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S J C Institute of Technology, Chickaballpur

Department of Computer Science and Engineering

Course Outcomes [2019 Batch]

3rd Semester Course outcomes

Transform Calculus Fourier Series and Numerical Techniques 18MAT31

Course No.	Course Outcomes
C201.1	Employ Laplace Transform and Inverse Laplace Transform in solving differential/ integral equation arising in network analysis, control systems and other fields of engineering.
C201.2	Demonstrate Fourier series to study the behaviour of periodic functions and their applications in system communications, digital signal processing and field theory.
C201.3	Make use of Fourier transform and Z-transform to illustrate discrete/continuous function arising in wave and heat propagation, signals and systems.
C201.4	Solve first and second order ordinary differential equations arising in engineering problems using single step and multistep numerical methods.
C201.5	Determine the externals of functional using calculus of variations and solve problems arising in dynamics of rigid bodies and vibrational analysis.

Data Structure and its Applications 18CS32

Course No.	Course Outcomes
C202.1	Make use of different types of data structures, operations and algorithms.
C202.2	Apply searching and sorting operations on files.
C202.3	Employ stack, Queue, Lists, Trees and Graphs in problem solving.
C202.4	Implement all data structures in a high-level language for problem solving.

Analog and Digital Electronics 18CS33

Course No.	Course Outcomes
C203.1	Design and analyze application of analog circuits using photo devices, timer IC, power supply and regulator IC and op-amp, basic principles of A/D and D/A conversion circuits and develop the same.
C203.2	Simplify digital circuits using Karnaugh Map, Quine-McClusky, Petrick & MEV Methods.
C203.3	Design and implement different data processing circuits.
C203.4	Develop simple HDL programs and Designing sequential circuits using flip flops.
C203.5	Designing and Developing the registers and counters.

Computer Organization 18CS34

Course No.	Course Outcomes
C204.1	Comprehend the basic organization of computer systems.
C204.2	Demonstrate functioning of different sub systems, such as processor, input/output and memory.
C204.3	Illustrate hardwired control and micro programmed control, pipeling, embedded and other computing systems
C204.4	Design and analyse simple arithmetic and logical units.

Software Engineering 18CS35

Course No.	Course Outcomes
C205.1	Design a software system, component, or process to meet desired needs within realistic constraints and assess professional and ethical responsibility.
C205.2	Function on multi-disciplinary teams.
C205.3	Make use of techniques, skills, and modern engineering tools necessary for engineering practice.
C205.4	Analyze, design, implement, verify, validate, implement, apply, and maintain software systems or parts of software systems.

Discrete Mathematical Structure 18CS36

Course No.	Course Outcomes
C206.1	Make use of propositional and predicate logic in knowledge representation and truth verification.
C206.2	Demonstrate the application of discrete structures in different fields of computer science.
C206.3	Solve problems using recurrence relations and generating functions.
C206.4	Apply different mathematical proofs, techniques in proving theorems and compare graphs, trees.

Analog and Digital Electronics Laboratory 18CSL37

Course No.	Course Outcomes
C207.1	Select and Apply appropriate design equations / methods to design the given circuit
C207.2	Examine and verify the design of both analog and digital circuits using simulators.
C207.3	Make use of electronic components, ICs, instruments and tools for design and testing of circuits for the given appropriate inputs.
C207.4	Compile a laboratory journal which includes; aim, tool/instruments/software /components used, design equations used and designs, schematics, program listing, procedure followed, relevant theory, results as graphs and tables, interpreting and concluding the findings.

Data Structures and Application Laboratory 18CSL38

Course No.	Course Outcomes
C208.1	Analyze and Compare various linear and non-linear data structures.
C208.2	Code, debug and demonstrate the working nature of different types of data structures and their applications.
C208.3	Implement, analyze and evaluate the searching and sorting algorithms.
C208.4	Choose the appropriate data structure for solving real world problems.

4th Semester Course outcomes

Complex Analysis, Probability and Statistical methods 18MAT41

Course No.	Course Outcomes
C211.1	Employ the concepts of analytic function and complex potentials to solve the problems arising in electromagnetic field theory.
C211.2	Utilize conformal transformation and complex integral arising in aerofoil theory fluid flow visualization and image processing.
C211.3	Apply discrete and continuous probability distributions in analyzing the probability models arising in engineering field.
C211.4	Make use of the correlation and regression analysis to fit a suitable mathematical model for the statistical data.
C211.5	Construct joint probability distributions and demonstrate the validity of testing the hypothesis.

Design & Analysis of Algorithms 18CS42

Course No.	Course Outcomes
C212.1	Describe computational solution to well known problems like searching, sorting etc.
C212.2	Estimate the computational complexity of different algorithms.
C212.3	Devise an algorithm using appropriate design strategies for problem solving.

Operating System 18CS43

Course No.	Course Outcomes
C213.1	Demonstrate need for OS and different types of OS.
C213.2	Apply Suitable techniques for management of different resources.
C213.3	Make use of processor, memory, storage and file system commands.
C213.4	Realize the different concepts of OS in platform of usage through case studies.

Microcontroller and Embedded System 18CS44

Course No.	Course Outcomes
C214.1	Describe the Architectural features and instructions of ARM microcontroller.
C214.2	Apply the knowledge gained for programming ARM for different applications.
C214.3	Interface external devices and i/o with ARM microcontroller.
C214.4	Interpret the basic h/w components and their selection method based on characteristics, attributes of embedded system.
C214.5	Develop the hardware/software co-design and firmware design approaches.

Object Oriented Concepts 18CS45

Course No.	Course Outcomes
C215.1	Explore the object-oriented concepts and JAVA.
C215.2	Develop computer programs to solve real world problems in Java.
C215.3	Develop simple GUI interfaces for a computer program to interact with users, and to understand event-based GUI handling principles using swings.
C215.4	Comprehend the event-based GUI handling principles using Applets and swings.

Data Communication 18CS46

Course No.	Course Outcomes
C216.1	Explore the various components of data communication.
C216.2	Interpret the fundamentals of digital communication and switching.
C216.3	Compare and contrast data link layer protocols.
C216.4	Summarize IEEE 802.xx standards.

Design & Analysis of Algorithms Laboratory 18CSL47

Course No.	Course Outcomes
C217.1	Design algorithms using appropriate design techniques (brute-force, greedy, dynamic programming, etc.)
C217.2	Implement a variety of algorithms such as sorting, graph related, combinatorial, etc., in a high level language.
C217.3	Analyze and compare the performance of algorithms using language features.
C217.4	Apply and implement learned algorithm design techniques and data structures to solve real world problems.

Microcontroller and Embedded System Laboratory 18CSL48

Course No.	Course Outcomes
C218.1	Develop and test program using ARM7TDMI/LPC2148.
C218.2	Conduct the following experiments on and ARTM7TDMI/LPC2148 evaluation board using evaluation version of Embedded 'C' & Keil Uversion-4 tool/compiler.

5th Semester Course outcomes

Management and Entrepreneurship for IT Industry 18CS51

Course No.	Course Outcomes
C301.1	Interpret management, organization, entrepreneur, planning, staffing, ERP and outline their importance in entrepreneurship.
C301.2	Utilize the resources available effectively through ERP.
C301.3	Make use of IPRs and institutional support in entrepreneurship.

Computer Networks and Security 18CS52

Course No.	Course Outcomes
C302.1	Explore principles of application layer protocols.
C302.2	Recognize transport layer services and infer UDP and TCP protocols.
C302.3	Classify routers, IP and Routing Algorithms in network layer.
C302.4	Interpret the Wireless and Mobile Networks covering IEEE 802.11 Standard.
C302.5	Describe Multimedia Networking and Network Management.

Database Management System 18CS53

Course No.	Course Outcomes
C303.1	Identify, analyze and define database objects, enforce integrity constraints on a database using RDBMS.
C303.2	Make use of Structured Query Language (SQL) for database manipulation.
C303.3	Design and build simple database systems.
C303.4	Develop application to interact with databases.

Automata Theory and Computability 18CS54

Course No.	Course Outcomes
C304.1	Acquire fundamental understanding of the core concepts in automata theory and Theory of Computation.
C304.2	Learn how to translate between different models of Computation (e,g,, Deterministic and Non-deterministic and Software models).
C304.3	Design Grammars and Automata (recognizers) for different language classes and become knowledgeable about restricted models of Computation (Regular, Context Free) and their relative powers.
C304.4	Develop skills in formal reasoning and reduction of a problem to a formal model, with an emphasis on semantic precision and conciseness.
C304.5	Classify a problem with respect to different models of Computation.

Application Development Using Python 18CS55

Course No.	Course Outcomes
C305.1	Demonstrate proficiency in handling of loops and creation of functions.
C305.2	Identify the methods to create and manipulate lists, tuples and dictionaries.
C305.3	Discover the commonly used operations involving regular expressions and file system.
C305.4	Interpret the concepts of Object-Oriented Programming as used in Python.
C305.5	Determine the need for scraping websites and working with CSV, JSON and other file formats.

UNIX Programming 18CS56

Course No.	Course Outcomes
C306.1	Interpret Unix Architecture, File system and use of Basic Commands.
C306.2	Illustrate Shell Programming and to write Shell Scripts
C306.3	Categorize, compare and make use of Unix System Calls Build an application/service over a Unix system.
C306.4	Build an application/service over a Unix system.

Computer Network Laboratory 18CSL57

Course No.	Course Outcomes
C307.1	Analyze and compare various networking protocols.
C307.2	Demonstrate the working of different concepts of networking.
C307.3	Implement and analyze networking protocols in NS2/NS3.

DBMS Laboratory with Miniproject 18CSL58

Course No.	Course Outcomes
C308.1	Make use of Structure Query Language (SQL) for Data Base Creation and Manipulation.
C308.2	Demonstrate the working of different concepts of DBMS.
C308.3	Implement and Test the project developed for an application.

6th Semester Course outcomes

System Software and Compilers 18CS61

Course No.	Course Outcomes
C311.1	Apply the knowledge of System Software such as Assemblers, Loaders to compare the architectures.
C311.2	Analyze the given grammar and design a parser using various approaches.
C311.3	Apply the knowledge of compilers to demonstrate lexical and syntactical analysers using LEX and YACC tools.
C311.4	Apply the knowledge of synthesis phase and analyze the correlation between syntax tree and code generation

Computer Graphics and Visualization 18CS62

Course No.	Course Outcomes
C312.1	Design and implement algorithms for 2D graphics primitives and attributes.
C312.2	Illustrate Geometric transformations on both 2D and 3D objects.
C312.3	Apply the concepts of clipping and visible surface detection in 2D and 3D viewing, and Illumination Models.
C312.4	Decide suitable hardware and software for developing graphics packages using OpenGL.

Web Technology and Its Applications 18CS63

Course No.	Course Outcomes
C313.1	Adapt HTML and CSS syntax and semantics to build web pages.
C313.2	Construct and visually format tables and forms using HTML and CSS.
C313.3	Develop Client-Side Scripts using JavaScript and Server-Side Scripts using PHP to generate and display the contents dynamically.
C313.4	Apply the principles of object oriented development using PHP.
C313.5	Inspect JavaScript frameworks like jQuery and Backbone which facilitates developer to focus on core features.

Data Mining and Data Warehousing 18CS641

Course No.	Course Outcomes
C314.1	Ability to Demonstrate the concept of data warehousing and OLAP.
C314.2	Ability to Investigate the multidimensional data model.
C314.3	Ability to Examine various data types and pre-processing methods.

Cloud Computing and its Application 18CS643

Course No.	Course Outcomes
C315.1	Discuss the concepts of cloud computing, virtualization and classify services of cloud computing.
C315.2	Illustrate architecture and programming in cloud.
C315.3	Describe the platforms for development of cloud applications and List the application of cloud.

System Software Laboratory 18CSL66

Course No.	Course Outcomes
C316.1	Implement and demonstrate the scanning process using Lex tool.
C316.2	Develop and demonstrate the parsing techniques using YACC tool or C programming.
C316.3	Evaluate different algorithms required for scheduling and deadlock.
C316.4	Devise different algorithms required for memory management used in operating system.

Computer Graphics Laboratory with Mini Project 18CSL67

Course No.	Course Outcomes
C317.1	Apply the concepts of computer graphics.
C317.2	Implement computer graphics applications using OpenGL.
C317.3	Animate real world problems using OpenGL.

Mobile Application Development 18CSMP6)

Course No.	Course Outcomes
C318.1	Learn and acquire the art of Android Programming.
C318.2	Configure Android studio to run the applications.
C318.3	Implement Android's User interface functions.
C318.4	Create, modify and query on SQlite database.
C318.5	Inspect different methods of sharing data using services.

7th Semester Course outcomes

Artificial Intelligence and Machine Learning 18CS71

Course No.	Course Outcomes
C401.1	Appraise the theory of artificial intelligence and Machine Learning.
C401.2	Illustrate the working of AI and ML algorithms.
C401.3	Demonstrate the applications of AL & ML.

Big Data and Analytics 18CS72

Course No.	Course Outcomes
C402.1	Explore fundamentals of Big Data analytics.
C402.2	Investigate Hadoop framework and Hadoop Distributed File system.
C402.3	Illustrate the concepts of NoSQL using MongoDB and Cassandra for Big Data.
C402.4	Demonstrate the MapReduce programming model to process the big data along with Hadoop tools.
C402.5	Make use of Machine Learning algorithms for real world big data.
C402.6	Analyze web contents and Social Networks to provide analytics with relevant visualization tools.

Advanced Computer Architecture 18CS733

Course No.	Course Outcomes
C403.1	Interpret the concepts of parallel computing and hardware technologies.
C403.2	Compare and contrast the parallel architectures.
C403.3	Illustrate parallel programming concepts.

Cryptography 18CS744

Course No.	Course Outcomes
C404.1	Comprehend Basic cryptographic techniques and its principles.
C404.2	Apply and Analyze symmetric and asymmetric cryptographic algorithms.
C404.3	Illustrate the application of user authentication algorithms and IP Security.

Artificial Intelligence and Machine Learning Laboratory 18CSL76

Course No.	Course Outcomes
C406.1	Implement and demonstrate AI & ML algorithms.
C406.2	Evaluate different algorithms.

Project Work Phase-1 18CSP77

Course No.	Course Outcomes
C407.1	Identify a issue and derive problem related to society, environment, economics, energy and technology.
C407.2	Formulate and Analyze the problem and determine the scope of the solution chosen.
C407.3	Determine, dissect, and estimate the parameters, required in the solution.
C407.4	Evaluate the solution by considering the standard data / Objective function and by using appropriate performance metrics.
C407.5	Compile the report and take part in present / publishing the finding in a reputed conference / publications
C407.6	Attempt to obtain ownership of the solution / product developed.

8th Semester Course outcomes

Internet of Things 18CS81

Course No.	Course Outcomes
C411.1	Interpret the impact and challenges posed by IoT networks leading to new architectural models.
C411.2	Compare and contrast the deployment of smart objects and the technologies to connect them to network.
C411.3	Appraise the role of IoT protocols for efficient network communication.
C411.4	Elaborate the need for Data Analytics and Security in IoT.
C411.5	Illustrate different sensor technologies for sensing real world entities and identify the applications of IoT in Industry.

Storage Area Networks 18CS822

Course No.	Course Outcomes
C412.1	Identify key challenges in managing information and analyze different storage networking technologies
C412.2	Interpret components and the implementation of NAS
C412.3	Describe CAS architecture an types of archives and forms of virtualization
C412.4	Illustrate the storage infrastructure and management activities

Project Work Phase-2 18CSP83

Course No.	Course Outcomes
C413.1	Identify a issue and derive problem related to society, environment, economics, energy and technology.
C413.2	Formulate and Analyze the problem and determine the scope of the solution chosen.
C413.3	Determine , dissect, and estimate the parameters, required in the solution.
C413.4	Evaluate the solution by considering the standard data / Objective function and by using appropriate performance metrics.
C413.5	Compile the report and take part in present / publishing the finding in a reputed conference / publications.
C413.6	Attempt to obtain ownership of the solution / product developed.

Technical Seminar 18CSS84

Course No.	Course Outcomes
C414.1	Identify recent technical topics from interested domains.
C414.2	Analyze the applicability of modern software tools and technology.
C414.3	Develop Presentation and Communication skills.
C414.4	Develop Technical report preparation skills.

Internship/Professional Practice 18CSI85

Course No.	Course Outcomes
C415.1	Integrate theoretical knowledge with practice of software development.
C415.2	Ability to work independently and in teams.
C415.3	Develop work habits and attitude necessary for job success.
C415.4	Build oral and written communication skills.