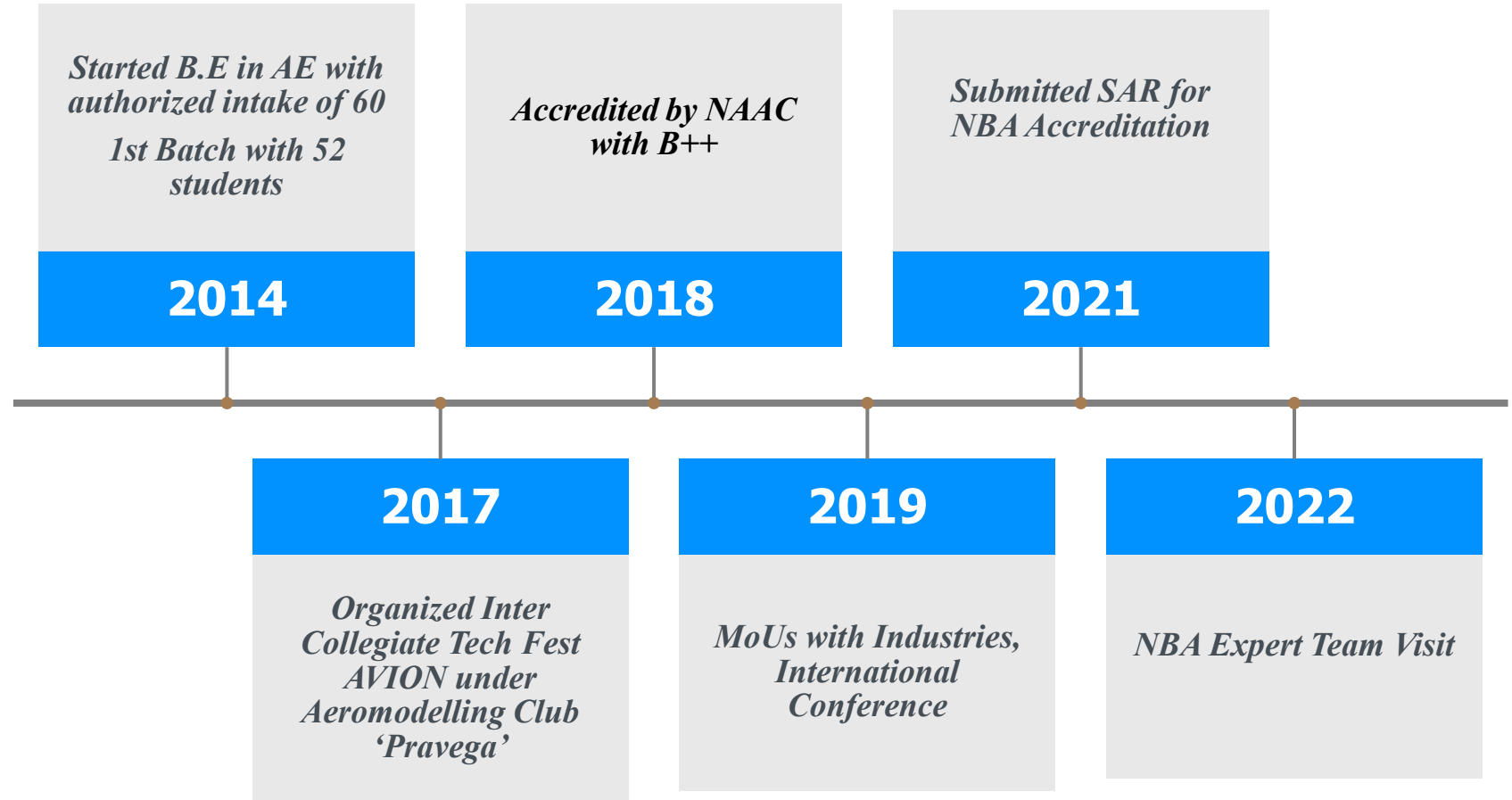
Department of
Aeronautical Engineering

Hearty Welcome to NBA PEER Team

Programme Offered

Program	Year of Start	Intake	Accreditation Status
B.E. in AE	2014	60	NAAC, 2018-22 Applied for NBA

In Retrospect (2014-2022)

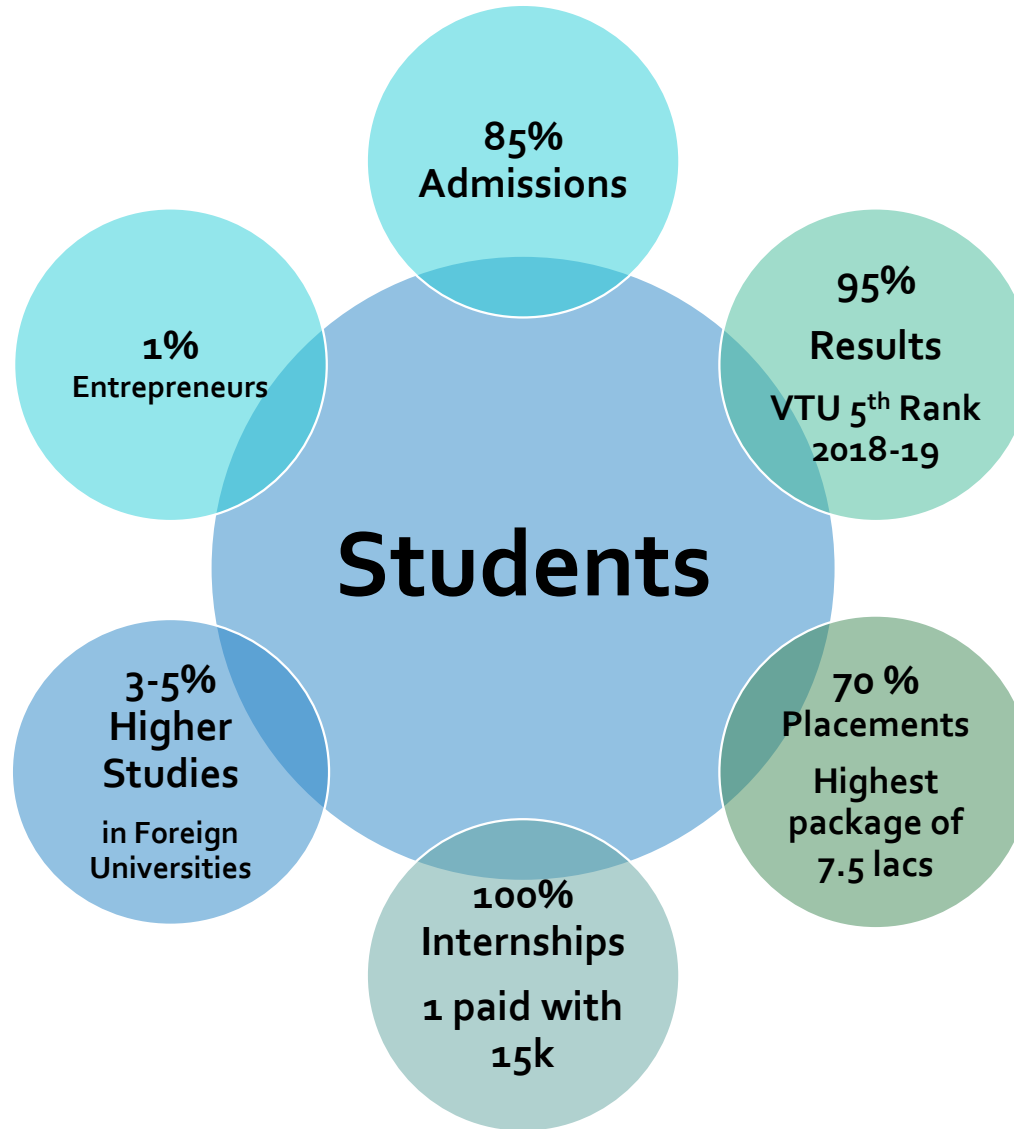


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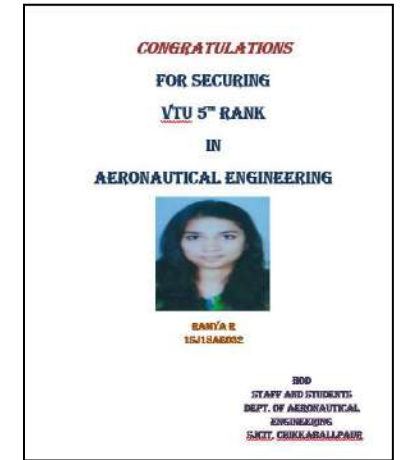
Achievements / Recognitions Students



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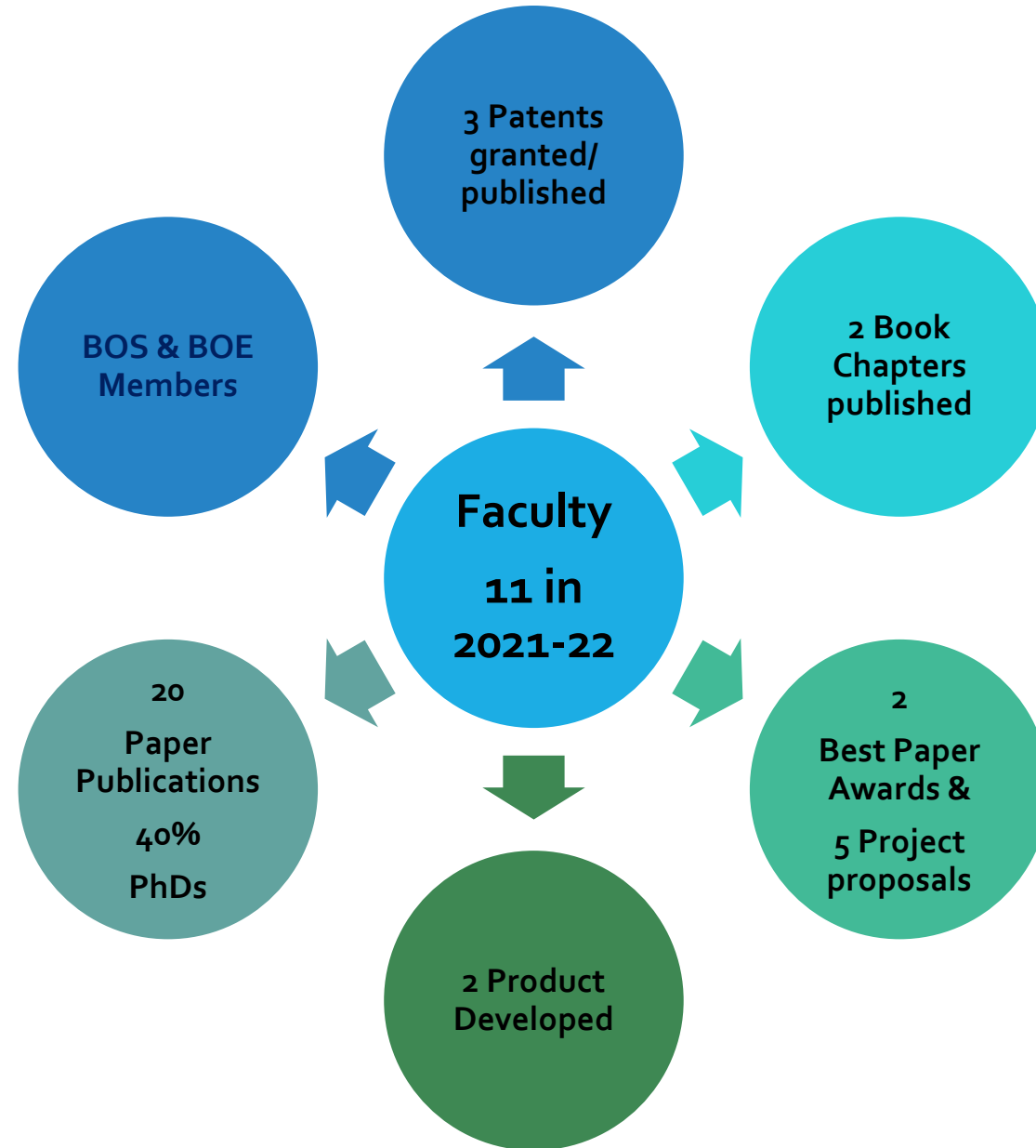
- Successfully Completed **Certification Trainings** on
 - ✓ CATIA V5 level 1 training from EDS Technologies
 - ✓ CATIA V5 training from ZESTECH
- Awards
 - ✓ Best Paper Award
 - ✓ Best Project Award
- MoUs with Industries – SandI, EDS, EDEX



Achievements / Recognitions Faculty



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Department Achievements / Recognitions

- Ramya R, 1SJ15AE032 has secured **VTU 5th Rank** in the year 2018-19.
- Lokesh C H (1SJ17AE012) was placed in **Dassault Systems** with a package of 7.5 lac package.
- **Best Paper Award** for the paper titled “Numerical Simulation of Rocket Launch Vehicle” in International Conference on Emerging Trends in Smart Technologies
- **Best Project Award** for the project titled “Mechanical Characterization of Carbon Fiber reinforced Epoxy Polymer” Symposium Cum Project Exhibition on Recent Advances in Engineering Science
- Sujay B Hiremath(1SJ19AE036) has completed **NPTEL Course in Aircraft Stability and Control**
- Muzammil Pasha (1SJ19AE015), Nachiket S(1SJ19AE016) has completed **NPTEL Course in Aircraft Design**
- Pruthvija (1SJ19AE033), Ashapak Kajoori (1SJ16AE007), Darshan N (1SJ16AE012), Komalesh B E (1SJ16AE019) have completed **NPTEL Course in Advanced Aircraft Maintenance**.
- 16 papers published by students in various Journals and Conferences.
- 22 students have received CATC certificate in NCC conducted by 8 Karnataka Battalion NCC
- Manikya G (1SJ18AE029) has won **Silver Medal in VTU State Level Inter Collegiate Judo & Bronze Medal in Wrestling**
- Nagamani J V (1SJ18AE038) has won **Gold Medal in VTU State Level Inter Collegiate Wrestling**
- Sowbhagya M R (1SJ18AE051) has **won Silver Medal in VTU State Level Inter Collegiate Judo**



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Students' Significant Achievements

Distinguished Alumni



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Mr. MANOJ J
Senior Software Engineer,
MINDTREE LIMITED



Ms. BINDU L
Stress Engineer
BELCAN



**Mr. GURUSHANTHANA
GOWDA**
Design Engineer,
AXISCADES



Mr. AKSHAY RAJ M.Tech (Ph.D)
Assistant Professor
DSCE



Mr. PAVANT
Level 10 Engineer
SIEMENS



Mr. SHAHID AMEEN KHAN
Design Engineer
NEW SPACE

Students' Significant Achievements

STAR Performers



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Mr. C H Lokesh
1SJ17AE012
Dassault Systemes
7.5 LPA, 2017-21 Batch



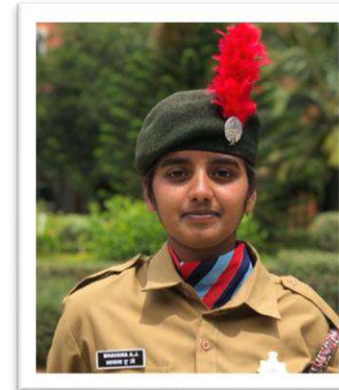
Ms. Ramya R
1SJ16AE032
VTU 5th Rank
2015-19 Batch



Mr. A N R Gowda
1SJ16AE001
Best Performer –Sports



Ms. Manikya G
1SJ18AE029
Silver Medal in Judo



Ms. Bhavana A J
1SJ18AE050
CATC, NCC



Mr. Durga Prasad N S
1SJ18AE017
Internship with 15K
stipend
Magellan Aerospace

Students' Significant Achievements

STAR Performers – Academic and Research



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Sahil D R
1SJ14AE042
76.6 %, 2018



Ramya R
1SJ16AE032
8.84 CGPA, 2019



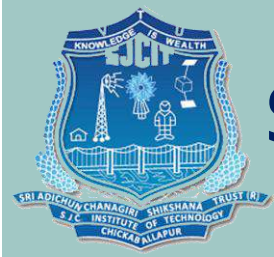
Darshan N
1SJ16AE012
7.71 CGPA, 2020



Nikhil M
1SJ16AE030
9.23 CGPA, 2021

Sl. No.	Project title	Funding Agency	Year	Grant Amount	Principal Investigator	Duration	Status
1.	Coconut and Areca Nut Harvesting Drone	NAIN, IT& BT, Govt of Karnataka	2019	Rs.2,50,000	Prof. Deepa M S	3 Years	Ongoing

Vision and Mission of the Institute



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VISION

Preparing Competent Engineering and Management Professionals to Serve the Society

MISSION

1. Providing Students with a Sound Knowledge in Fundamentals of their branch of Study.
2. Promoting Excellence in Teaching, Training, Research and Consultancy.
3. Exposing Students to Emerging Frontiers in various domains enabling Continuous Learning.
4. Developing Entrepreneurial acumen to venture into Innovative areas.
5. Imparting Value based Professional Education with a sense of Social Responsibility.

Vision and Mission of the Department



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VISION

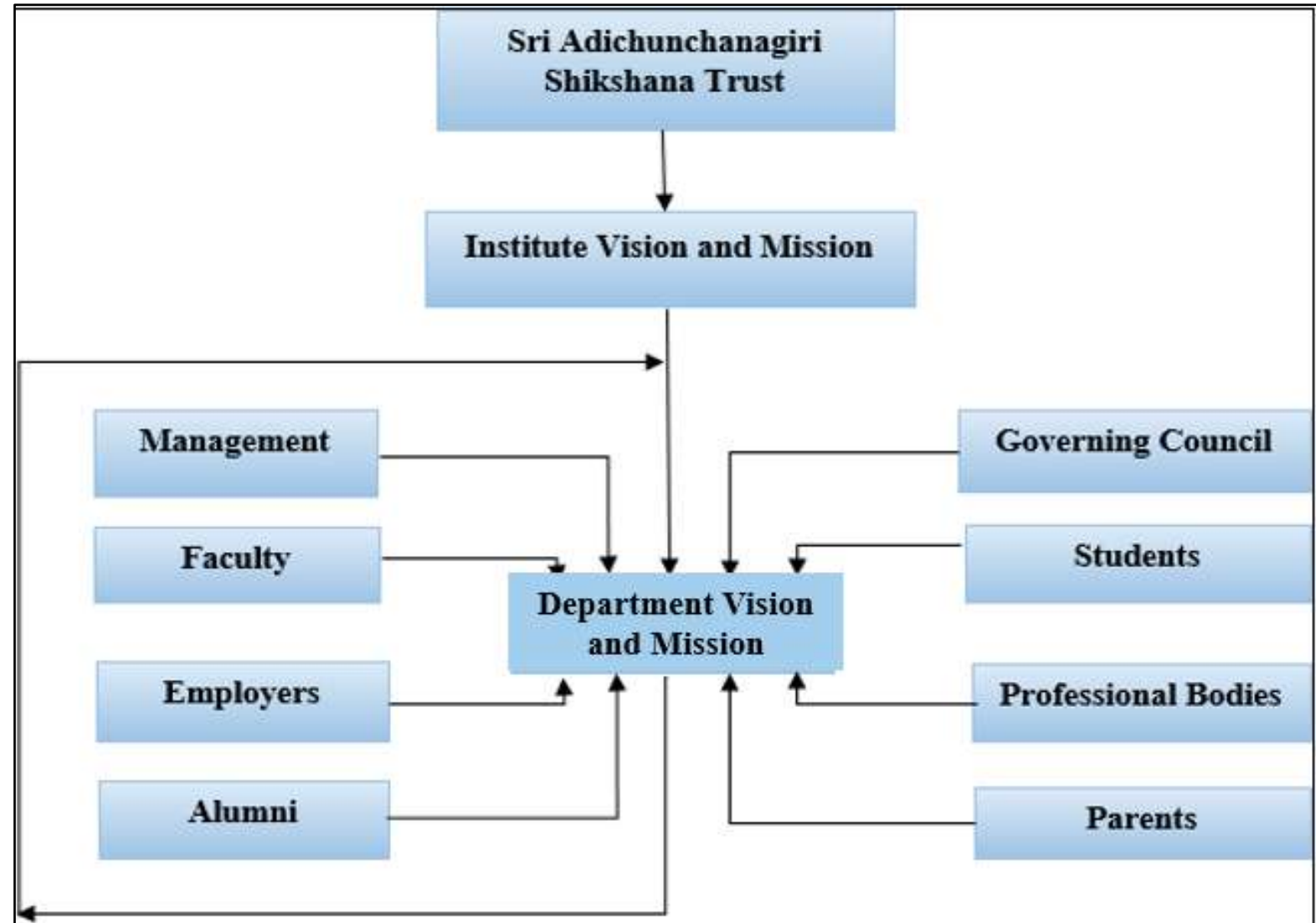
Preparing Competent Aeronautical Engineers to Serve the Society

MISSION

1. Strengthening the Fundamental concepts in Aeronautical Engineering
2. Building Analytical ability among students with innovative problem-solving techniques
3. Training students in multidisciplinary research areas in collaboration with industries embedding the culture of continuous learning
4. Imparting skillset in line with emerging industrial needs with leadership qualities
5. Making students responsible citizens to serve society with ethics and values

Process of Defining Vision and Mission

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PEOs

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AE Graduates, within three-five years of graduation should:

1

Engage in designing, analyzing, manufacturing and testing of systems in Aeronautical and Allied Industries

2

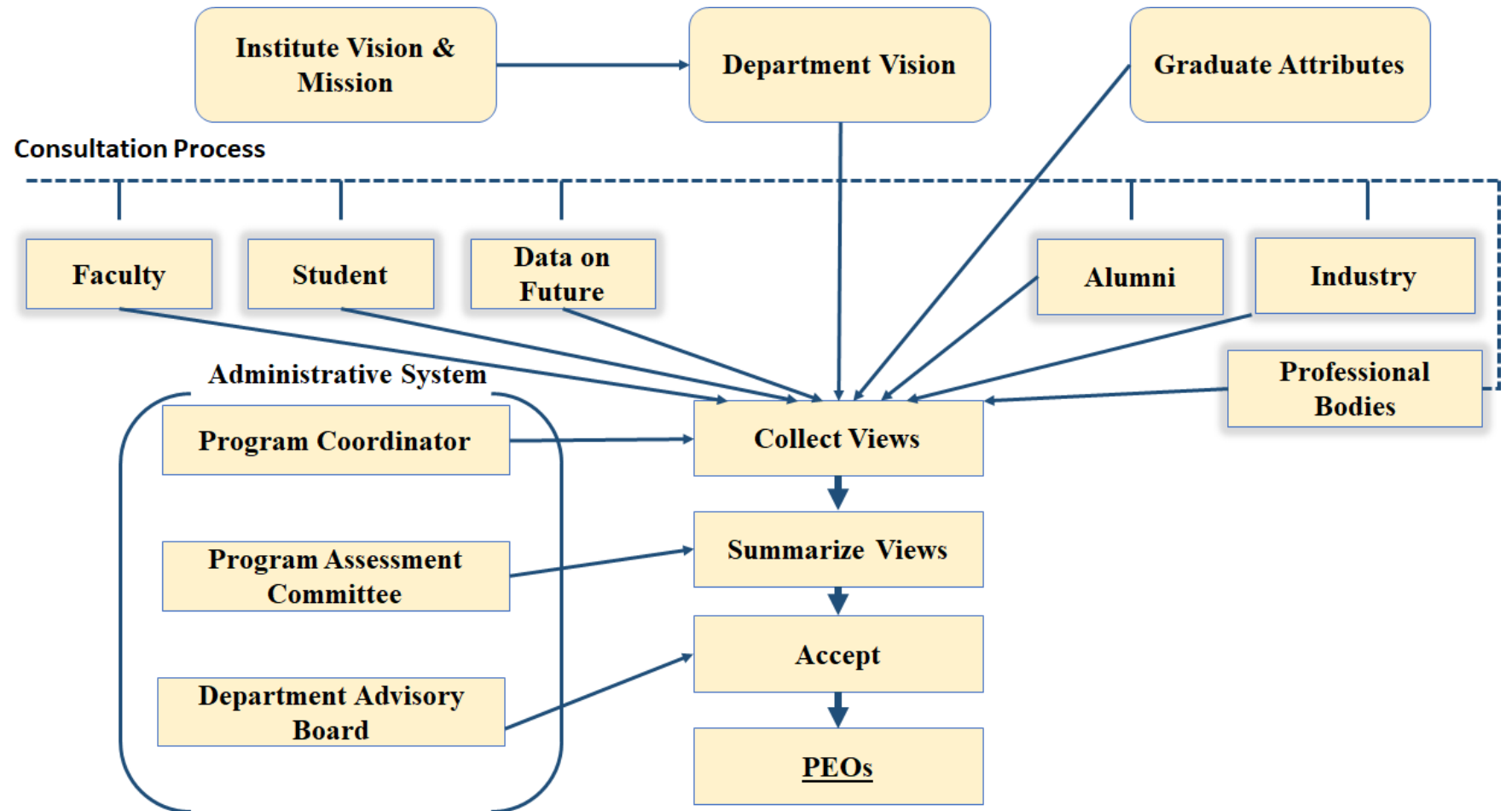
Identify, plan and lead the projects in challenging industrial environment and become successful professionals in their career

3

Pursue higher studies enhancing their Academic & Research capabilities to adopt to the ever-changing technologies

Process of Defining PEOs

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PEOs- Mission Correlation Matrix

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PEO/ Mission Statements	M1	M2	M3	M4	M5
PEO1: Engage in designing, analysing, manufacturing and testing of systems in Aeronautical and Allied Industries	3	3	2	3	2
PEO2: Identify, plan and lead the projects in challenging industrial environment and become successful professionals in their career	3	3	3	2	2
PEO3: Pursue higher studies enhancing their Academic & Research capabilities as to adopt to the ever-changing Technologies.	3	2	1	3	2

Justification of PEOs with Mission



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PEOs	Mission	Levels	Justification
PEO1	M1	3	It indicates that understanding the fundamental concepts in Aeronautical Engineering is very important to strengthen the knowledge of graduates for their professional career. Hence correlation is High
	M2	3	This relates to providing innovative instructional methods and fulfilling the required laboratory facilities which results in graduates to have the skills required in academia and industry. Hence correlation is High
	M3	2	This is focused on involving students in training programs and modern tool usage using state of the art facilities moderately enhances the ability for addressing societal needs. Hence the correlation is Moderate
	M4	3	Mission-4 is having high level consistency with PEO1, as research facilities and laboratories influence the graduates to involve in lifelong learning activities
	M5	2	Providing ethical and value-based education will strengthen the ability for addressing industry and societal needs to a greater extent. Hence correlation is Moderate.

Justification of PEOs with Mission

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PEO2	M1	3	It indicates that understanding the basic Aeronautical concepts is important for graduates to have a successful professional career in their life. Hence correlation is High.
	M2	3	This relates to problem solving skills which are imparted through solid foundation in enhancing the design thinking abilities of the students in solving contemporary industrial problems. Hence the correlation is High.
	M3	3	This focuses on involving students in skill enhancement programs and modern tool usage using state-of-the-art facilities to solve contemporary problems and other advanced techniques. Hence the correlation is High.
	M4	2	This indicates that involving students in Seminars, Conference, HR, Technical training & Internship programs enhances the ability of an individual. Hence the correlation is Moderate
	M5	2	Ethical, environment and societal needs takes apparently years of practical knowledge for graduates to understand their problem and subsequently achieve ability to solve them. Hence the correlation is Moderate

Justification of PEOs with Mission



SJCIT-AE

PEO3	M1	3	This is concerned with providing innovative instructional methods and required laboratory facilities which will help the graduates to have the skills required in academia for their higher studies. Hence the correlation is high.
	M2	2	Awareness among the students about Innovation, Entrepreneurship and IPR is created through Institutions Innovation Council and the correlation is Moderate
	M3	1	This focuses on training students with advanced tools to slightly enhance the ability of the students for their higher studies. Hence the correlation is Low
	M4	3	Exposing the students to research activities and consultancy work enhances their interest to pursue higher education. Hence correlation is High.
	M5	2	This relates to providing motivational talks from renowned persons who have pursued higher education and become successful in their professional career. Hence the correlation is Moderate.

Criteria - 2

Program Curriculum and Teaching – Learning Processes



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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 modeling 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 (PSOs)

PSO₁

- Apply the fundamental knowledge of Aerodynamics, Propulsion, Structures and Flight controls to solve core contemporary problems

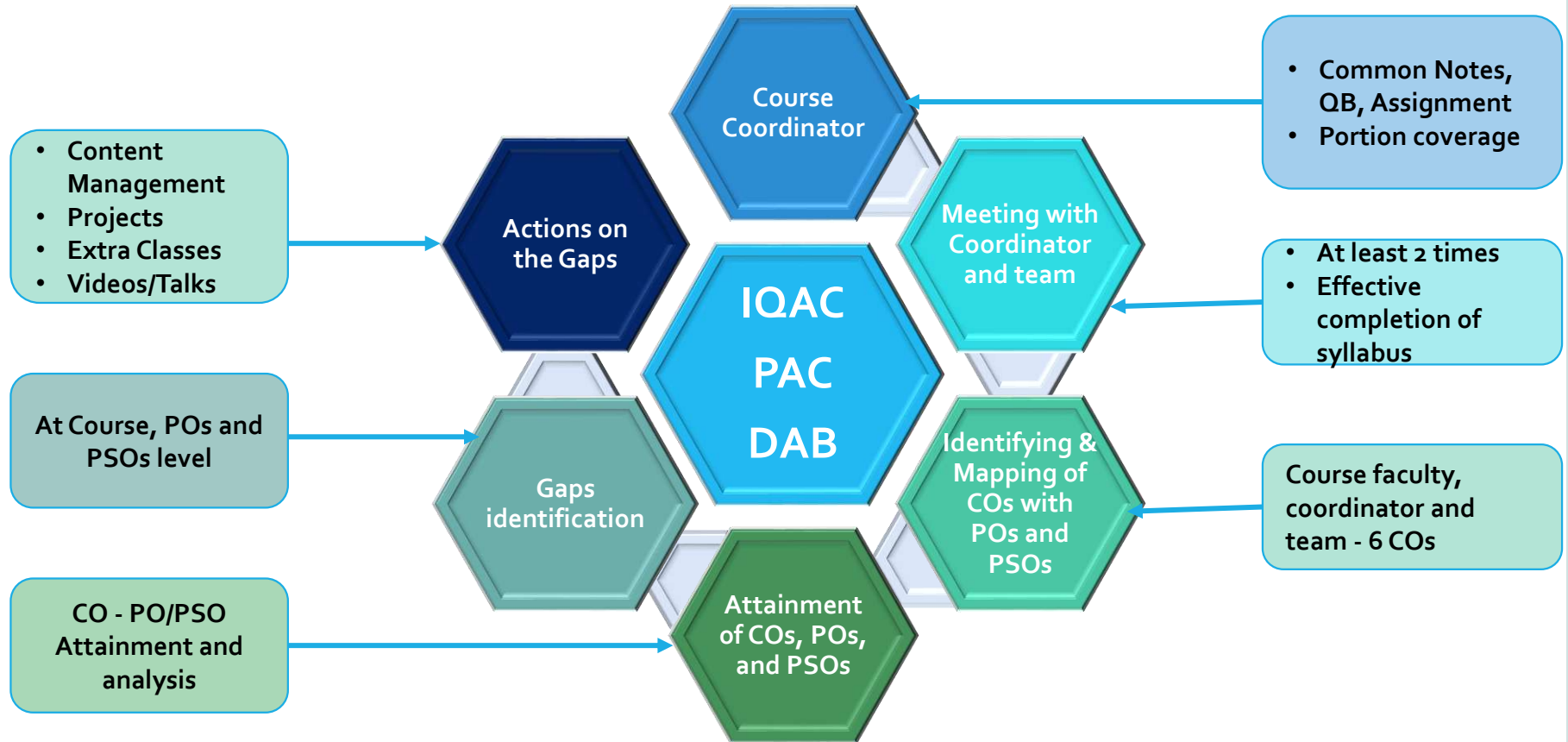
PSO₂

- Demonstrate and solve multi disciplinary problems to build risk taking abilities & decision-making capabilities in Aeronautical field



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Compliance of University Curriculum



Compliance of the University Curriculum with POs and PSOs



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Extent of compliance of the University Curriculum for attaining the Program Outcomes

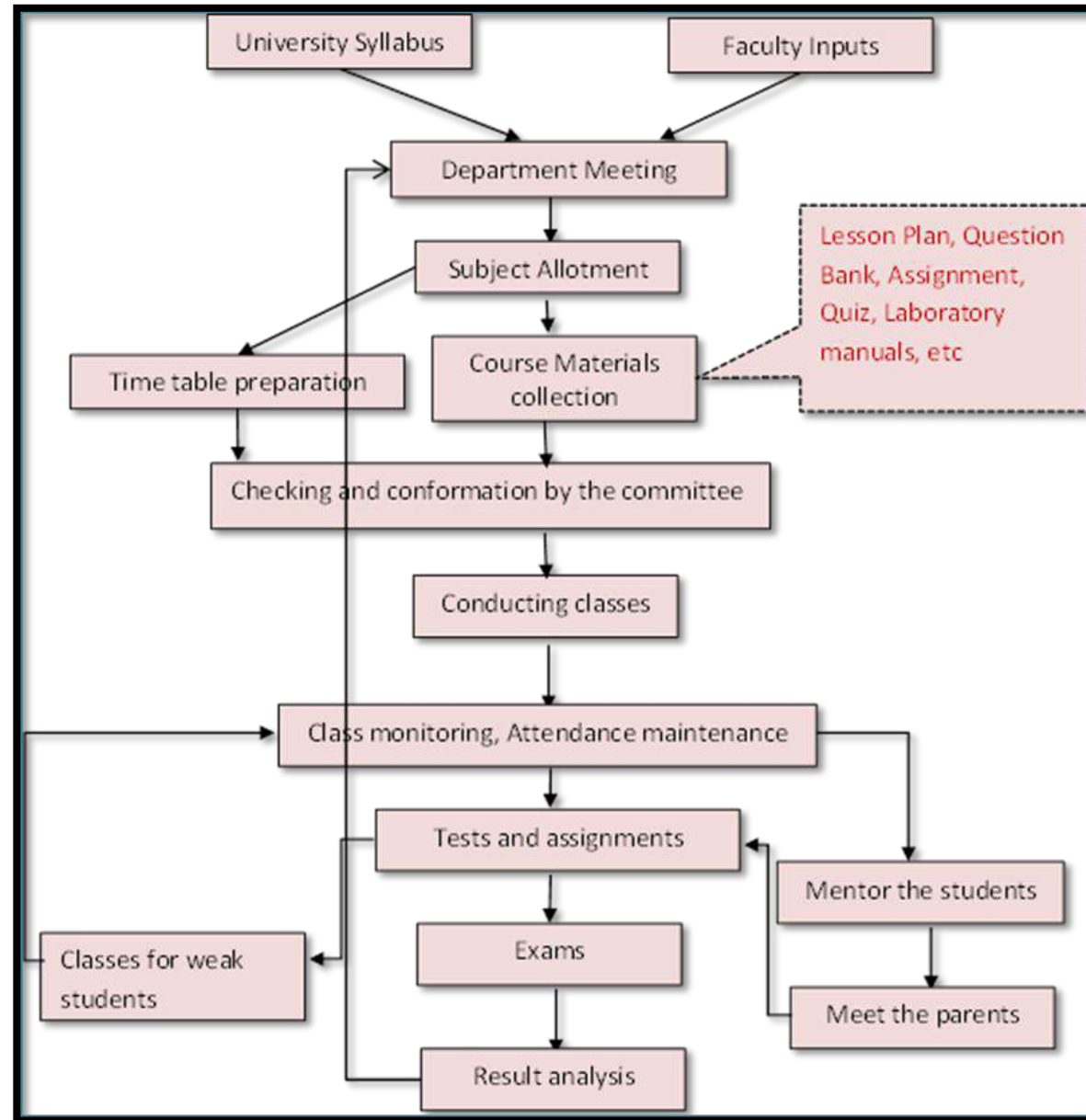


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SUBJECT CODE	SUBJECT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Core Contemporary Courses - Aerodynamics															
C211	Aerodynamics I	✓	✓	✓	✓								✓	✓	✓
C307	Aerodynamics Lab	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
C309	Aerodynamics II	✓	✓	✓	✓								✓	✓	✓
C402	Computational Fluid Dynamics	✓	✓	✓	✓					✓	✓		✓	✓	✓
Core Contemporary Courses – Aircraft Propulsion															
C212	Aircraft Propulsion	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
C215	Turbo Machines	✓	✓	✓	✓					✓	✓		✓	✓	✓
C303	Heat and Mass Transfer	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓
C308	Energy Conversion and Fluid Mechanics Lab	✓	✓		✓					✓	✓		✓	✓	✓
C310	Gas Turbine Technology	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓
C316	Aircraft Propulsion Lab	✓	✓	✓	✓		✓	✓		✓	✓		✓	✓	✓
Core Contemporary Courses – Aircraft Structures and Performance															
C304	Aircraft Structures I	✓	✓	✓	✓								✓	✓	✓
C305	Theory of Vibrations	✓	✓	✓	✓								✓	✓	✓
C311	Aircraft Performance	✓	✓	✓						✓	✓		✓	✓	✓
C312	Aircraft Structures II	✓	✓	✓	✓					✓			✓	✓	✓
C314	Finite Element Method	✓	✓	✓									✓	✓	✓
C317	Aircraft Structures Lab	✓	✓	✓		✓				✓	✓		✓	✓	✓
C403	Aircraft Stability and Control	✓	✓	✓						✓	✓		✓	✓	✓
C404	Flight Simulation Lab	✓	✓	✓	✓	✓				✓	✓		✓	✓	✓

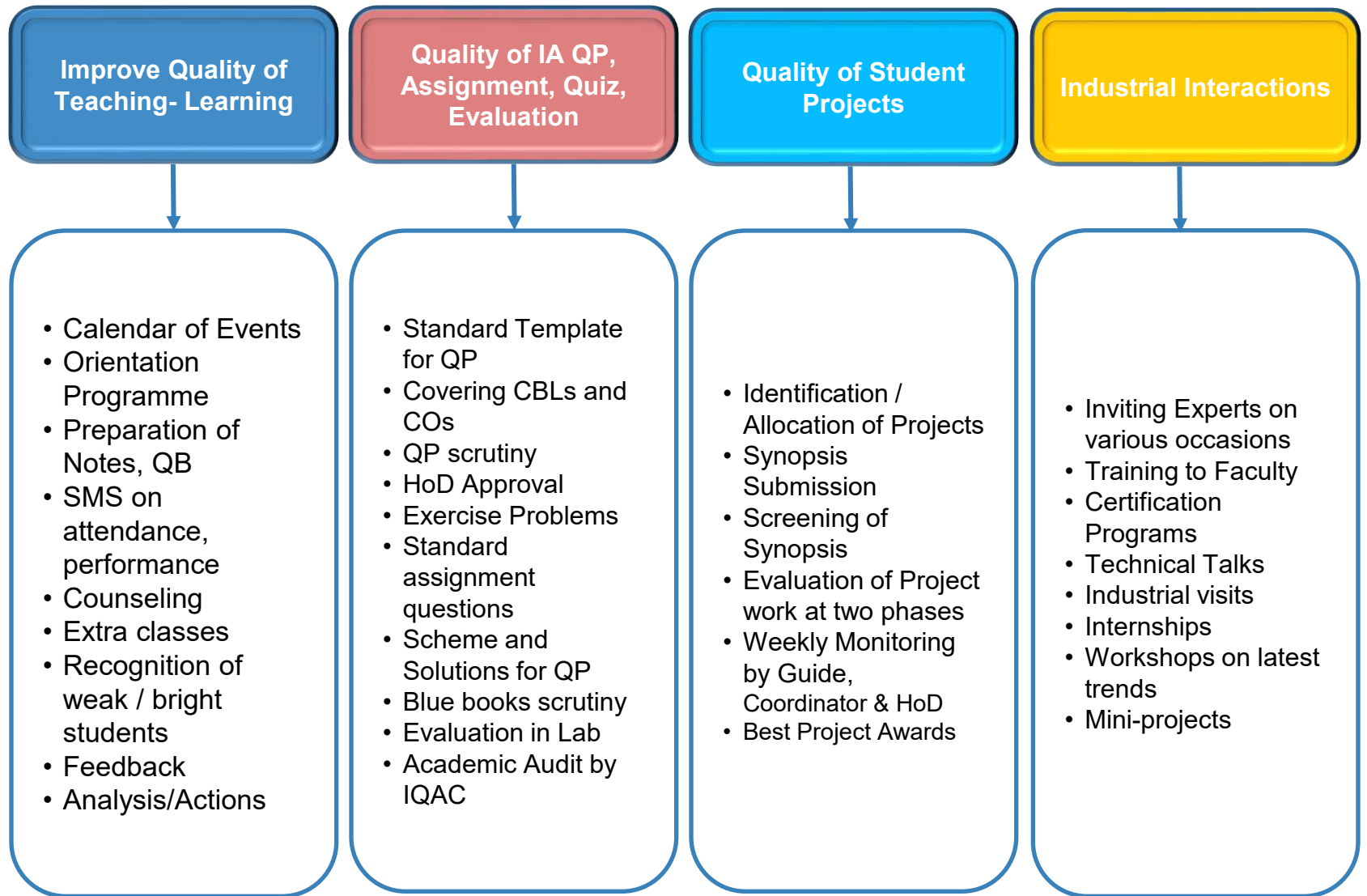
Teaching Learning Process

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Quality of Teaching-Learning

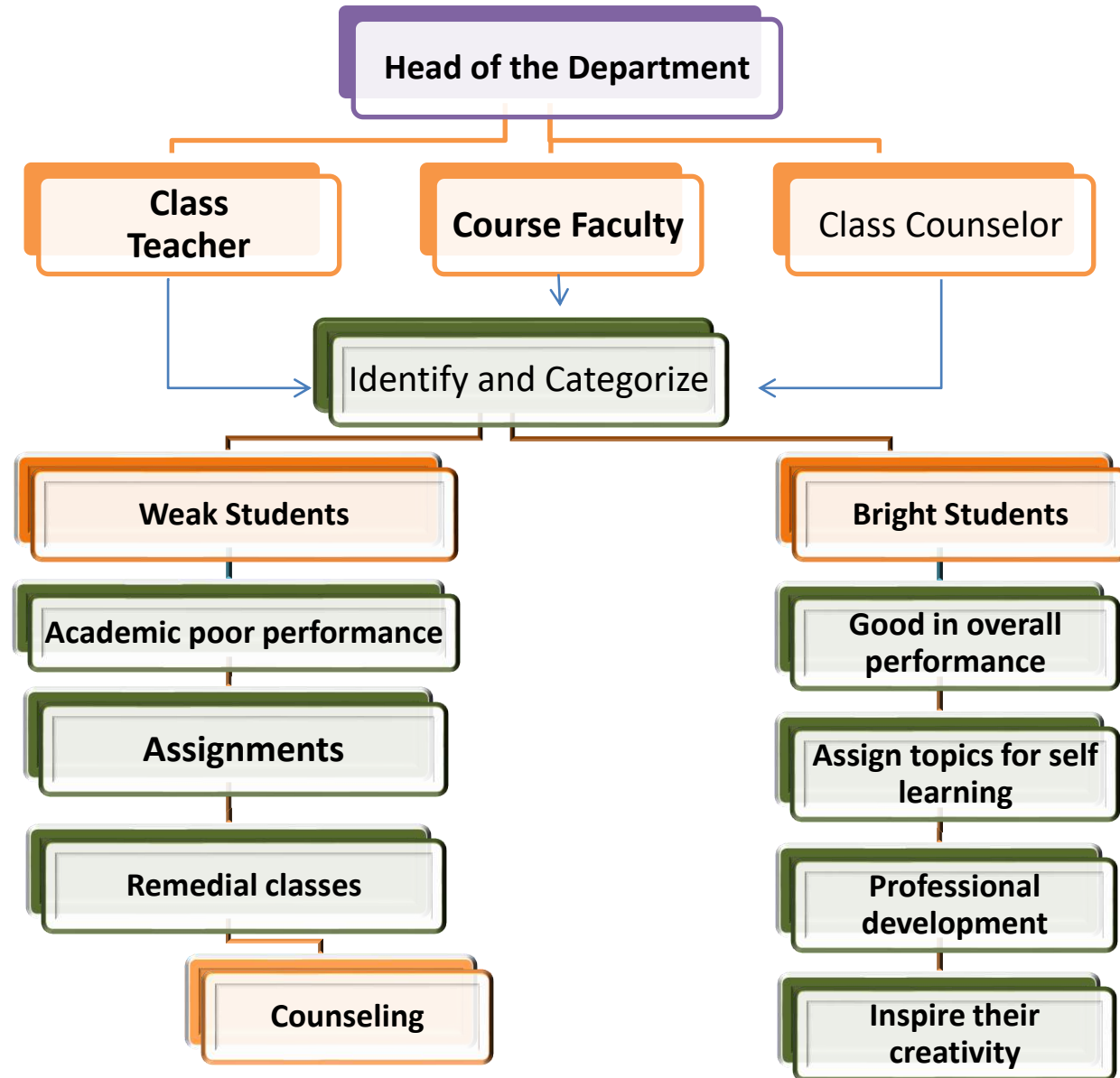
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Process of identifying and monitoring the weak and bright students



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Actions on Bright Students and Slow Learners



Encouraging Bright Students

- Academic Flexibility
- Encouraging the students to work in research and skill development centers
- Certification/ Add-on courses
- Technical/ Cultural clubs
- Counseling on career choice/higher studies/ competitive Exams/ skill development
- Encouraging/Handholding/Guiding the students to:
 - Attend Conferences/workshops, Publish research article, Work for Funded Research Projects
 - Applying for patents
 - Participating in National Level Technical Fest, Seminars, Conferences etc.,.

Supporting Slow Learners

Mentoring system

- Individual attention even after college hours
- During the **Tutorial Classes**, fast and slow learners are grouped together

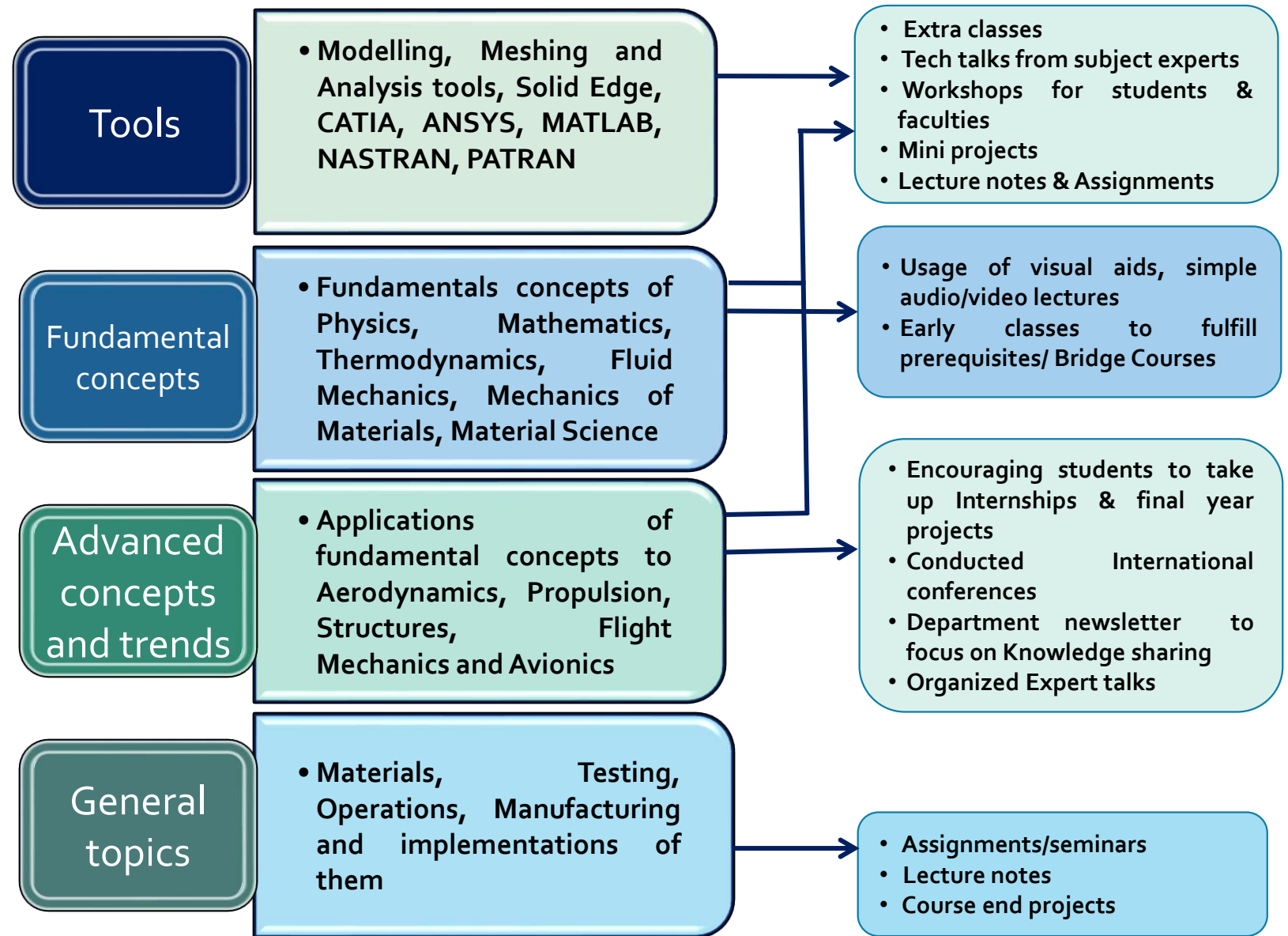
Remedial Classes

- Additional Coaching Classes
- Bridge courses
- Boosting their morale with personal attention
- Regular progress report to parents

Consolidated Gaps in the Curriculum and the Actions



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Innovations by the Faculty in Teaching and Learning



Teaching Methods

- Video-Based Learning
- Model-Based Learning
- Project-Based Learning
- Flipped Classroom
- Hands-on Training
- Demonstration Based Learning
- Partial Delivery of few Courses by Industry Expert
- Tutorials
- Lecture interspersed with discussion

Learning Activity

- Case Study/Mini Project
- Literature Reviewing/ Presentation
- Simulation
- Project Based Learning
- GATE oriented aptitude test
- Numerical Assignments
- Seminars on Contemporary Issues

Project work Review Schedule



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Description	Schedule
Submission of Synopsis	Beginning of VII semester
Allocation of Guide and Preliminary Screening Seminar	3 rd Week of VII Semester
Project Phase 1 – Review 1	6 th Week of VII Semester
Project Phase 1 – Review 2	12 th Week of VII Semester
Project Phase 1 Report Submission	14 th Week of VII Semester
Project Phase 2 – Review 1	2 nd Week of VIII Semester
Project Phase 2 – Review 2	12 th Week of VIII Semester
Final Presentation and Demonstration	End of VIII semester
Submission of the Draft report to the guide	End of VIII semester
Submission of the final project report	One Week Before SEE
External Viva-voce	As per VTU Schedule

Rubrics for Project work - Internal Evaluation



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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)=100

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

Types and Relevance of Projects in various Domains



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Academic Year	CAY 2020-21	CAY m1 2019-20	CAY m2 2018-19	Attainment of POs and PSOs
Total number of projects	11	10	10	PO1-PO12, PSO1, PSO2
In-house projects	9 (81.81%)	9 (90%)	7 (70%)	PO1- PO12, PSO1, PSO2
Industry projects	2 (18.18%)	1(10%)	3 (30%)	PO1- PO12, PSO1, PSO2

Number of Projects				
Sl. No	Domain	2020-21	2019-20	2018- 19
1.	Aerodynamics	1	2	3
2.	Aircraft Structures	6	3	2
3.	Aircraft Propulsion	-	2	1
4.	Flight Mechanics and Control	1	1	1
5.	Aircraft Design	1	2	2
6	Unmanned Aerial Vehicles (UAV)	1	-	2

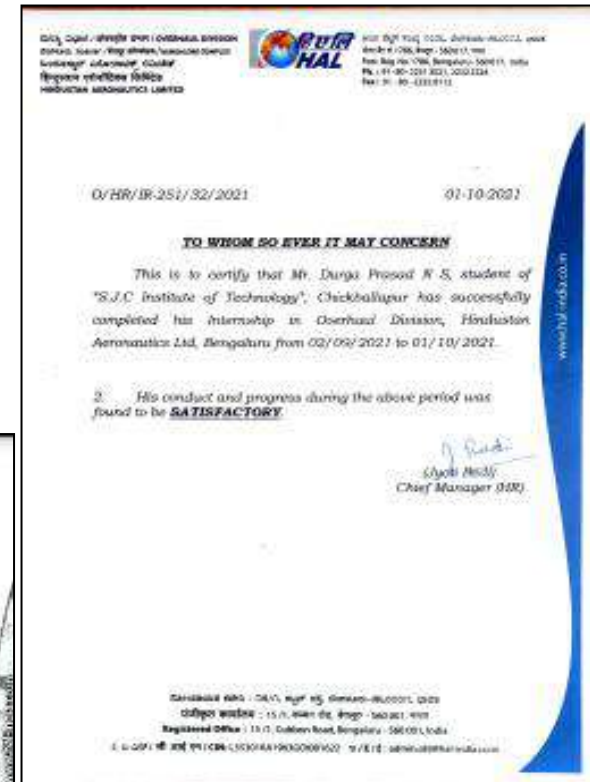
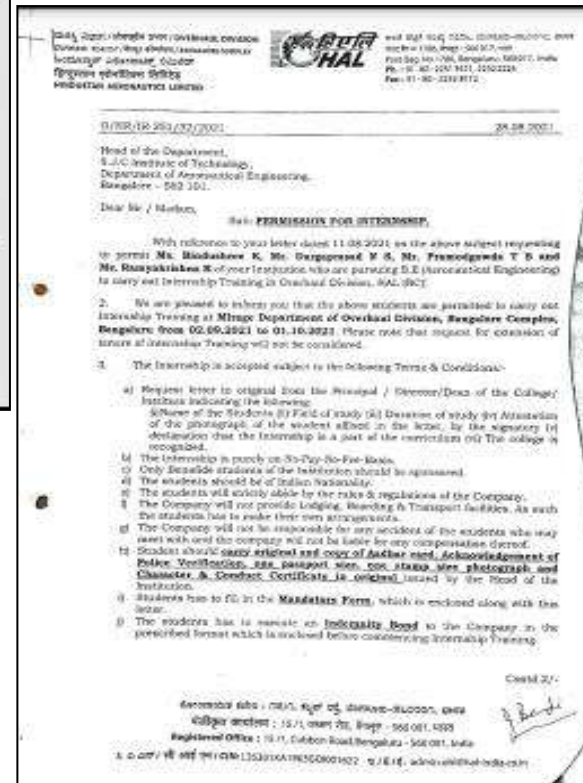
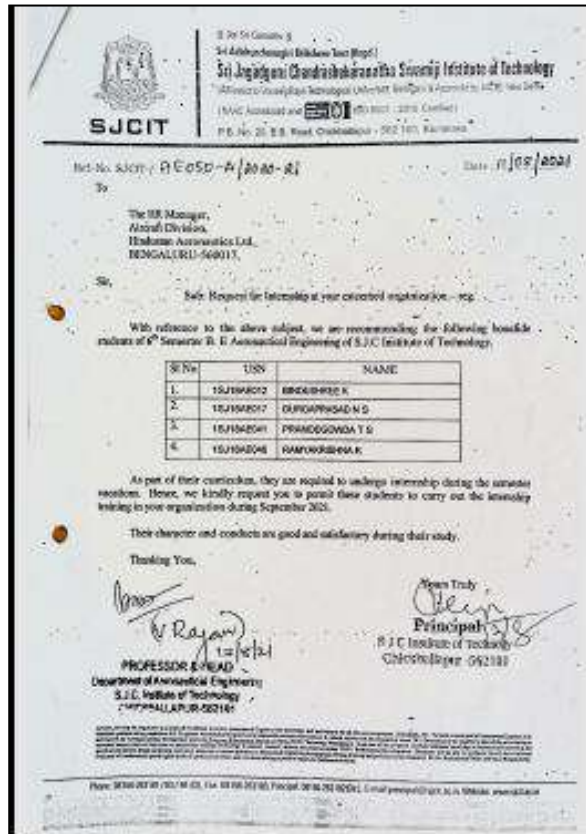
Internship details – 2020-21

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Sl. No.	Company Name	Student Name	USN	Duration	Date
1.	Defence Research and Development Laboratory (DRDL), Hyderabad	Akshata Gundeti	1SJ17AE005	22.3.2021 to 10.04.2021	10.04.2021
2.	S & I Engineering Solutions Pvt. Ltd	Kota Shreyas Prakash	1SJ17AE018	1.03.2021 to 12.04.2021	1.03.2021
		Mahesh D N	1SJ17AE022		
		Manoj C	1SJ17AE024		
		Sachin Reddy	1SJ17AE035		
		Sandeep N	1SJ17AE037		
		Gurumallesh K M	1SJ17AE049		
3.	Centre of Excellence in Aerospace & Defence, VTU, Regional Office, Bengaluru	Basavaraju B N	1SJ17AE010	22.02.2021 to 1.04.2021	22.02.2021
		Bharath B	1SJ17AE011		
		C H Lokesh	1SJ17AE012		
		Jason Jeevan C J	1SJ17AE017		
		Pavan Kalyan B V	1SJ17AE032		
		Sandeep D	1SJ17AE036		

Internship Process



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Industrial Visits



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Criteria – 3

Course Outcomes



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Course/CO's	Course Outcomes-Mechanics of Fluid -17AE35
C205.1	Compare the basic fluid properties and its effects on temperature and pressure change.
C205.2	Illustrate the Hydrostatic forces on submerged bodies and calculate the centre of the pressure and buoyant force for submerged and floating bodies.
C205.3	Estimate velocity, acceleration and stream function for an incompressible and inviscid flow.
C205.4	Calculate the loss of energy due to friction, bends, and pipe fittings on a given system.
C205.5	Illustrate the basic concepts of viscous and compressible flows.
Course/CO's	Course Outcomes - Aircraft Structures I -17AE53
C304.1	Apply the concept of static load, theories of failure and stress concentration.
C304.2	Illustrate the concept of Impact load and Fatigue.
C304.3	Describe the various loads on the Aircraft and interpret the load Factor for various flight conditions.
C304.4	Use equilibrium and compatibility conditions in calculation of stress and strain of elastic material.
C304.5	Apply different Strain energy methods related to aircraft structural components.
Course/CO's	Course Outcomes -Computational Fluid Dynamics -17AE72
C402.1	Describe the basics of CFD and parallel computing and explain the various flow models, its governing equations of fluid motion in differential and integral form.
C402.2	Compare the physics of the flow with the mathematical behaviour of partial differential equations.
C402.3	Identify and compute the suitable grid generation and transformation techniques for a given problem.
C402.4	Illustrate the fundamentals of discretization in FVM, FDM and FEM techniques.
C402.5	Interpret different schemes and their stability in simple CFD applications

CO-PO-PSO Matrices

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C304	AIRCRAFT STRUCTURES I											
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C304.1	3	3	3	2	-	-	-	-	2	-	-	1
C304.2	3	3	3	2	-	-	-	-	2	-	-	1
C304.3	3	3	3	2	-	-	-	-	2	-	-	1
C304.4	3	3	3	2	-	-	-	-	2	-	-	1
C304.5	3	3	3	2	-	-	-	-	2	-	-	1
Average	3	3	3	2	-	-	-	-	2	-	-	1

C402	COMPUTATIONAL FLUID DYNAMICS											
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C402.1	3	3	2	2	2	1	-	2	2	1	1	3
C402.2	3	3	3	3	2	1	-	2	2	1	1	3
C402.3	3	3	2	1	2	1	-	2	2	1	1	3
C402.4	3	3	3	3	2	1	-	2	2	1	1	3
C402.5	3	3	3	3	2	1	-	2	2	1	1	3
Average	3	3	2.60	2.40	2	1	-	2	2	1	1	3

CO-PO/PSO Matrix

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
VI SEMESTER												
C309-Aerodynamics-II	3	2.4	2.4	1.67	-	-	-	-	-	-	-	1.4
C310-Gas Turbine Technology	2	2	2	2	-	-	-	-	3	3	3	3
C311-Aircraft Performance	3	3	3	-	-	-	-	-	3	2	-	1
C312-Aircraft Structures-II	3	3	3	1.8	-	-	-	-	3	-	-	1
C313-Space Mechanics	2.5	3	2.33	2	-	-	-	-	3	3	-	1
C314-Finite Element Method	3	2	2	-	-	-	-	-	-	-	-	3
C315-Unmanned Aerial Vehicles Basics &	3	2	2	-	-	-	-	-	-	-	-	3
C316-Aircraft Propulsion Lab	3	2.3	1.5	1.3	-	-	1.2	1.25	-	3	2	1.5
C317-Aircraft Structures Lab	2	1	1	-	2	-	-	-	2	2	-	2
VII SEMESTER												
C401-Control Engineering	2.6	2.2	2	2	-	-	-	-	2	-	-	-
C402-Computational Fluid Dynamics	3	3	1.4	2.4	-	-	-	-	2	2	-	1
C403-Aircraft Stability and Control	3	3	1.4	-	-	-	-	-	2	2	-	-
C404-Helicopter Dynamics	3	3	2	-	-	-	-	-	-	-	-	1
C405-Guidance, Navigation & Control	1.75	1.75	1.75	-	-	-	-	-	2	1	-	1
C406-Modelling and Analysis Lab	3	3	3	3	3	-	-	-	2	-	-	1
C407- Flight Simulation Lab	3	3	3	2	3	-	-	-	3	2	-	1
C408-Project Phase -I	3	2.67	3	-	-	-	-	-	3	1.33	-	2
VIII SEMESTER												
C409-Avionics	1.25	1.25	-	-	-	-	-	-	3	3	-	1
C410-Flight Vehicle Design	3	3	3	2.75	-	-	-	1	1	2	1	1
C411- Flight Testing	3	3	2	-	-	-	-	-	2	2	-	-
C412-Professional Practice /Internship	3	3	2	1	-	2	2	2.6	3	2.75	1	2
C413- Project Work	3	2.67	3	-	-	-	-	3	2.67	2.67	-	2
C414- Seminar	2	2	2	-	-	-	-	-	-	0.75	-	-

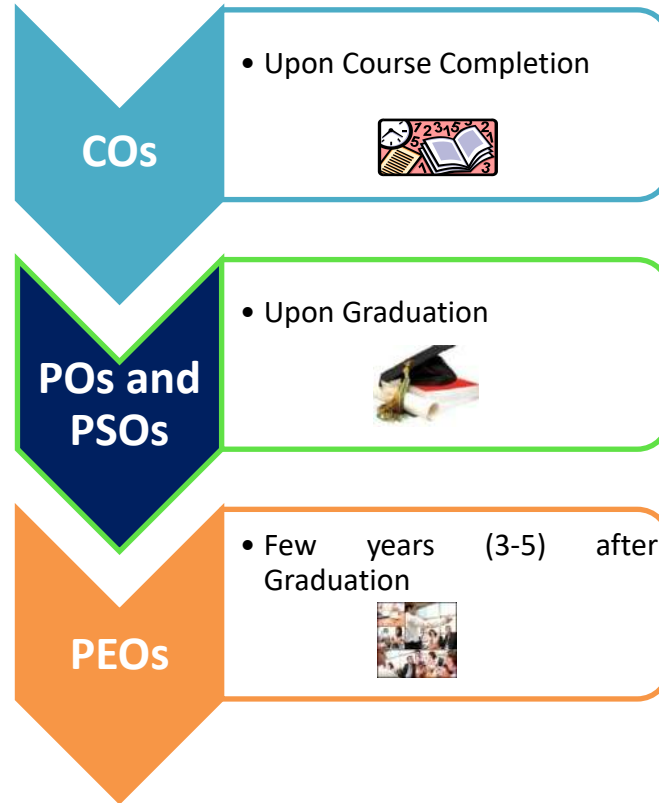
COURSES	PSO1	PSO2
VI SEMESTER		
C309-Aerodynamics-II	1	1
C310-Gas Turbine Technology	3	2.5
C311-Aircraft Performance	3	2
C312-Aircraft Structures-II	1	1
C313-Space Mechanics	1.75	1.25
C314-Finite Element Method	0	0
C315-Unmanned Aerial Vehicles Basics & Applications	3	3
C316-Aircraft Propulsion Lab	2	1
C317-Aircraft Structures Lab	2	2.6
VII SEMESTER		
C401-Control Engineering	1.25	0
C402-Computational Fluid Dynamics	3	1
C403-Aircraft Stability and Control	2	1.2
C404-Helicopter Dynamics	1	1
C405-Guidance, Navigation & Control	1	1
C406-Modelling and Analysis Lab	1	0
C407- Flight Simulation Lab	2	2
C408-Project Phase -I	1.67	1.67
VIII SEMESTER		
C409-Avionics	2.25	1.5
C410-Flight Vehicle Design	3	2
C411- Flight Testing	2	2
C412-Professional Practice/Internship	1.25	1.25
C413- Project Work	1	1
C414- Seminar	1	1



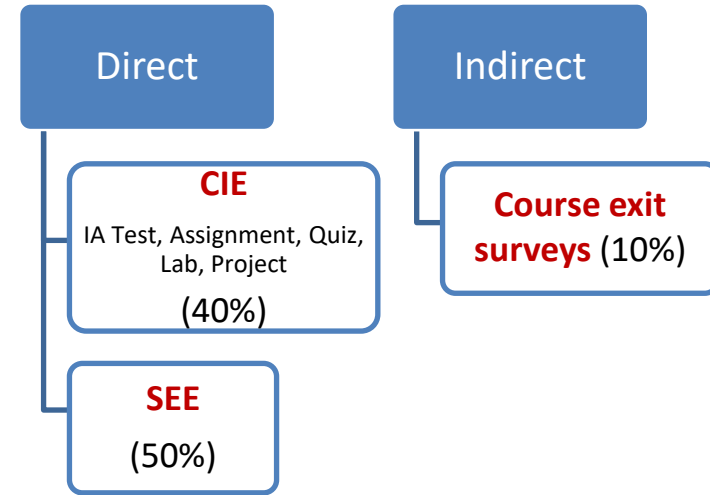
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Assessment processes for COs, POs, PSOs and PEOs

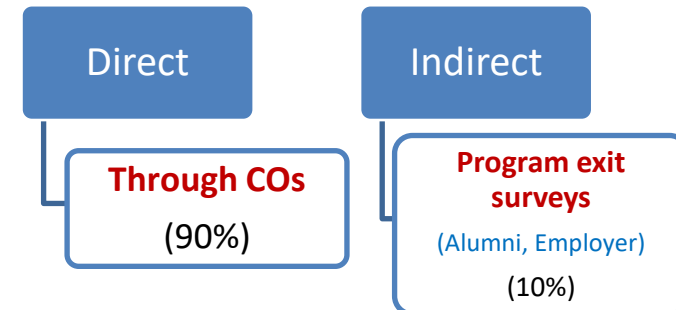
When to Assess



Attainment of COs



Attainment of POs



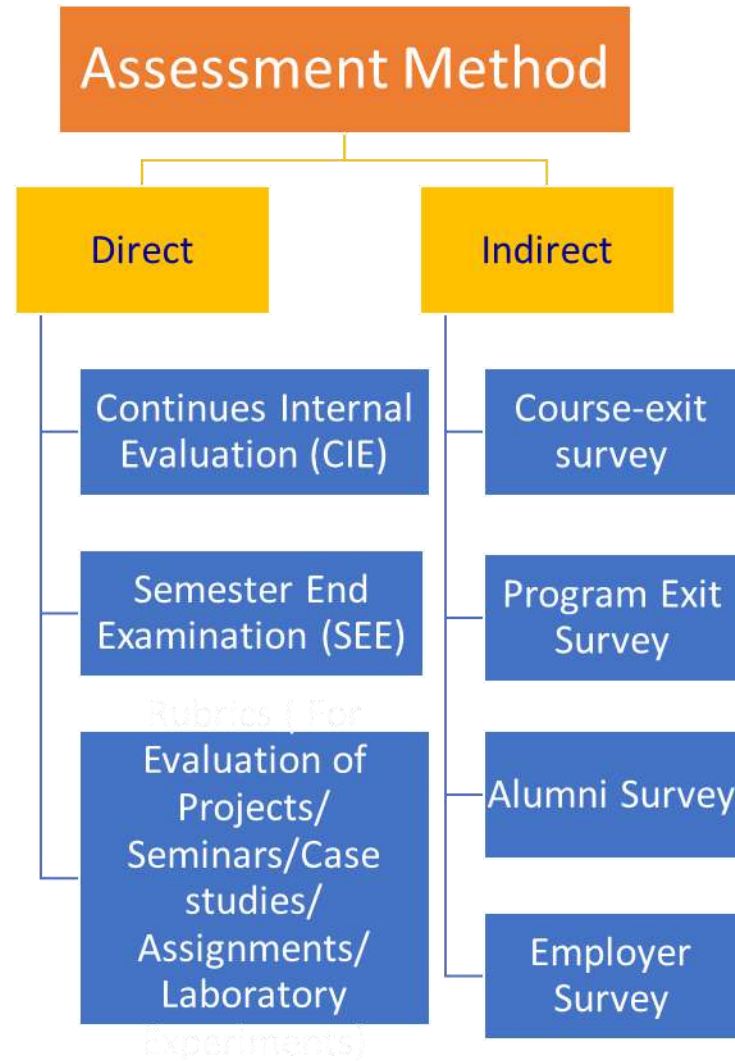
Attainment of PEOs : Exit Surveys + Through POs
60% : 40%

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Direct and Indirect Assessment tools

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- Course Outcomes are mapped with Bloom’s level.
- CIE Questions are mapped to Course Outcomes & Bloom’s level.
- The student who is scoring Target % and above of the total marks attempted, in the respective question mapping to a CO is considered as attained.

Assessment Method	Frequency
CIE	Thrice in a Semester
SEE	Once in a Semester
Rubrics Evaluation(CIE)	Once in a Semester
Course Exit Survey	Once in a Semester
Program Exit Survey	Once in a Year
Alumni Survey	Once in a Year
Employer Survey	Once in a Year

Internal assessment test marks entry sheet

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SJCIT/NBAI CIE-MARKS/ 2019-20		 S J C INSTITUTE OF TECHNOLOGY Chickballapur - 562 101 Department of Aeronautical Engineering										 S J C INSTITUTE OF TECHNOLOGY Chickballapur - 562 101 Department of Aeronautical Engineering																			
Course Title:		AEROTHERMODYNAMICS										AEROTHERMODYNAMICS																			
Subject Code:		18AE32	Semester & Section			3 - A	No.Students		57			18AE32	Semester & Section			3 - A	No.Students		57												
Course Instructor Name:		Prof. DEEPA M S					Course ID:					C202					Prof. DEEPA M S					Course ID:					C202				
		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		AS-1	AS-1					1,2	3,4	5,6	7,8	9,10		AS-2	AS-2												
Main Question No.		1	2	3		4	5					1	2	3	4	5		6	7												
Mapped CO-No.		1	2	3		1	2					2	2	2	3	3		3	4												
Sl.	USN/Q-Marks	10	10	10		10	10					10	10	10	10	10		10	10												
1	1SJ18AE001	0	0	0		7	7					5	0	0	10	5		7	7												
2	1SJ18AE003	3	5	2		8	8					3	0	0	3	0		8	8												
3	1SJ18AE004	0	0	0		9	9					0	0	0	8	9		9	9												
4	1SJ18AE006	9	5	10		9	9					6	8	0	10	7		9	9												
5	1SJ18AE007	9	4	8		8	8					2	0	0	10	9		8	8												
6	1SJ18AE008	9	3	0		7	7					5	7	0	6	5		7	7												
7	1SJ18AE009	6	3	5		8	8					3	0	0	5	0		8	8												
8	1SJ18AE011	10	8	9		9	9					7	6	2	10	5		9	9												
9	1SJ18AE012	5	8	9		8	8					10	10	2	10	10		8	8												
10	1SJ18AE014	6	6	9		8	8					5	5	1	8	6		8	8												
11	1SJ18AE015	9	2	3		8	8					2	5	0	7	7		8	8												
12	1SJ18AE016	0	8	1		8	8					5	0	0	9	9		8	8												
13	1SJ18AE017	10	7	8		7	7					5	8	0	10	9		7	7												
14	1SJ18AE018	9	6	3		5	5					5	4	3	0	2		5	5												
15	1SJ18AE019	10	8	10		9	9					5	10	10	10	10		9	9												
16	1SJ18AE021	7	6	8		7	7					6	4	0	8	9		7	7												
17	1SJ18AE022	10	10	10		9	9					2	10	10	10	10		9	9												
18	1SJ18AE023	7	5	8		7	7					7	6	1	10	8		7	7												
19	1SJ18AE024	10	9	10		8	8					5	6	5	10	8		8	8												
20	1SJ18AE025	10	6	2		7	7					0	0	0	7	6		7	7												


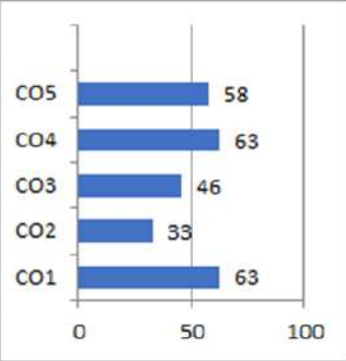
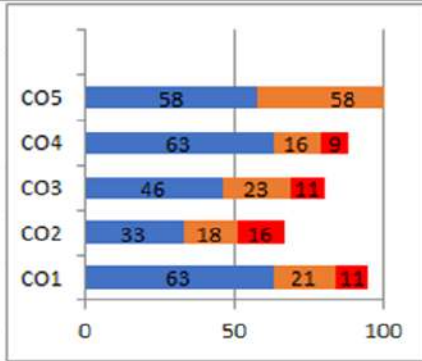
Snapshot showing Cos, Mapping of COs to POs



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SJCIT/NO OF COURSES/ 2019-20		S J C INSTITUTE OF TECHNOLOGY Chickballapur - 562 101 Department of Aeronautical Engineering															
Course Information																	
Programme Name:	Aeronautical Engineering																
Academic Year:	2019-20	Semester:	3	Section:	A	Subject Type:	Theory										
Course Title:	AEROTHERMODYNAMICS																
Course Instructor Name:	Prof. DEEPA M S								Class Strength:	57							
Subject Code:	18AE32	Course No:	2	Course ID:	C202												
Scheme of Teaching & Marks																	
Contact Hr/Week:	5	Lecture Hours (Hr.):	3	Tutorials (Hr.):	2												
Max.CIE Marks:	40	Max. SEE Marks:	60	Total Max.Marks:	100												
Min.CIE Marks:	19	Min.SEE Marks:	21	Total Min.Marks:	40												
Final CIE (IA) Marks:	40	Assignment Marks:	10	Test Marks:	30												
Threshold Values for Attainment Calculation						Final CO Attainment											
Attainment level	3	$\frac{3}{4}$	2	$\frac{1}{2}$	1	$\frac{1}{4}$	Percentage Contribution, %										
Internal Assessment	>= 60	>= 50	>= 40	>= 40	CIE	40	SEE	50									
SE Examination	>= 50	>= 45	>= 40	-	CES	10											
Statements of Course Outcomes			No.of CO's	6	Target (%)	SL											
C202.1	Relate the fundamental thermodynamic concepts with the real life applications.				65	L2											
C202.2	Differentiate heat and work as thermodynamic quantity for various systems and processes				60	L3											
C202.3	Calculate the efficiency and COP for heat engine and heat pump using second law of thermodynamics.				60	L3											
C202.4	Estimate the change in entropy to define the reversibility or irreversibility of a process.				60	L3											
C202.5	Determine the various states of a pure substance using steam tables and evaluate properties for various gas mixtures using thermodynamic				60	L2											
C202.6	Compare the different types of Air Standard cycles, calculate its efficiencies and describe the different vapour power cycles, its				60	L3											
Semester End Exam. (SEE) Target			Course End Survey(CES) Target (%)														
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
C202.1	3	3	2	1					2			2	C202.1	1	1		
C202.2	3	3	2	2					2			2	C202.2	1	1		
C202.3	3	3	2	2					2			2	C202.3	1	1		
C202.4	3	3	2	2					2			2	C202.4	1	1		
C202.5	3	3	2	1					2			2	C202.5	1	1		
C202.6	3	3	2	1					2			2	C202.6	1	1		
Total	18	18	12	9					12			12	Total	6	6		

CO attainment calculation

SJCIT/NBA/ CO-REPT/ 2019-20	 S J C INSTITUTE OF TECHNOLOGY Chickballapur - 562 101 Department of Aeronautical Engineering							
Course Title	AEROTHERMODYNAMICS				Course Code	C202		
Subject Code	18AE32	Semester	3	Section	A	Emp.ID	1913	
Faculty Name	Prof. DEEPA M S				No.students	57		
<i>CO Attainment from -TEST - 3, in the Subject: 18ME32-Based on: TYPE-1, Academic Year 2019-20</i>								
Sl.	CO Number	Sum	T_Std	Av-AT	TS(=3)	AT,%	Ac_AT	ATNT
CO1	C202.1	138	57	2.4	36	63	1.9	
CO2	C202.2	86	57	1.5	19	33	1	
CO3	C202.3	110	57	1.9	26	46	1.4	
CO4	C202.4	131	57	2.3	36	63	1.9	YES
CO5	C202.5	125	57	2.2	33	58	1.7	
								
<i>Distribution of CO Attainment from -TEST - 3, in Subj: 18ME32-Based on: TYPE-1, ACDY:2019-20</i>								
Sl.	CO Number	3	%	2	%	1	%	
CO1	C202.1	36	63	12	21	6	11	
CO2	C202.2	19	33	10	18	9	16	
CO3	C202.3	26	46	13	23	6	11	
CO4	C202.4	36	63	9	16	5	9	
CO5	C202.5	33	58	10	18	6	11	
								



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Snapshot showing the basic initialization with CO attainment



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MEMBER NO. SJCIT 2019-20	S J C INSTITUTE OF TECHNOLOGY Chickballapur - 562 101 Department of Aeronautical Engineering					Page No.	C202
Page Title	AEROTHERMODYNAMICS					Page Co.	C202
Objec. Co.	HAEC2	Semester	3	Section	A	Emp.ID	1912
Faculty Name	Prof. Deepa HS					Students	57
4*-ATTAINMENT COMPARISON FOR THE CAT, CAT-1, CAT-							
Sl. Co. ID		2019-20	2018-19	2017-18			
1	C202.1	1.2	1.15	3			
2	C202.2	1.1	1.6	3			
3	C202.3	1	1.53	2			
4	C202.4	1.2	1.53	2			
5	C202.5	1.1	1.61	3			
5*-ATTAINMENT COMPARISON FOR THE CAT, CAT-1, CAT-							
Sl. Po. No.		2019-20	2018-19	2017-18			
1	PO-1	1.11	3	2.11			
2	PO-2	1.11	3	2.11			
3	PO-3	1.11	3	1.44			
4	PO-4	1.14	1.1	1.14			
5	PO-5						
6	PO-6						
7	PO-7						
8	PO-8						
9	PO-9	1.11	3	1.44			
10	PO-10						
11	PO-11						
12	PO-12	1.11	1	1.11			
5*-ATTAINMENT COMPARISON FOR THE CAT, CAT-1, CAT-							
Sl. Ps. No.		2019-20	2018-19	2017-18			
1	PSO-1	1.11	1	1.44			
2	PSO-2	1.11		1.72			
3	PSO-3						
4	PSO-4						
Academic Year		Course In-charge Name					
2019-20		Prof. Deepa HS					
2018-19		Prof. Paramesh T					
2017-18		Prof. Deepa HS					

PO - Direct Attainment

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III SEMESTER												
C201-Engineering Mathematics III	1.48	1.95	1.57	0.94	1.12	-	-	-	-	-	-	-
C202 - Elements of Aeronautics	2.01	1.45	0.72	-	-	-	-	-	1.45	1.45	-	1.45
C203 - Acro Thermodynamics	1.51	1.51	1.51	0.93	-	-	-	-	1.51	-	-	0.5
C204 - Mechanics of Materials	1.11	0.74	0.67	-	-	-	-	-	-	-	-	-
C205 - Mechanics of Fluids	2.89	1.88	1.25	0.63	-	-	-	-	-	-	-	-
C206 - Measurement & Metrology	2.6	0.9	0.9	-	-	0.9	0.9	-	2.6	2.6	-	-
C207-Material Testing Lab	1.5	-	-	-	-	1	0.67	1.17	1.5	1.5	-	0.5
C208-Machine Shop Lab	2	-	-	-	-	2	1	2	3	3	-	1
IV SEMESTER												
C209-Engineering Mathematics-IV	1.99	1.49	1.38	1.24	1.38	-	-	-	-	-	-	-
C210-Aerodynamics-I	2.18	2.18	2.18	1.29	-	-	-	-	-	-	-	1.54
C211-Aircraft Propulsion	2.96	2.22	0.99	0.99	-	0.99	1.97	0.99	1.97	1.97	0.99	2.96
C212-Mechanisms and Machine Theory	2.31	2.14	2.31	2.24	-	-	-	-	2.79	2.79	-	-
C213-Aircraft Material Science	2.82	-	-	-	-	-	-	-	1.88	1.88	-	1.88
C214-Turbomachines	1.06	1.06	0.99	1.03	-	-	-	0.71	0.71	-	-	0.38
C215-Measurement & Metrology Lab	2.6	0.9	0.9	-	-	0.9	0.9	-	2.6	2.6	-	-
C217-Computer Aided Aircraft Drawing	2.95	2.95	2.95	2.95	2.95	-	-	-	-	-	-	0.98
V SEMESTER												
C301-Management & Entrepreneurship	1.88	1.34	0.67	-	-	-	-	-	1.34	1.34	0	1.34
C302-Introduction to Composite Materials	2.97	1.98	2.97	-	-	-	-	-	1.98	1.98	-	1.98
C303-Heat and Mass Transfer	1.98	1.98	1.98	1.98	-	-	-	-	2.97	2.97	2.97	2.97
C304-Aircraft Structure-I	2.8	2.8	2.8	2.87	-	-	-	-	1.87	-	-	0.93
C305-Theory of Vibrations	2.54	2.54	2.54	1.12	-	-	-	-	-	-	-	2.97
C306-Basics of Rockets & Missiles	2.01	1.45	0.72	-	-	-	-	-	1.45	1.45	0	1.45
C307-Aerodynamics Lab	2.94	2.78	1.96	1.72	1.76	0.98	0.98	0.98	2.94	1.96	0.98	1.96
C308-Energy Conversion & Fluid	2.96	1.98	-	1.98	-	-	-	-	2.96	2.96	-	1.98

VI SEMESTER												
C309-Aerodynamics-II	2.77	2.77	1.78	1.19	-	-	-	-	1.98	1.98	-	1.98
C310-Gas Turbine Technology	1.97	1.97	1.97	1.97	-	-	-	-	2.96	2.96	2.96	2.96
C311-Aircraft Performance	2.22	2.22	2.22	1.89	-	-	-	-	2.22	1.48	-	0.74
C312-Aircraft Structures-II	2.96	2.96	2.96	2.96	-	-	-	-	-	-	-	0.99
C313-Space Mechanics	2.47	2.97	2.31	1.98	-	-	-	-	2.97	2.97	-	0.99
C314-Finite Element Method	2.94	1.96	1.96	-	-	-	-	-	-	-	-	2.94
C315-Unmanned Aerial Vehicles Basics	2.97	2.97	2.37	-	-	-	-	-	1.98	-	-	0.99
C316-Aircraft Propulsion Lab	2.01	1.45	0.72	-	-	-	-	-	1.45	1.45	0	1.45
C317-Aircraft Structures Lab	2.96	2.96	-	2.96	-	-	-	-	2.96	-	-	0.99
VII SEMESTER												
C401-Control Engineering	2.09	1.81	1.64	1.73	-	-	-	-	1.59	-	-	-
C402-Computational Fluid Dynamics	1.34	0.89	1.01	-	0.8	-	-	-	0.53	0.27	-	-
C403-Aircraft Stability and Control	2.92	2.92	1.36	0.97	-	-	-	-	1.95	1.95	-	-
C404-Helicopter Dynamics	2.01	1.45	0.72	-	-	-	-	-	1.45	1.45	-	1.45
C405-Guidance, Navigation & Control	1.97	1.73	0.99	-	-	-	-	-	1.97	1.97	-	0.99
C406-Modelling and Analysis Lab	2.85	2.85	2.85	2.85	2.85	-	-	-	1.9	-	-	0.95
C407- Flight Simulation Lab	2.85	2.85	2.85	2.85	2.85	-	-	-	1.9	-	-	0.95
C408-Project Phase -I	2.97	2.64	2.97	0.99	0.99	-	-	-	0.99	2.97	2.31	0.99
1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98
VIII SEMESTER												
C409-Avionics	1.98	1.24	0.99	-	-	-	-	-	2.97	2.97	-	0.99
C410-Flight Vehicle Design	2.96	2.96	2.96	2.71	-	-	-	-	0.99	0.99	1.97	0.99
C411- Flight Testing	2.97	2.97	1.98	-	-	-	-	-	1.98	1.98	-	-
C412-Professional Practice/Internship	2.55	2.55	1.7	0.85	-	1.66	1.66	2.21	2.51	2.29	0.81	1.67
C413- Project Work	2.96	2.63	2.96	0.99	1.98	-	-	-	2.96	2.96	2.63	0.99
1.98	1.98	1.98	-	-	-	-	-	-	-	-	-	-
C414- Seminar	1.98	1.98	1.98	-	-	-	-	-	-	-	-	-

PO - Final Attainment

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VII SEMESTER												
C401-Control Engineering	2.09	1.81	1.64	1.73	-	-	-	-	1.59	-	-	-
C402-Computational Fluid Dynamics	1.34	0.89	1.01	-	0.8	-	-	-	0.53	0.27	-	-
C403-Aircraft Stability and Control	2.92	2.92	1.36	0.97	-	-	-	-	1.95	1.95	-	-
C404-Helicopter Dynamics	2.01	1.45	0.72	-	-	-	-	-	1.45	1.45	-	1.45
C405-Guidance, Navigation & Control	1.97	1.73	0.99	-	-	-	-	-	1.97	1.97	-	0.99
C406-Modelling and Analysis Lab	2.85	2.85	2.85	2.85	2.85	-	-	-	1.9	-	-	0.95
C407- Flight Simulation Lab	2.85	2.85	2.85	2.85	2.85	-	-	-	1.9	-	-	0.95
C408-Project Phase-I	2.97	2.64	2.97	0.99	0.99	-	-	0.99	2.97	2.31	0.99	1.98
VIII SEMESTER												
C409-Avionics	1.98	1.24	0.99	-	-	-	-	-	2.97	2.97	-	0.99
C410-Flight Vehicle Design	2.96	2.96	2.96	2.71	-	-	-	0.99	0.99	1.97	0.99	0.99
C411- Flight Testing	2.97	2.97	1.98	-	-	-	-	-	1.98	1.98	-	-
C412-Professional Practice/Internship	2.55	2.55	1.7	0.85	-	1.66	1.66	2.21	2.51	2.29	0.81	1.67
C413- Project Work	2.96	2.63	2.96	0.99	1.98	-	-	2.96	2.96	2.63	0.99	1.98
C414- Seminar	1.98	1.98	1.98	-	-	-	-	-	-	-	-	-
Direct Assessment (Average)	2.41	2.09	1.81	1.66	1.72	1.28	1.36	1.55	2.05	2.05	0.97	1.49
Indirect Assessment	2.20	2.16	2.42	2.11	1.83	1.86	2.43	1.88	2.41	2.40	2.54	2.50
Overall Attainment (90% Direct attainment + 10% Indirect Attainment)	2.39	2.10	1.87	1.71	1.73	1.34	1.47	1.58	2.09	2.09	1.13	1.59

PSO - Direct Attainment



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III SEMESTER		
C201 -Engineering Mathematics III	1.4	0.6
C202 - Elements of Aeronautics	0.79	0.79
C203 - Aero Thermodynamics	0.54	-
C204 - Mechanics of Materials	1.27	0.63
C205 - Mechanics of Fluids	2.71	0.9
C206 - Measurement & Metrology	1.93	1.93
C207-Material Testing Lab	1.17	0
C208-Machine Shop Lab	1	0
IV SEMESTER		
C209-Engineering Mathematics-IV	0	0
C210-Aerodynamics -I	0.73	0.73
C211-Aircraft Propulsion	1.56	0.97
C212-Mechanisms and Machine Theory	2.63	0
C213-Aircraft Material Science	0.93	0.93
C214-Turbomachines	0.86	0.43
C215-Measurement & Metrology Lab	0.8	-
C216-Computer Aided Aircraft Drawing	1	-
V SEMESTER		
C301-Management & Entrepreneurship	0.98	0.98
C302-Introduction to Composite Materials	0.98	0.98
C303-Heat and Mass Transfer	2.94	2.45
C304-Aircraft Structure-I	0.96	0.96
C305-Theory of Vibrations	0.85	-
C306-Basics of Rockets & Missiles	0.99	0.99
C307-Aerodynamics Lab	1.96	0.96
C308-Energy Conversion & Fluid Mechanics	1.98	0.99
VI SEMESTER		
C309-Aerodynamics-II	0.97	0.97
C310-Gas Turbine Technology	2.92	2.43
C311-Aircraft Performance	2.28	1.43
C312-Aircraft Structures-II	0.97	0.97
C313-Space Mechanics	1.68	1.22
C314-Finite Element Method	0	0
C315-Unmanned Aerial Vehicles Basics &	2.97	2.97
C316-Aircraft Propulsion Lab	1.9	0.95
C317-Aircraft Structures Lab	1.98	2.57

VII SEMESTER		
C401-Control Engineering	0.99	-
C402-Computational Fluid Dynamics	2.88	0.96
C403-Aircraft Stability and Control	1.95	1.17
C404-Helicopter Dynamics	1.0	-
C405-Guidance, Navigation & Control	1.87	1.87
C406-Modelling and Analysis Lab	1.87	1.67
C407- Flight Simulation Lab	1.05	0.7
C408-Project Phase -I	2.91	1.94
VIII SEMESTER		
C409-Avionics	0.99	0.99
C410-Flight Vehicle Design	1.25	1.25
C411- Flight Testing	1.8	1.8
C412-Professional Practice/Internship	1	0
C413- Project Work	0.99	0.99
C414- Seminar	2	1.2

PSO - Final Attainment

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VII SEMESTER		
C401-Control Engineering	0.99	-
C402-Computational Fluid Dynamics	2.88	0.96
C403-Aircraft Stability and Control	1.95	1.17
C404-Helicopter Dynamics	1.0	-
C405-Guidance, Navigation & Control	1.87	1.87
C406-Modelling and Analysis Lab	1.87	1.67
C407- Flight Simulation Lab	1.05	0.7
C408-Project Phase –I	2.91	1.94
VIII SEMESTER		
C409-Avionics	0.99	0.99
C410-Flight Vehicle Design	1.25	1.25
C411- Flight Testing	1.8	1.8
C412-Professional Practice/Internship	1	0
C413- Project Work	0.99	0.99
C414- Seminar	2	1.2
Direct Assessment (Average)	1.59	1.29
Indirect Assessment	2.37	1.23
Overall Attainment (90% Direct attainment + 10% Indirect Attainment)	1.67	1.19

PO / PSO - Indirect Attainment

Assessment Tool	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Program Exit Survey	2.44	2.42	2.40	2.38	2.36	2.47	2.47	2.44	2.42	2.40	2.49	2.47
Alumni Survey	1.96	1.98	2.04	1.78	1.96	1.92	2.00	2.20	2.16	2.18	2.14	2.02
Employer Survey	2.18	2.09	2.82	2.18	1.18	1.18	2.82	1.00	2.64	2.64	3.00	3.00
Indirect Attainment Average	2.20	2.16	2.42	2.11	1.83	1.86	2.43	1.88	2.41	2.40	2.54	2.50

Assessment Tool	PSO1	PSO2
Program Exit Survey	2.5	1.4
Alumni Survey	2.4	1.2
Employer Survey	2.2	1.1
Indirect Attainment Average	2.37	1.23



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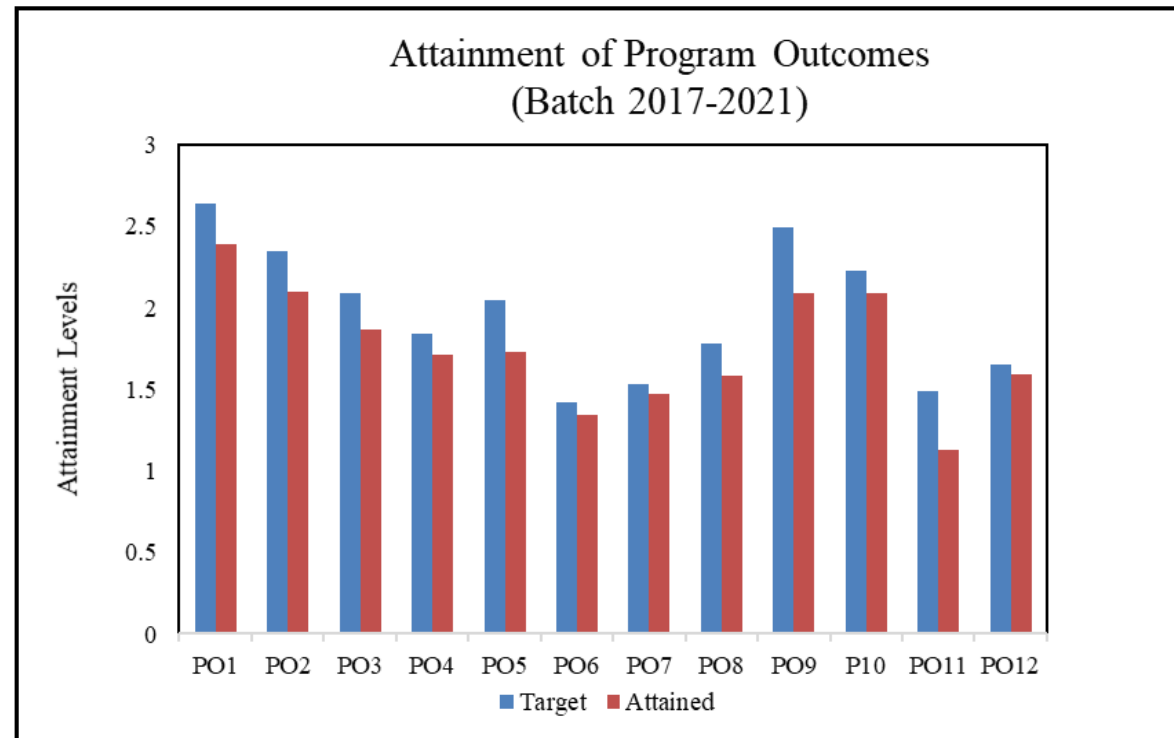
Program Outcomes Attainment

2017-21 Batch



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POs/ attainment	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Target	2.64	2.35	2.09	1.84	2.05	1.42	1.53	1.78	2.49	2.23	1.49	1.65
Avg attainment	2.39	2.1	1.87	1.71	1.73	1.34	1.47	1.58	2.09	2.09	1.13	1.59



Criteria – 4

Student Performance

#Students Admitted and Enrolment Ratio



SJCIT-AE

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)
Sanctioned intake of the program (N)	60	60	60	60
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)	42	43	61	47
Number of students admitted in 2 nd year in the same batch via lateral entry (N2)	NIL	01	NIL	NIL
Separate division students (SNQ-Super Numerary Quota), if applicable (N3)	3	04	04	01
Total number of students admitted in the Program (N1 + N2 + N3)	45	48	65	48
Enrolment Ratio (N1/N)	0.7	0.72	1.0	0.78
Average Enrolment Ratio	0.833			

STUDENTS' PERFORMANCE

without backlogs

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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
CAY (2020-21)	45(42+0+3)				
CAYm1 (2019-20)	48(44+0+4)	34(30+0+4)			
CAY m2 (2018-19)	65(61+0+4)	41(37+0+4)	41(37+0+4)		
CAYm3 (2017-18)	48(47+0+1)	31(30+0+1)	28(27+0+1)	28(27+0+1)	27(26+0+1)
CAYm4 (LYG) (2016-17)	51(50+0+1)	26(25+0+1)	22(22+0+0)	22(22+0+0)	18(18+0+0)
CAYm5 (LYGm1) (2015-16)	51(48+0+3)	39(36+0+3)	23(21+0+2)	22(20+0+2)	21(20+0+1)
CAYm6 (LYGm2) (2014-15)	52(51+0+1)	24(23+0+1)	17(16+0+1)	16(15+0+1)	16(15+0+1)

STUDENTS' PERFORMANCE

with backlogs



SJCIT-AE

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
CAY (2020-21)	45(42+0+3)				
CAYm1 (2019-20)	48(44+0+4)	8(8+0+0)			
CAY m2 (2018-19)	65(61+0+4)	15(15+0+0)	16(16+0+0)		
CAYm3 (2017-18)	48(47+0+1)	09(09+0+0)	11(11+0+0)	11(11+0+0)	12(12+0+0)
CAYm4 (LYG) (2016-17)	51(50+0+1)	19(19+0+0)	20(19+0+1)	16(15+0+1)	20(19+0+1)
CAYm5 (LYGm1) (2015-16)	51(48+0+3)	7(7+0+0)	20(19+0+1)	19(17+0+2)	20(18+0+2)
CAYm6 (LYGm2) (2014-15)	52(51+0+1)	18(18+0+0)	24(24+0+0)	22(22+0+0)	22(22+0+0)

Success Rate in the stipulated period of the program

without backlogs



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Item	Latest Year of Graduation LYG (2016-17)	Latest Year of Graduation LYGm1 (2015-16)	Latest Year of Graduation 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	51(50+0+1)	51(48+0+3)	52(51+0+1)
Number of students who have graduated without backlogs in the stipulated period	18(18+0+0)	21(20+0+1)	16(15+0+1)
Success Index (SI)	0.35	0.41	0.31
Average SI	0.36		
Success rate without backlogs in any year of study = $25 \times \text{Average SI} = 25 \times 0.36 = 9$			

Success Rate in the stipulated period of the program

with backlogs

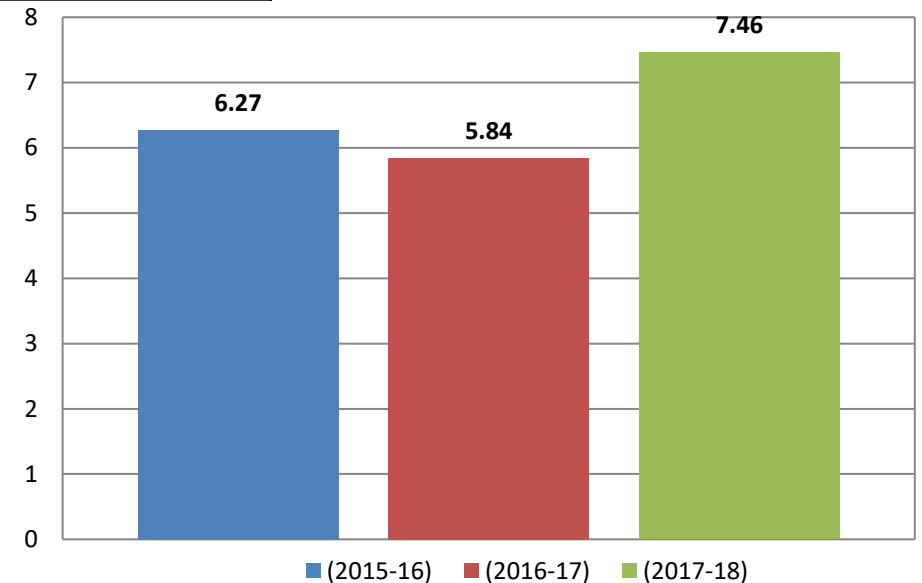


SJCIT-AE

Item	Latest Year of Graduation LYG	Latest Year of Graduation LYGm1)	Latest Year of Graduation LYGm2
Number of students admitted in the corresponding First Year + admitted in 2 nd year via lateral entry and separate division, if applicable	51(49+0+1)	51(48+0+3)	52(51+0+1)
Number of students who have graduated with backlogs in the stipulated period	38(37+0+1)	41(39+0+2)	38(37+0+1)
Success Index (SI)	0.75	0.80	0.73
Average SI	0.76		
Success rate with backlogs in any year of study = $25 \times \text{Average SI} = 25 \times 0.76 = 11.40$			

Academic Performance in Third Year

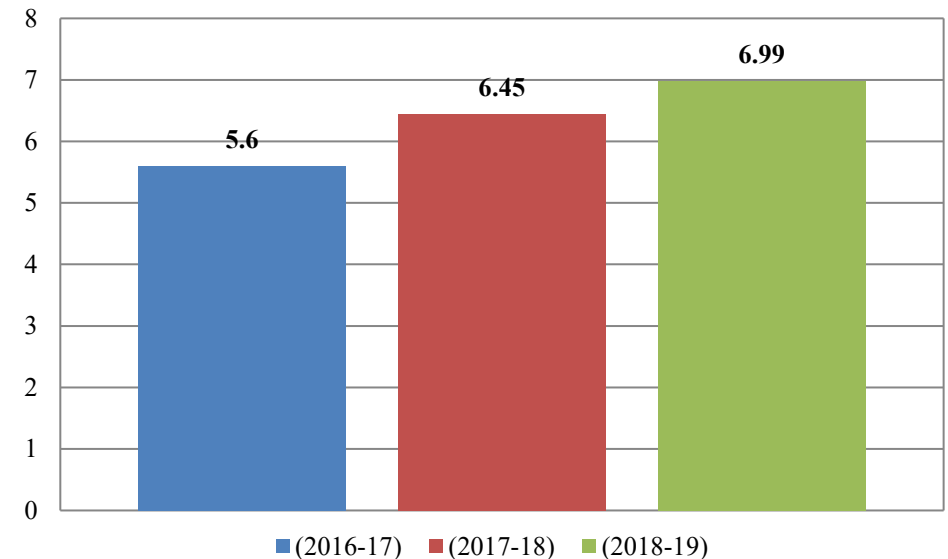
Academic Performance	CAYm3 (2017-18)	LYG (2016-17)	LYGm1 (2015-16)
Mean of CGPA or Mean Percentage of all successful students (X)	7.45	6.45	6.58
Total no. of successful students (Y)	39	38	41
Total no. of students appeared in the examination (Z)	39	42	43
$API = X * (Y/Z)$	7.46	5.84	6.27
Average API = (AP1 + AP2 + AP3)/3	6.52		
Academic Performance = 1.5 x Average API = 1.5 X 6.52 = 9.78			



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Academic Performance in Second Year

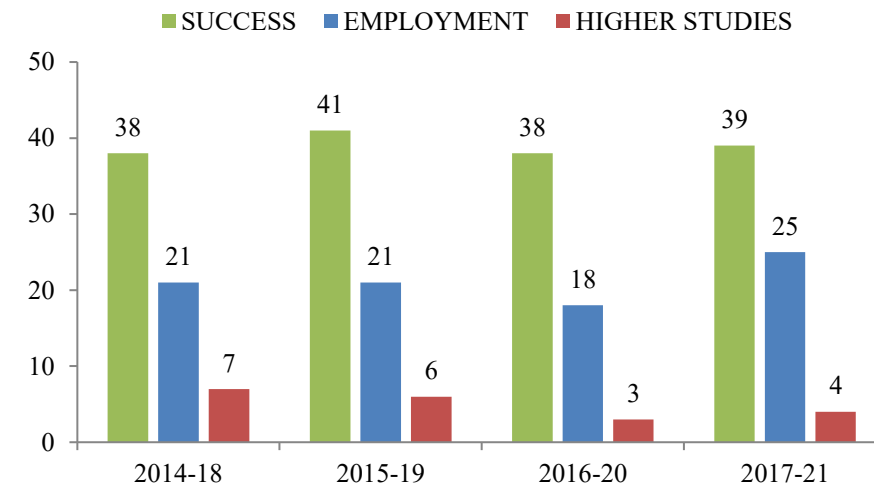
Academic Performance	CAYm2 (2018-19)	CAYm3 (2017-18)	LYG (2016-17)
Mean of CGPA or Mean Percentage of all successful students (X)	6.99	6.95	6.13
Total no. of successful students (Y)	56	39	42
Total no. of students appeared in the examination (Z)	56	42	46
API = X* (Y/Z)	6.99	6.45	5.60
Average API = (AP1 + AP2 + AP3)/3	6.35		
Academic Performance = 1.5 x Average API= 1.5 X 6.35 = 9.52			



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Placement, Higher Studies and Entrepreneurship

Item	CAYm3 (2017-18)	LYG (2016-17)	LYGm1 (2015-16)	LYGm2 (2014-15)
Total No. of Final Year Students (N)	39	38	41	38
No. of Students placed in companies or Government Sector (x)	25	14	20	20
No. of students admitted to higher studies with valid qualifying score (GATE or equivalent state or National level Tests, GRE, GMAT etc.) (y)	04	03	06	07
No. of students turned entrepreneur in engineering/technology (z)	-	01	01	01
$x + y + z =$	29	19	25	28
Placement Index : $(x + y + z) / N$	0.74	0.58	0.66	0.74
Average placement = $(P1 + P2 + P3) / 3$	0.66			
Assessment Points = 40 X Average placement = 40 X 0.66 = 26.4				



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Professional Societies / Student Club Activities

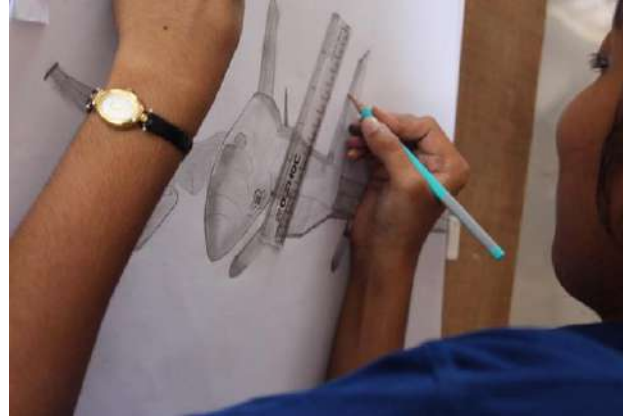
AeSI Student Chapter



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AVION – The Inter Collegiate Tech Fest conducted under the Aeromodelling club “Pravega”



Professional
Societies /
Student Club
Activities

AeSI
Student Chapter



THE AERONAUTICAL SOCIETY OF INDIA

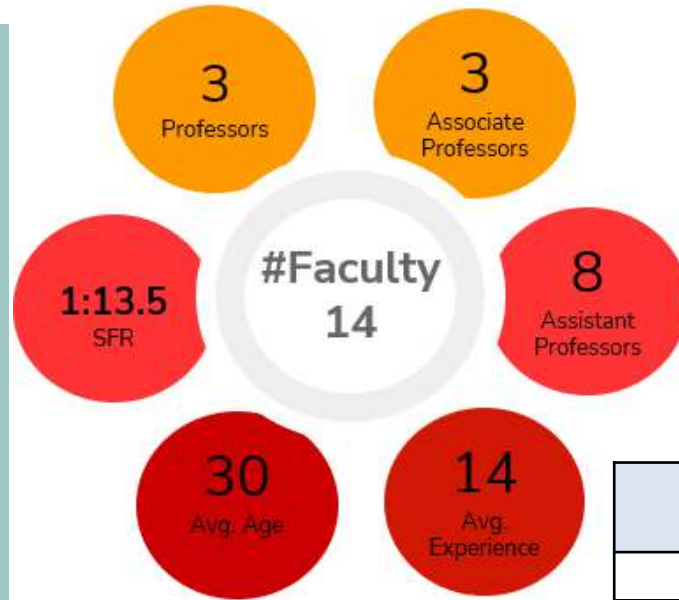
- 107 student members
- Institutional member
- To Start AeSI Student chapter



SJCIT-AE

Criteria – 5

Faculty Information and Contributions



Year	CAYm1 (2020-21)	CAYm1 (2020-21)	CAYm2 (2019-20)	CAYm3 (2018-19)
u1.1	61	61	60	60
u1.2	61	61	60	60
u1.3	61	61	60	60
UG1	181	181	180	180
Total No. of Students in the Department (S)	S1=181	S1=181	S1=180	S2=180
No. of Faculty in the Department (F)	F1 = 11	F1=13	F1=14	F2=13
Student Faculty Ratio (SFR)	SFR1 =16.45	SFR1 =13.92	SFR2 =12.86	SFR3= 13.85
Average SFR	SFR=(SFR1+SFR2+SFR3)/3=13.54			



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Faculty Cadre Proportion

Year	Professors		Associate Professors		Assistant Professors	
	Required F1	Available	Required F2	Available	Required F3	Available
CAY [2020-21]	1	2	2	1	6	10
CAY m1 [2019-20]	1	2	2	1	6	11
CAYm2 [2018-19]	1	0	2	1	6	12
Average Numbers	RF1=1	AF1=1.33	RF1=2	AF2=1	RF3=6	AF3=11

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

$$\text{Cadre Ratio Marks} = [1.33 + 0.3 + 0.733] \times 12.5 = 29.5375$$



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Faculty Qualification

Years	X	Y	F	$FQ=2.5 \times [(10X + 4Y)/F]$
CAY [2021-22]	4	7	9	18.88
CAYm1 [2020-21]	3	10	9	19.44
CAYm2 [2019-20]	3	11	9	20.56
CAYm3 [2018-19]	1	13	9	17.22
Average Assessment				19.07

Faculty Retention

Retention Details	CAYm3 [2018-19]	CAYm2 [2019-20]	CAYm1 [2020-21]	CAY [2021-22]
Number of Faculties Retained	12	12	12	9
Number of Faculties in the Base Year [2016-2017]	13	13	13	13
Percentage of Retained	92.30	92.30	92.30	69.23
Average Percentage Faculty Retention	92.30			

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Faculty Details 2020-21

SJCIT-AE



Name of the Faculty Member	Qualification	Area of Specialization	Designation	Date of Joining the Institution
Dr. Deepa M. S	M. Tech.,Ph.D.	Propulsion & CFD	Professor & Head	29/07/2015
Gp. Capt.V. Rajan (Retd)	M.E	Machine Design	Associate Prof	27/01/2014
Prof. Munikrishna Nagaram	Ph.D., Post Doc.	Computational Fluid Dynamics (CFD)	Professor	1/02/2019
Prof. Nikhil Vijay Shinde	Ph.D.,	Computational Fluid Dynamics (CFD)	Professor	1/02/2019
Dr. Bino Prince Raja D	Ph.D.	Aerospace structures and Composite Materials	Professor	02/07/2018
Dr. Nataraju S N	Ph.D.	Material Science	Associate Prof	28/07/2014
Dr. Nagesh D	Ph.D.	Composite Materials	Asst. Prof	22/02/2012
Prof. Sunkappa	M.Tech	Thermal Power Engg	Asst. Prof	28/07/2014

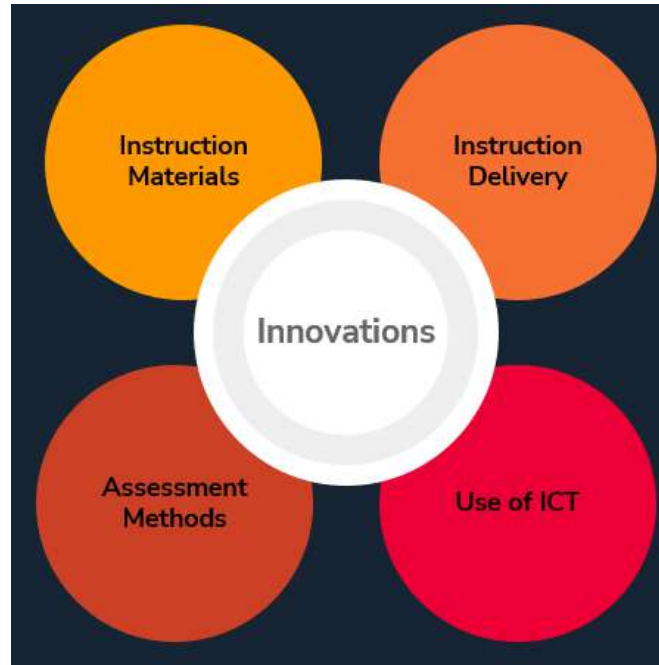
Faculty Details 2020-21

Name of the Faculty Member	Qualification	Area of Specialization	Designation	Date of Joining the Institution
Prof. Mithun P. S	M.Tech	Machine Design	Asst. Prof	01/08/2015
Prof. Rohith L. G	M.Tech	Energy Systems Engineering	Asst. Prof	01/02/2016
Prof. Vigneswaran C.M	M.Tech	Aerospace Engineering	Asst. Prof	27/07/2016
Prof. Praveen. N	M.Tech	Astronomy & Space Engg.	Asst. Prof	01/07/2017
Prof. Vinay. P	M.Tech (Ph.D)	Computational Analysis in Mechanical Science	Asst. Prof	08/07/2017
Prof. Chandrika MB	M.Tech	Aeronautical Engineering	Asst. Prof	31/01/2017
Prof Paramesh T	M. Tech	Thermal Engineering	Asst. Prof	01/02/2017
Prof. Aditya A R	M. Tech	Aircraft Design	Asst. Prof	02/07/2018

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Innovations by the Faculty in Teaching and Learning



Lectures	Classroom lectures are conducted using basic and conventional method of disseminating information to the students as per the curriculum. Students are encouraged to understand, apply and analyse the engineering problems.
Power point Presentations	Ideas and concepts taught during lectures are reinforced in the minds of students with the aid of presentations and videos.
Tutorials	Tutorials help the students in analysing and solving the engineering problems on the basis of the theory dealt during lectures. The tutorial sessions make the concept clear to the students.
Assignments	Assignments make students self-reliant in solving problems through understanding of theory through practice
Laboratory Experiments	Exposes the students to experimental and practical aspects of theory studied in classrooms. Lab-experiments help students to verify the theory concepts by interpretation of results. Laboratory experiments are carried out in teams, which helps in developing the spirit of working in a team
Seminars	Students are made to present a seminar during their academic year. In this, the students are supposed to present on a particular topic by referring to various books, Journals of National and International repute.
Case Study/ Mini Projects	Current topic related to the subject will be given to a group of students informing them to study about the topic, research going on related to the topic, submit a report and present in the class
Flip Class	Topics related to the course will be circulated to the students through google group (group mail) instructing them to prepare for the topic before the scheduled class. The Course coordinator prepares a list of questions and asks the students to answer the same during the class.



SJCIT-AE

Faculty as participants in Faculty development/training activities

Sl. No.	Name of the Staff	Max. 5 per Faculty			
		CAY (2020-21)	CAYm1 (2019-20)	CAYm2 (2018-19)	CAYm3 (2017-18)
1.	Gp Capt.V. Rajan (Retd)	3	5	5	5
2.	Prof. Deepa M. S	5	5	5	5
3.	Prof. Mithun P. S	3	-	5	-
4.	Prof. Rohith L. G	5	5	5	3
5.	Prof. Vigneswaran C.M	3	-	5	3
6.	Prof. Praveen. N	5	5	5	5
7.	Prof. Vinay. P	5	5	5	5
8.	Dr. Bino Prince Raja D	5	5	5	5
9.	Prof. Chandrika M B	-	5	3	5
10.	Dr. Nataraju.S. N	5	5	5	5
11.	Dr. Nagesh.D	5	5	5	5
Sum		41	45	43	46
RF= Number of Faculty required to comply with 20:1 Student-Faculty ratio as per 5.1		9	9	9	9
Assessment= 3*(sum/0.5 RF)		27.33	30	28.66	30.66
Average Assessment over three years (Marks Limited to 15)		29.16 = 15			



SJCIT-AE

Academic Research - Publications (CAY 2020-21)



SJCIT-AE

Name of the Faculty	National/ International	Title of the Paper	Journal Details	Indexing	Impact factor
Prof. Deepa.M.S	International	Effect of stall on Blended Wing Body Aircraft	ISSN: 2278-627X (For online version) ISSN: 2319-3778 (For Printed Version)2\09\2020 Published in IJLTET Journal, Volume 17	Copernicus	0.685/1
Dr. Bino Prince Raja.D	International	Influence of nanoparticles on thermal, mechanical and 3D analysis of hybrid Bamboo/glass fibre reinforced polymer composites	Transaction of Indian Institute of Metals, SPRINGER	SCI	1.49
Dr. Bino Prince Raja.D	International	Investigating the effect of Si ₃ N ₄ Reinforcement on the morphological and mechanical behaviour of AA2219 alloy	Silicon, SPRINGER	SCI	2.4
Dr. Bino Prince Raja.D	International	Tribological, Thermal and Corrosive Behaviour of Aluminium Alloy 2219 Reinforced by Si ₃ N ₄ Nanosized Powder	Silicon, https://doi.org/10.1007/s12633-021-01214-0 SPRINGER ISSN 1876-9918	SCI	2.4

Academic Research - Publications (CAY 2020-21)



SJCIT-AE

Name of the Faculty	National/ International	Title of the Paper	Journal Details	Indexing	Impact factor
Dr. Bino Prince Raja.D	International	Mechanical Characterization of Carbon Fibre Reinforced Epoxy Polymer	SSRN eLibrary23/07/2020 ISSN 1556-5068	Google Scholar	
Dr. Nagesh.D	International	Optimization of Tribological Properties of Al6061, Boron and Graphite MMCs Using Taguchi Method	IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE)	Google scholar	
. Nagesh.D	International	Tribological characteristics of AI6061, boron, and Graphite hybrid Metal matrix composites	Taylor & Francis Advances in Materials and Processing Technologies http://doi.org/10.80/2374068X2021.1946323 18/06/2021	SCI	1.56

Patent filed/granted



SJCIT-AE

Name of the Inventor	Title of Invention	Application/ Patent	National / International
Dr. Bino Prince Raja. D	“Structural Health Monitoring for the turbine blades of the gas turbine engine by embedded sensors”	2021102090, Australia, April 2021 (GRANTED)	International Australia
Dr. Bino Prince Raja. D	“Obtaining A Self-Healing CFRP By Microcapsules And Vascular Network For Aerospace Application”	202141007313 , RQ No. R20214005725, February 2021	National
Dr. Bino Prince Raja. D	“Method of wear surface roughness and tensile failure analysis of hybrid composites by online acoustic emission”	202041037313 , October 2020	National

Books/Books Chapters Published



SJCIT-AE

Title	Author/s	Year of Publication	Name of the Publisher/s
“Comprehensive Characterization of Carbon Fiber-Reinforced Epoxy Composite for Aerospace Application	Dr. Bino Prince Raja. D	2019	Advances in Structures, Systems and Materials, SPRINGER
Multi-response Optimization of FSW Process Parameters of ZE42 Alloy Using RSM-Based Grey Relational Analysis	Dr. Bino Prince Raja D	2020	Intelligent Manufacturing and Energy Sustainability, SPRINGER

Ph.D. Guided

Guide Name	Name of Ph.D. students	University	Field	Year of Registration	Status
Dr. Bino Prince Raja	Chandrika M B	VTU	Aerospace Engg.	2021	Registered
Dr. Bino Prince Raja	Syed Sukumar Abbas	VTU	Aerospace Engg.	2021	Registered

Ph.D. Pursuing

Name of Research Scholar	Guide Name	University	Year of Registration	USN	Status
Deepa M S	Dr.S K Maharana	VTU	2015	1AY15PAJ01	Awarded
Vigneswaran C M	Dr. Vishnukumar	Hindustan University	2019	AE1908	Comprehensive viva completed.
Mr. Vinay P	Dr. Mohan Krishna S A	VTU	2020	4VV20PME06	REGISTERD

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Sponsored Research Projects Completed

SJCIT-AE



Title of the project	Period	Funding Agency	Amount Sanctioned INR	Duration
Coconut and Areca Nut Harvesting Drone	March 2019-March 2020 (extended till Dec 2020)	NAIN/ITBT, Govt of Karnataka	2,50,000	12 Months
Study and Development of Hybrid Ramie/Glass Fiber reinforced Epoxy Composites	Aug 2019-May 2020	KSCST, Karnataka	5,000	10 Months
DESIGN, structural Analysis and Topology Optimization of Aircraft wing.	Aug 2020-May 2021	VTU	5,000	10 Months
Design and Linear static analysis of Aircraft Interior composite Panel for Minimum Weight through Stress Analysis	Aug 2020-May 2021	VTU	5,000	10 Months

Product Development Details

Project name/ product	Year of implementation	Student team members	Faculty – In charge
Coconut and Areca Nut Harvesting Drone	2018 to till Date	Dhanush G J Ajith Patil Manjunath Patil Deepak B S	Prof. Deepa M S
Design and construction of a TRUAV	2020	Ashik Ram Gowda Bhuvan K Manu Gowda K S Manoj B E	Prof. Chandrika M B



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Research/ Additional Facilities



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Consultancy (from Industry)

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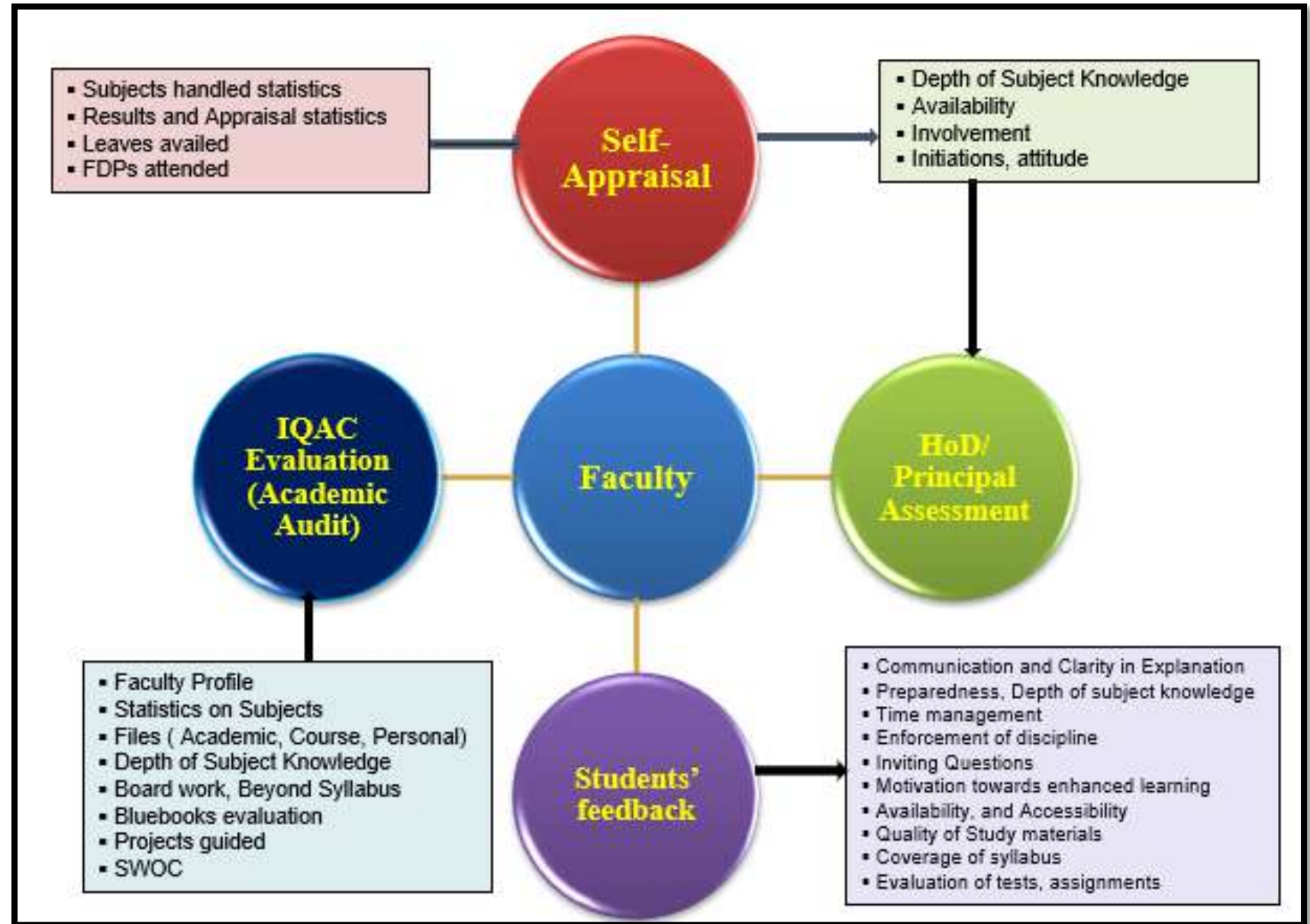


Consultancy Work Undertaken	Facility used	Company/ Institute Name	Amount Sanctioned INR
Testing of Force Models to determine Lift, Drag & Moment	Low Speed Subsonic Wind tunnel (Aerodynamics Lab)	M/s Ind Lab Equipment Pvt Ltd, Doddaballapur	5,000
Force Balance & Smoke Flow Visualization	Low Speed Subsonic Wind tunnel (Aerodynamics Lab)	Jyothi Institute of Technology, Bangalore	5,000
Experiments of Pressure distribution around cambered and symmetric airfoil	Low Speed Subsonic Wind tunnel (Aerodynamics Lab)	R L J Polytechnic, Doddaballapur	5,000

Faculty Performance Appraisal and Development System (FPADS)



SJCIT-AE



Sample copy of Annual self appraisal report



SJCIT-AE

SJC Institute of Technology, Chickballapur – 562 101 Faculty - Self Appraisal / Evaluation

Name of the Faculty	Designation	Department	Date of Joining	Appraisal Year

What are the Unique Features of SJCIT as noticed/observed by YOU?

- a. e.
- b. f.
- c. g.

1. Subjects Handled/Currently handling - Statistics (last Two years)

Sl. No.	Subject Code / Title	Class / Section / Strength	Result (Pass %)	Appraisal (%)
1				
2				
3				
4				
5				
6				

Self-Assessment on Appraisal (Please list the major points in which you are weak)	Action plan for improvement
1.	1.
2.	2.
3.	3.

1. Laboratories Handled so far:

Sl. No.	Laboratory	Pass %	Specific Contributions	Any Steps to Improvement
1				
2				
3				
4				
5				



Criteria-6

Facilities and Technical Support



MATERIAL TESTING LAB

No. of students per setup (Batch size)	Name of the Major Equipment	Weekly utilization status	Technical Manpower support		
			Name of the technical staff	Designation	Qualification
25	Brinnel's hardness Test set up Rockwell's hardness Testing equipment Vicker's hardness Testing equipment Computerized Universal Testing Machine (100 ton), Torsion Testing, Impact Testing, Fatigue Testing, Metallurgical Microscope Heat Treatment Furnace, Wear Testing Machine, Magnetic flaw detection Ultrasonic Inspection Equipment Eddy Current Inspection Equipment Polishing Machine, Dye Penetrate Test	2 batches x 3 hours = 6 hrs	Mr. Rakesh	Asst Instructor	ITI



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Facilities and Technical Support



COMPUTER AIDED AIRCRAFT DRAWING

No. of students per setup (Batch size)	Name of the Major Equipment	Weekly utilization status	Technical Manpower support		
			Name of the technical staff	Designation	Qualification
25	Computers (Solid Edge Version ST10) (60 Users)	2 batches x 3 hours = 6 hrs	Mr. Srinivas CA	Mechanic	ITI



SJCIT-AE

Facilities and Technical Support



MEASUREMENTS AND METROLOGY LAB

No. of students per setup (Batch size)	Name of the Major Equipment	Weekly utilization status	Technical Manpower support		
			Name of the technical staff	Designation	Qualification
25	Pressure gauge Setup, Thermocouple Calibration Test Rig, LVDT (Linear Variable Differential Transducer), Digital load indicator Strain gauge set up test instrument, Sine center, Autocollimator/ roller set, Two wire and three wire set equipment, Mechanical comparator Equipment, Gear tooth micrometer equipment, Slip gauge set up, Tool maker's Microscope, Optical profile projector	2 batches x 3 hours = 6 hrs	Mr. Srinivas CA	Mechanic	ITI



SJCIT-AE

Facilities and Technical Support



FLUID MECHANICS LAB

No. of students per setup (Batch size)	Name of the Major Equipment	Weekly utilization status	Technical Manpower support		
			Name of the technical staff	Designation	Qualification
25	Venturi Meter Test Rig Orifice Meter Test Rig Red Wood Viscometer Notches - Weirs Apparatus Bernoulli's Theorem Apparatus Pipe Friction - Major loss Apparatus Pipe fittings - Minor loss Apparatus	2 batches x 3 hours = 6 hrs	Mr. Chandrashekar K. V.	Mechanic	ITI



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Facilities and Technical Support



ENERGY CONVERSION LAB

No. of students per setup (Batch size)	Name of the Major Equipment	Weekly utilization status	Technical Manpower support		
			Name of the technical staff	Designation	Qualification
25	Abel-Pensky Apparatus (2No's), Martin-Pensky apparatus (2No's), Bomb Calorimeter, Torsion viscometer, Cut out Model Four stroke IC Diesel Engine, Single Cylinder Four stroke petrol engine – Test rig, Multi cylinder Four stroke Petrol engine – Test rig, Planimeter	2 batches x 3 hours = 6 hrs	Mr. Chandrashekar K. V	Mechanic	ITI



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Facilities and Technical Support



AERODYNAMICS LAB

No. of students per setup (Batch size)	Name of the Major equipment	Weekly utilization status	Technical Manpower support		
			Name of the technical staff	Designation	Qualification
25	Computerized Low Speed Sub Sonic Wind Tunnel and Accessories	2 batches x 3 hours = 6 hrs	Mr. Chandrashekar K	Mechanic	ITI



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Facilities and Technical Support



AIRCRAFT PROPULSION LAB

No. of students per setup (Batch size)	Name of the Major Equipment	Weekly utilization status	Technical Manpower support		
			Name of the technical staff	Designation	Qualification
25	Burning Velocity of a Pre-mixed flame with blower, Nozzle Flow setup, Cascade Tunnel, Propeller Test Rig with Anemometer, Forced Convective Heat Transfer over a Flat Plate, Boys Gas calorimeter (for Aviation Fuel), Free jet and Wall jet setup, Free Convective Heat Transfer over Flat Plate / Aerofoil, Turbojet Aero Engine	2 batches x 3 hours = 6 hrs	Mr. Rakesh	Asst Instructor	ITI



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Facilities and Technical Support



AIRCRAFT STRUCTURES LAB

No. of students per setup (Batch size)	Name of the Major Equipment	Weekly utilization status	Technical Manpower support		
			Name of the technical staff	Designation	Qualification
25	Beam Test Setup Frame-2 No's with Accessories, Wagner Beam with Accessories, Vibration of Beam with Accessories, Shear center location set-up for open sections (unsymmetrical bending) and for closed section	2 batches x 3 hours = 6 hrs	Mr.Chandrashekar K	Mechanic	ITI



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Facilities and Technical Support



FLIGHT SIMULATION LAB

No. of students per setup (Batch size)	Name of the Computing Facility	Weekly utilization status	Technical Manpower support		
			Name of the technical staff	Designation	Qualification
25	Computers MAT Lab with Add-ons (30 Users)	2 batches x 3 hours = 6 hrs	Mr. Chandrashekar K V	Mechanic	ITI



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Facilities and Technical Support



DESIGN, MODELLING AND ANALYSIS LAB

No. of students per setup (Batch size)	Name of the Computing Facility	Weekly utilization status	Technical Manpower support		
			Name of the technical staff	Designation	Qualification
25	Computers (ANSYS 18.1 software), Ansys Academic Structural & CFD (30 Users)	2 batches x 3 hours = 6 hrs	Mr. Srinivas CA	Mechanic	ITI



Facilities and Technical Support



PROJECT LAB

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
1	Workshop Facility, TRUAV, Ornithopter Model, Glider Models, Rocket Launching Facility, Beams engine , Mechanism, Elliptical trammel, UAV Models, I Section Spar, Computers with Design and analysis Software	Weekly 3-4 Hours	Mr. Chandrashekar K	Mechanic	ITI



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Additional facilities created for improving the quality of learning experience in laboratories



SJCIT-AE

Sl. No.	Facility Name	Details	Reason(s) for creating facility	Utilization	Areas in which students are expected to have enhanced learning	Relevance to POs/PSOs
1	Aircraft Design Lab	CATIA V5 (30 Users) CATIA V6 (07 Users)	Design and assembly of Aircraft components	Saturdays and Vacation MoU with EDS Technologies for level 1 Course of 60 Hours duration	Solid modelling, Assembly modelling, Surface modelling, Drafting	PO3, PO5, P012, PSO1
2	Department Library	VTU Prescribed Text Books and Reference Books Project, Seminar and Internship reports. Research corner	To enable students and staff avail academic specific resources, advanced topics and research work related resources.	Entire Period of their study in the College	Aircraft Propulsion, Aerodynamics, Aircraft Structures, Avionics, Aircraft Stability and control, Aircraft Design, Heat and Mass transfer	PO9, PO11, PO12, PSO1
3	Lab Instruction Class	Discussion on theoretical concept of the experiment to be conducted in the upcoming lab Class.	To provide the students with brief idea about the experiment and its applications.	One Lab Instruction Class per Week/ Lab	Problem identification.	PO1,PO2, PO3, PO4
4	Project lab	Mini Project, Major Project and Self-motivated projects with guidance from the faculty of the department and across other departments. Labs with hardware and software tools.	To motivate the students to work on real-time projects. To build creative skills. Idea Incubation.	Entire Period of their study in the College	Problem identification and solving. Teamwork. Developing prototype models. Publishing quality research papers in reputed conferences and journals.	PO1, PO2, PO3, PO4, PO5, PO9, PSO1, PSO2

Additional facilities created for improving the quality of learning experience in laboratories

SJCIT-AE



Sl. No.	Facility Name	Details	Reason(s) for creating facility	Utilization	Areas in which students are expected to have enhanced learning	Relevance to POs/PSOs
5	Internet Facility	Internet can be accessed over college LAN	<ul style="list-style-type: none"> • Self-learning of advanced and cutting-edge research topics. • Easy access to resources on the internet for better understanding on required topic(s). 	Entire Period of their study in the College	Academic and research. Identification of recent trends and challenges in the industry. Online Education	PO1, PSO1, PSO2
6	E Journals, E-books facility	Central Library And Department Library	<ul style="list-style-type: none"> • Self-learning of advanced and cutting-edge research topics. • Easy access to resources on the internet for better understanding on required topic. • Bridge gap between academic and recent research areas. 	Entire Period of their study in the College	Academic and research. Identification of recent trends and challenges in the industry.	PO1, PSO1, PSO2
7	Seminar Hall	Partially established	To conduct Seminars, Guest lectures, Workshops	Throughout the semester	Communication and Presentation skills.	PO9, PO10

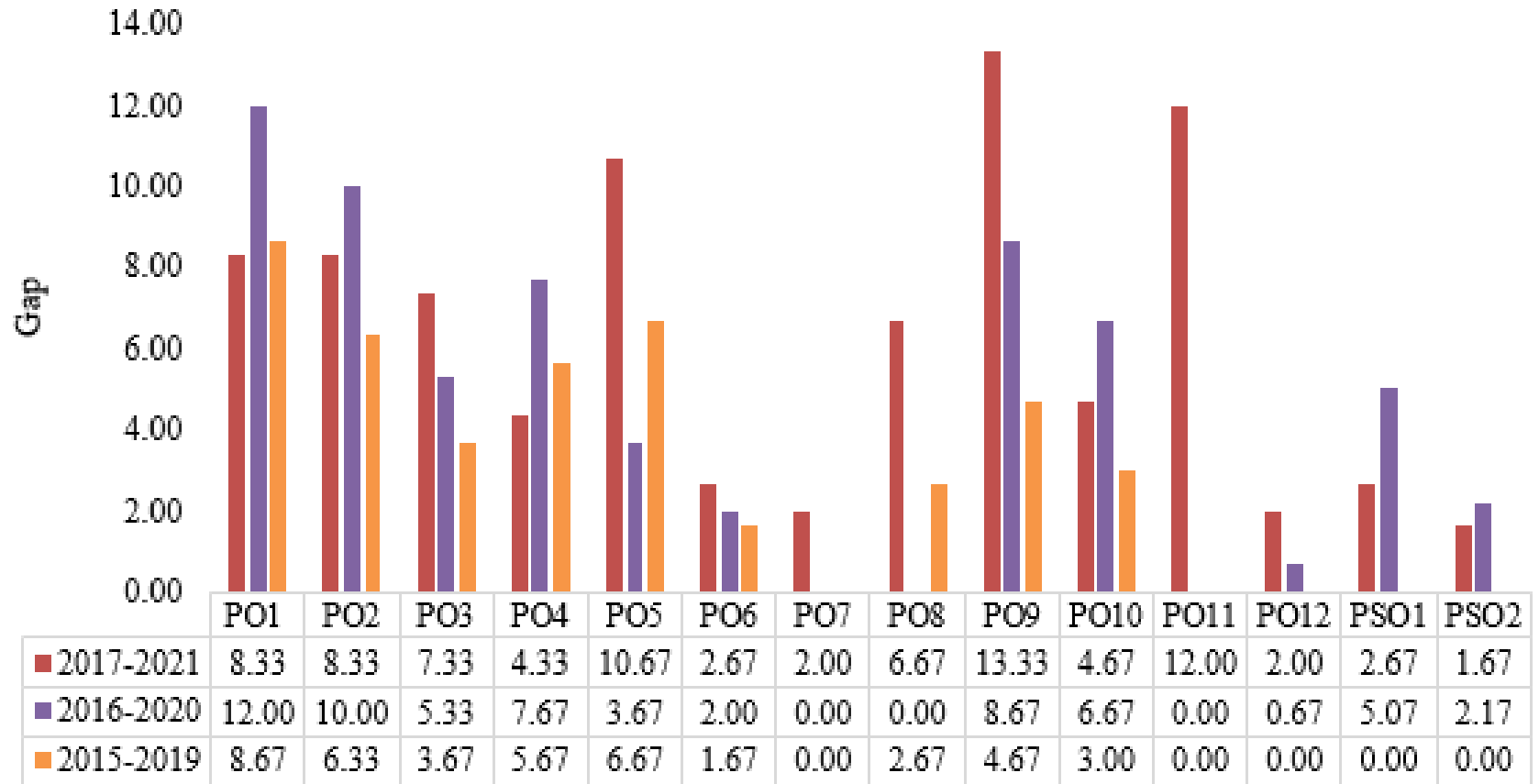
Criteria – 7

Continuous Improvement GAP Analysis on POs and PSOs



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Gap Analysis of Program Outcomes (Batchwise)



Actions taken on evaluation of each PO/PSO

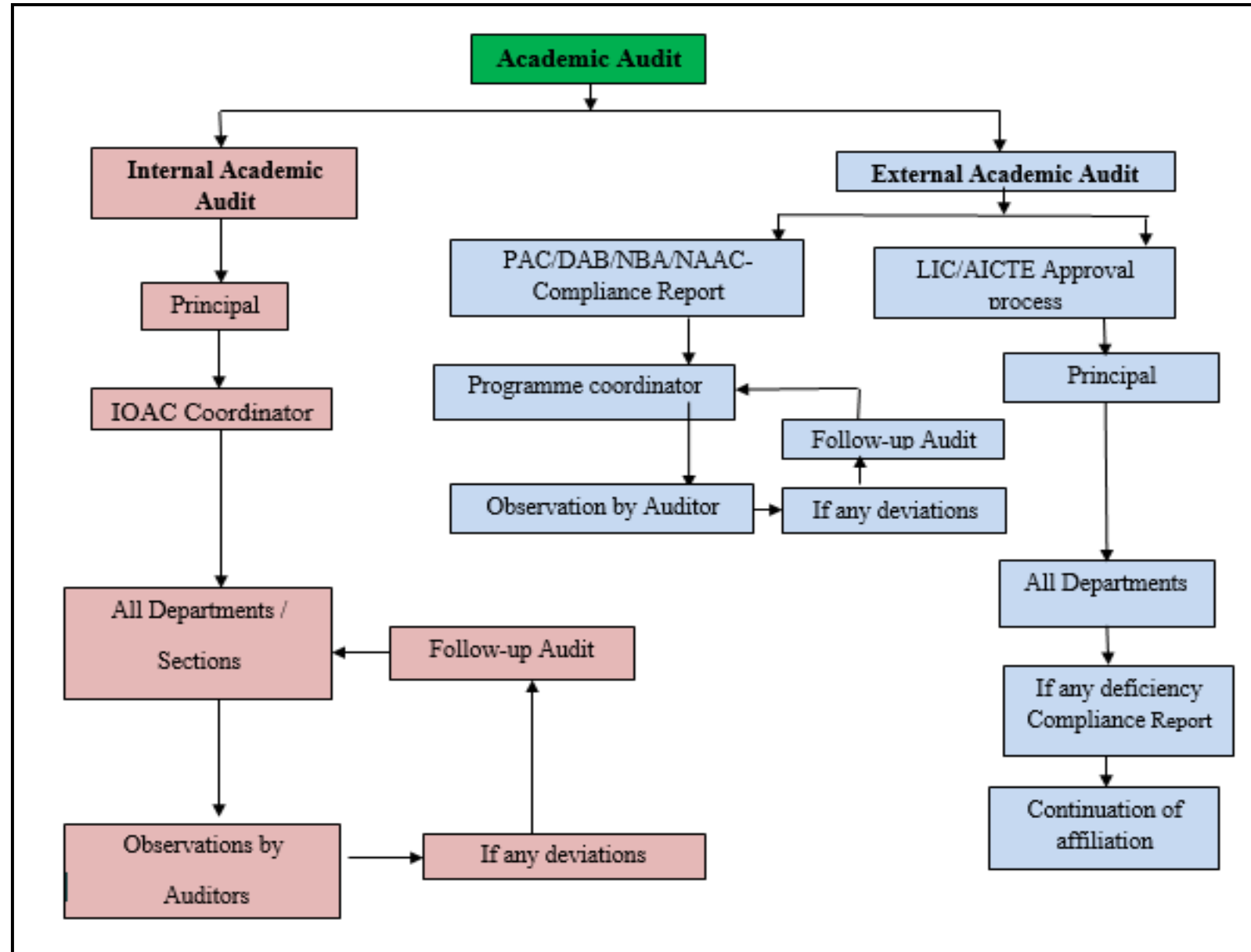


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CAY [2017-2021]			
POs	Target Level	Attainment Level	Observations
PO1: Engineering knowledge: To Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	2.64	2.39	91% Target has been achieved. 9% gap because of students lack in applying knowledge in subjects such as Aero Thermodynamic, Mechanics of Materials, Turbomachines, Guidance, Navigation & Control, and Avionics.
<p>Action 1: Solve a greater number of problems and assign & discuss extra numerical during Tutorials in fundamental subjects such as Mechanics of Materials, Aerothermodynamics, Mechanics of Fluids and Turbomachines.</p> <p>Action 2: Conduct more number of class room and lab sessions to cover the basic fundamental concepts.</p> <p>Action 3: Remedial classes to be conducted beyond regular planned classes for slow learners.</p>			
PSO1: Apply the fundamental knowledge of Aerodynamics, Propulsion, Structures and Flight controls to solve core contemporary problems			
PSO1	1.75	1.67	97% Target has been achieved. 3% gap because of students lack in applying fundamental knowledge of Aero Thermodynamics, Mechanics of Materials, Turbomachines, Aircraft Structure-I, Avionics and Flight Vehicle Design
<p>Action 1: Extra Problems related to core contemporary issues in the field of Aeronautical will be given as assignments.</p> <p>Action 2: Exposure through industrial visit to Aeronautical based establishments, Guest lectures and Seminars from academic and industrial experts currently involved in Aeronautical/ Aerospace fields are conducted.</p>			

Academic Audit on COs, POs, PSOs and PEOs

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Improvement in Higher Studies



SJCIT-AE

CAY-(2020-21)				
SL NO	Name of the student	Enrolment No.	Name of the University/ Institution	Year of Admission
1	AKSHATA GUNDETI	1SJ17AE008	M S, University of Darmstadt, Germany	2022
2	SHREYAS PRAKASH	1SJ17AE026	M S, University of Darmstadt, Germany	2022
3.	JAHNAVI R	1SJ17AE016	M Tech, RVCE	2022
4.	SANDEEP N	1SJ17AE037	MBA, REVA University	2022

CAYm1-(2019-20)				
1	A N R GOWDA	1SJ16AE001	RUAS, Bengaluru	31/07/21
2	BHUVAN K	1SJ16AE009	Coventry University.UK	19/03/21
3	NARENDRA R	1SJ16AE027	University Of Dayton, USA	17/12/20

Improvement in Higher Studies



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CAYm2-(2018-19)				
SL NO	Name of the student	Enrolment No.	Name of the University/Institution	Year of Admission
1	AJITH PATIL	1SJ15AE001	MBA, RUAS	14/1/2022
2	GOWTHAM R NAZRE	1SJ15AE015	Kingston University, UK	15/12/2020
3	LAKSHITHA P	1SJ15AE017	Srinivas University, Mangalore	22/01/2021
4	SANTHOSH GAUTHAM	1SJ15AE037	Lewis University, USA	10/11/2021
5	VAISHNAVI P	1SJ15AE048	Anglia Ruskin University, UK	17/07/2020
6	VIVEK K S	1SJ15AE052	International University of Applied Science, Germany	01/09/2021

CAYm3-(2017-18)				
SL NO	Name of the student	Enrolment No.	Name of the University/Institution	Year of Admission
1	A VANI	1SJ14AE001	VTU VIAT, Bengaluru	17/2/2022
2	AKSHAYRAJ .N	1SJ14AE004	RUAS, Bengaluru	28/09/18
3	ARUN SUNNY.A.R	1SJ14AE007	Arden University	31/05/19
4	PAVAN.B.V	1SJ14AE034	IUBH University of Applied Science, Germany	01/09/19
5	SHREYAS.G.R	1SJ14AE046	VTU VIAT, Bengaluru	11/10/18
6	SUHAS.B.L	1SJ14AE050	RMIT University, Australia	01/03/21
7	MUBEENAHMAD M MUDEBIHAL	1SJ14AE028	ENAC, France	29/03/19

Improvement in the Quality of Students Admitted to the Program



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Item		CAY (2020-21)	CAYm1 (2019-2020)	CAYm2 (2018-2019)	CAYm2 (2017-2018)
National Level Entrance Examination, COMED-K	No. of Students admitted	-	-	01	05
	Opening Score/Rank	-	-	41752	25054
	Closing Score/Rank	-	-	41752	47226
State/University/ Level Entrance Examination / Others (Name of the Entrance Examination) KCET	No. of Students admitted	30	14	19	17
	Opening Score/Rank	23229	12533	10833	12093
	Closing Score/Rank	115370	65613	24616	19746
Name of the Entrance Examination for Lateral Entry or Lateral entry details KCET (DIPLOMA)	No. of Students admitted	1	-	-	-
	Opening Score/Rank	15680	-	-	-
	Closing Score/Rank	15680	-	-	-
Average CBSE/Any other Board Result of admitted students (Physics, Chemistry & Mathematics)		75.07	74.06	77.44	73.63

First Year Academic Performance

Academic Year	Appeared for Examination	No. Successful Students	Mean of the percentage of marks in First Year of all successful students	API	Average API
2019-20	47	39	7.1	5.89	6.80
2018-19	65	56	6.84	5.89	
2017-18	48	40	7.56	6.30	



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Program Specific Budget Allocation, Utilization

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Items	Budgeted CFY (2020-2021)	Actual Expenses CFY (2020-2021)	Budgeted CFY m1 (2019-2020)	Actual Expenses m1 (2019-2020)	Budgeted CFY m2 (2018-2019)	Actual Expenses CFY m2 (2018-2019)	Budgeted CFY m3 (2017-2018)	Actual Expenses CFYm3 (2017-2018)
Laboratory Equipment	44,05,125.00	23,16,340.00	1,77,98,300.00	27,98,746.00	1,20,00,000.00	3,39,999.00	1,31,22,600.00	14,61,573.00
Software	-	-	15,00,000.00	-	-	-	42,20,000.00	29,06,000.00
R & D	72,072.00	78,494.00	82,405.00.00	58,172.00	1,41,831.00	85,974.00	1,16,530.00	1,11,500.00
Laboratory Consumables	2,81,374.00	36,562.00	2,61,615.00	23,056.00	20,000.00	16,316.00	1,00,000.00	19,226.00
Maintenance & Spares	25,000.00	-	25,000.00	-	10,000.00	2,950.00	10,000.00	-
Training and Travel	2,88,288.00	3,33,580.00	7,7,033.00	5,59,851.00	5,09,138.00	4,76,636.00	5,32,710.00	7,46,854.00
Establishment Expenses	95,00,000.00	53,23,709.00	48,00,000.00	41,98,285.00	48,00,000.00	41,98,285.00	48,00,000.00	41,98,285.00
TOTAL	1,45,71,859.00	80,88,685.00	2,52,24,353.00	76,38,110.00	1,74,80,969.00	51,20,160.00	2,29,01,840.00	94,43,438.00

Honourable Visits / Invited Talks



SJCIT-AE



Dr R K Mishra

**Addl
Director,
CEMILAC**



**Prof.
Balakrishnan**

**IISc,
Bangalore**



**Mr. Andrew
Swingler**

**Global Service
Director,
Assystems
UK**



Dr. Narahari

**Ramaiah
University of
Applied Science**



**Dr. T R
Rajanna**

**General
Manager,
AERDC
HAL**

SWOC Analysis

SJCIT-AE



Strengths

Quality Students
Strong Faculty
Student Activities
Placements/Internships
NAAC Accredited
Successful Alumni
Paper Publications by Students & Faculty
Disciplined and Decentralized Work Culture

Weaknesses

Student Exchange Programs
Industry-Institution Interactions
Funded Projects and Patents
Book writing
Industry Specific Labs
Limited diversity/depth of course offerings/research areas

Opportunities

Brilliant career opportunities for graduates.
Splendid opportunities for interdisciplinary research
Excellent opportunities for funded projects through VTU/ VGST/ AICTE/ DST/ ARDB
Support from Top management
Improve Academic Performance of the students

Challenges

Striking a balance between Academic, Research and Consultancy work

Achieving maximum Placements

Publishing Papers at Reputed/ Indexed Journal like AIAA/IEEE transactions

Obtaining Patents

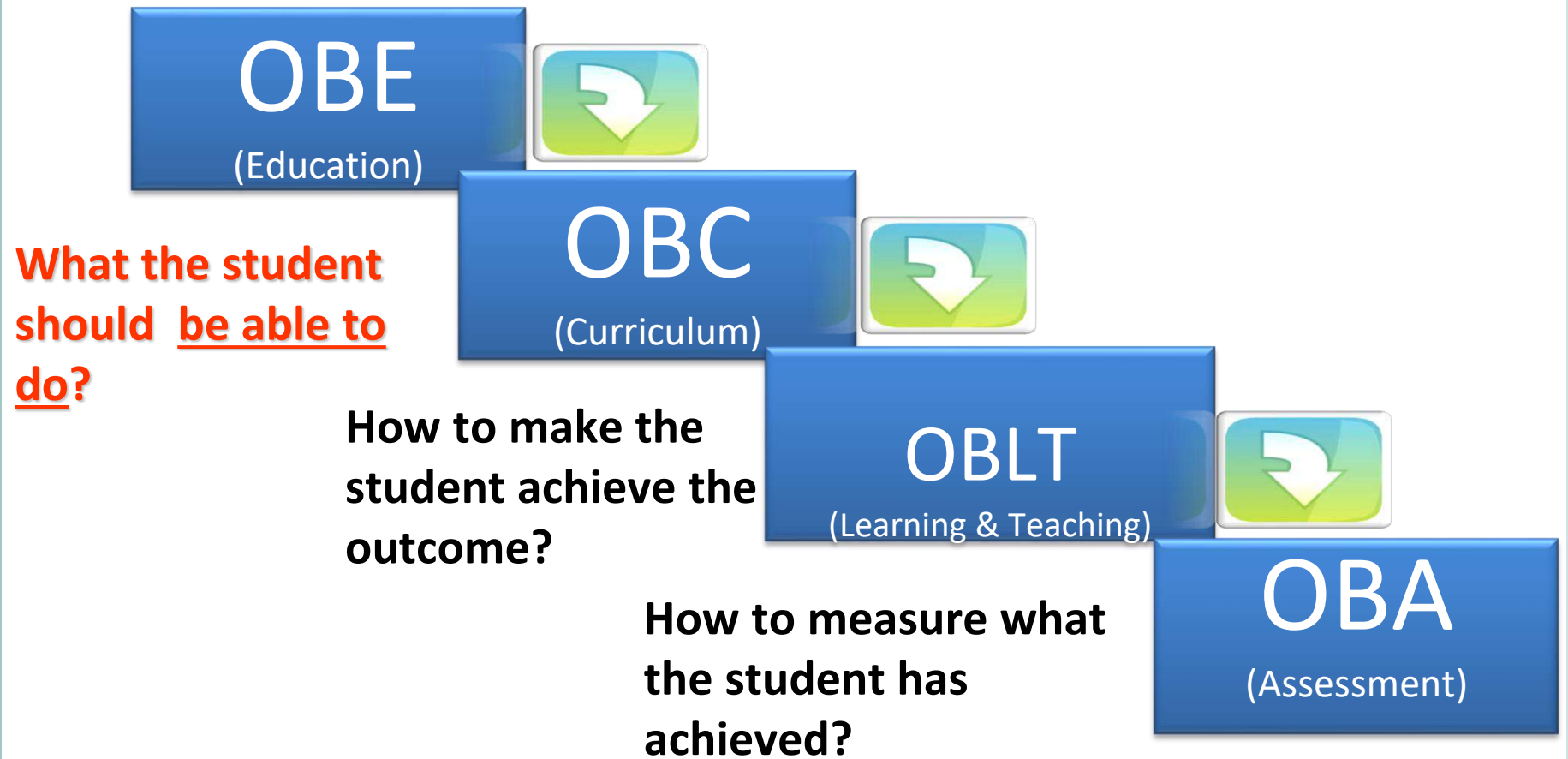
Future Plans

- Improve placement opportunities in core companies, to have tie-up with industries for better employability of students
- Encouraging the students to become entrepreneurs
- Motivate students to learn any one current technology and implement their innovative concepts in their projects
- Strengthening of linkages with VTU, DST, VGST and AICTE for contributing towards the productive socio-economic growth of our nation
- Establishing industry / academic interactions or collaborations with regional /national/international bodies to increase the number of industry consultancy projects



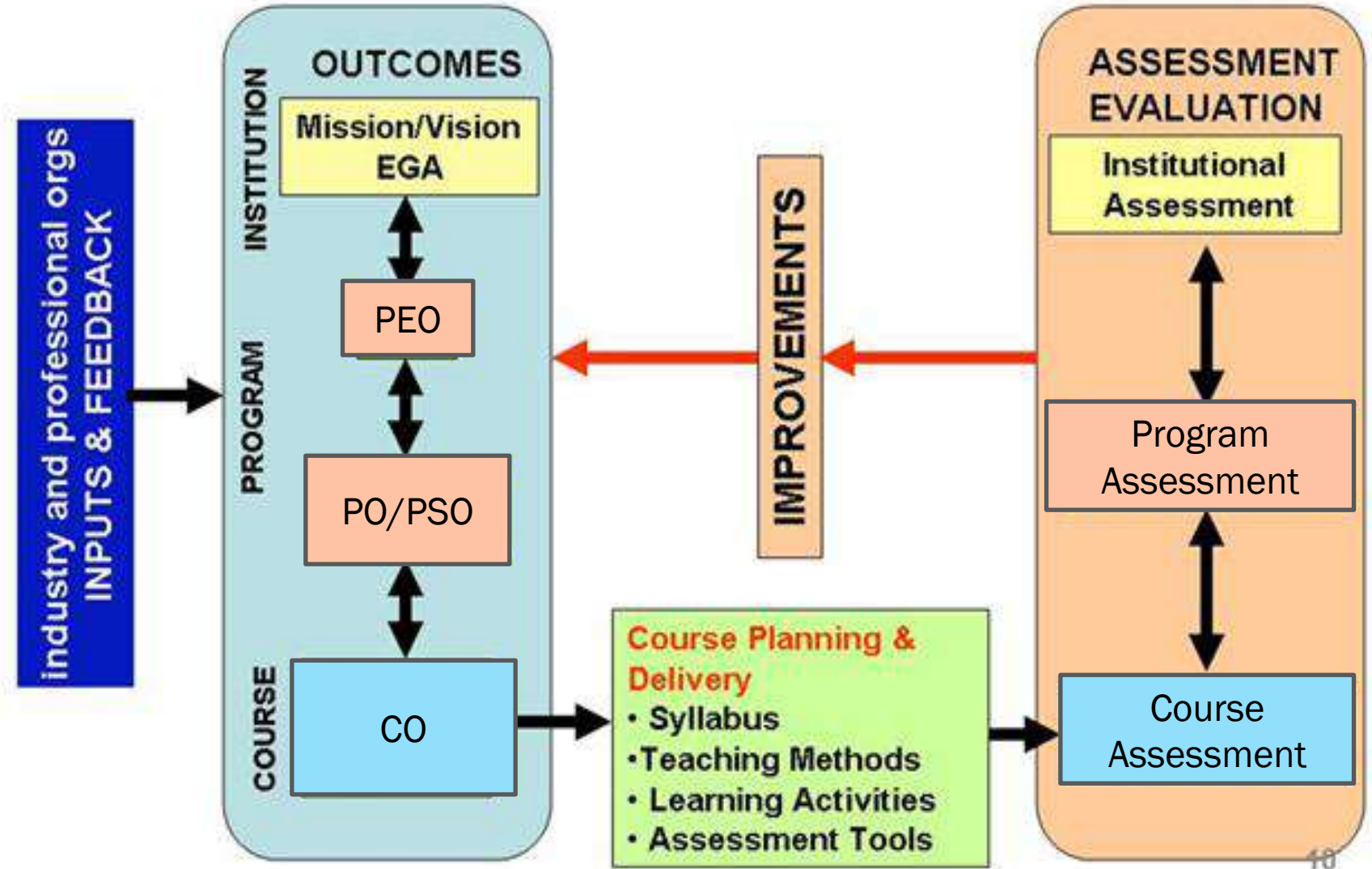
OBE Philosophy adopted by the department

SJCIT-AE



The OBE Framework

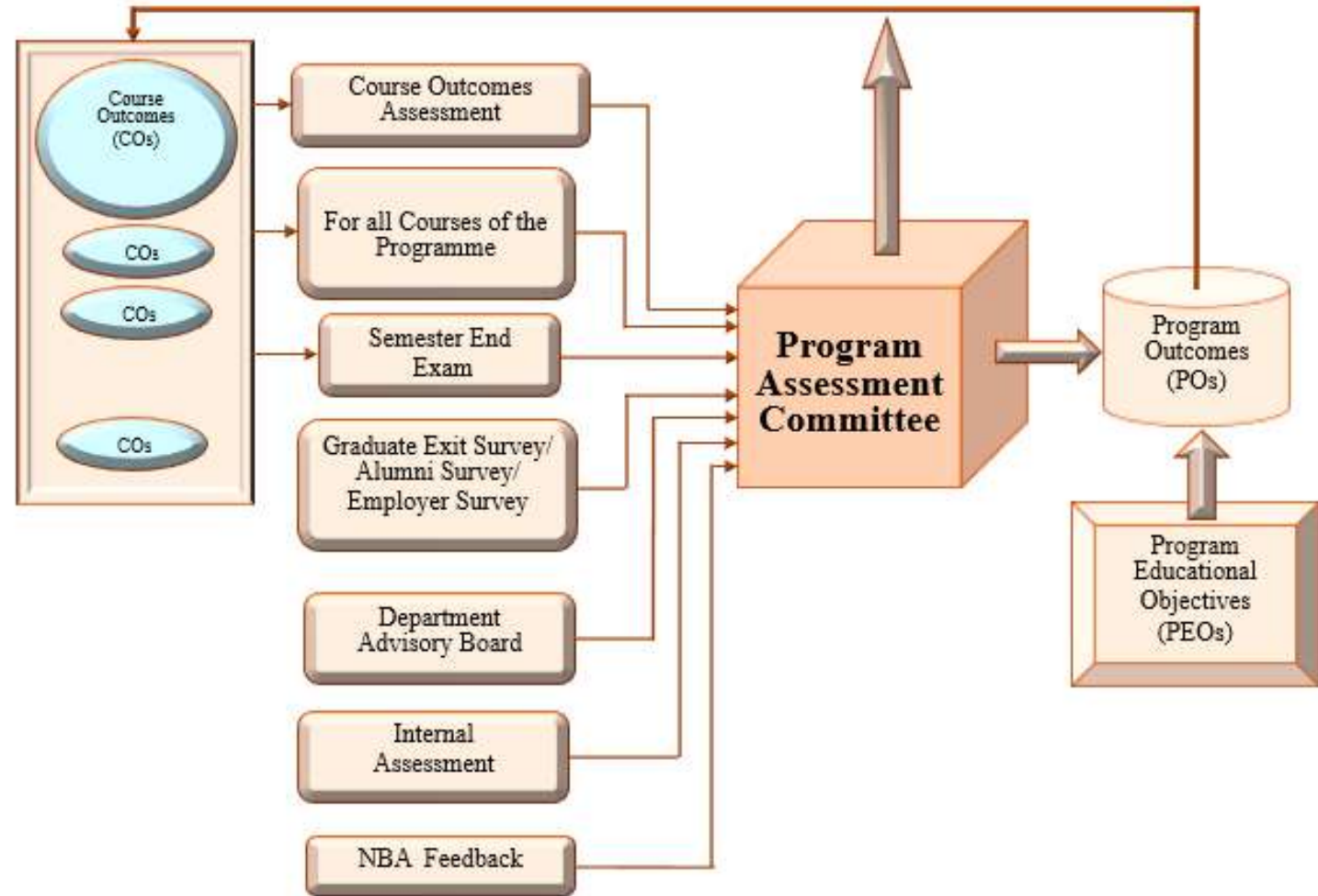
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PROGRAM OUTCOMES - Assessment/ Review Process



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