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S J C Institute of Technology, Chickballapur

Department of Computer Science and Engineering

Course Outcomes [2021 Batch]

3rd Course Outcomes

Transform Calculus Fourier series and Numerical Techniques 21MAT31

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 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 Structures and Applications 21CS32

Course No.	Course Outcomes
C202.1	Identify different data structures and their applications.
C202.2	Apply stack and queues in solving problems
C202.3	Demonstrate applications of linked list.
C202.4	Explore the applications of trees and graphs to model and solve the real-world problem.
C202.5	Make use of Hashing techniques and resolve collisions during mapping of key value pairs

Analog and Digital Electronics 21CS33

Course No.	Course Outcomes
C203.1	Design and analyse the application of analog circuits using photo devices, timer IC, power supply and p-amp
C203.2	Interpret the basic principles of A/D and D/A conversion circuits and develop the same
C203.3	Simplify digital circuits using Karnaugh map, and Quine-McCluskey methods
C203.4	Explore gates and flip flops and make use in designing different data processing circuits, registers, counters, and compare the types
C203.5	Develop simple HDL programs

Computer Organization and Architecture 21CS34

Course No.	Course Outcomes
C204.1	Discuss the organization and architecture of computer systems with machine instructions and programs
C204.2	Analyze the input/output devices communicating with computer system.
C204.3	Demonstrate the functions of different types of memory devices
C204.4	Apply different data types on simple arithmetic and logical unit
C204.5	Analyze the functions of basic processing unit, Parallel processing and pipelining

Object-Oriented Programming with Java Laboratory 21CSL35

Course No.	Course Outcomes
C205.1	Utilize Eclipse IDE to design, develop, and debug Java Projects.
C205.2	Analyze the necessity for Object Oriented Programming paradigm over structured programming and become familiar with the fundamental concepts in OOP.
C205.3	Demonstrate the ability to design and develop java programs, analyze, and interpret Object Oriented Programming concepts.
C205.4	Develop user friendly applications using File I/O and GUI concepts.

4th Semester Course Outcomes

Mathematics Foundations for Computing 21CS41

Course No.	Course Outcomes
C211.1	Apply the concepts of mathematic Logic to computer-related problems
C211.2	Analyze the concepts of functions and relations for various fields of engineering problems
C211.3	Apply the discrete and continuous functions in analyzing the probability functions
C211.4	Make use of correlation and regression in numerical methods
C211.5	Construct the joint probability functions and demonstrate the problems

Design and Analysis of Algorithms 21CS42

Course No.	Course Outcomes
C212.1	Analyze the performance of the algorithms, state the efficiency using asymptotic notations and analyze mathematically the complexity of the algorithm
C212.2	Apply divide and conquer approaches and decrease and conquer approaches in solving the problems analyze the same
C212.3	Apply the appropriate algorithmic design technique like greedy method, transform and conquer approaches and compare the efficiency of algorithms to solve the given problem
C212.4	Apply and analyze dynamic programming approaches to solve some problems. and improve an algorithm time efficiency by sacrificing space
C212.5	Apply and analyze backtracking, branch and bound methods and to describe P, NP and NP- Complete problems

Microcontroller and Embedded Systems 21CS43

Course No.	Course Outcomes
C213.1	Comprehend the concepts of microprocessors, microcontrollers, and the fundamentals of ARM processors along with their architectural features.
C213.2	Learning to use various ARM instruction set, data types and Programming module.
C213.3	Apply the knowledge gained from programming on ARM to different applications for C-compiler and Optimization.
C213.4	Explore the embedded system HW and Program the basic hardware components and their application selection method.
C213.5	Demonstrate the need for a real-time operating system for embedded system applications.

Operating System 21CS44

Course No.	Course Outcomes
C214.1	Identify the structure of an operating system and its scheduling
C214.2	Demonstrate the allocation of resources for a process using scheduling algorithm
C214.3	Identify the root causes of deadlock and provide the solution for deadlock elimination
C214.4	Explore about the storage structures and learn about the Linux Operating System
C214.5	Analyze Storage Structures and implement customized case study

Python Programming Laboratory 21CSL46

Course No.	Course Outcomes
C216.1	Demonstrate proficiency in handling of loops and creation of functions.
C216.2	Identify the methods to create and manipulate lists, tuples and dictionaries.
C216.3	Discover the commonly used operations involving regular expressions and file system.
C216.4	Interpret the concepts of Object-Oriented Programming as used in Python.
C216.5	Determine the need for scraping websites and working with PDF, JSON and other file formats.

Python Programming Laboratory 21CSL481

Course No.	Course Outcomes
C218.1	Describe the fundamentals of web and concept of HTML
C218.2	Utilize the concepts of HTML, XHTML to construct the web pages
C218.3	Interpret CSS for dynamic documents
C218.4	Evaluate different concepts of JavaScript & Construct dynamic documents
C218.5	Design a small project with JavaScript and XHTML

5th Semester Course Outcomes

Automata Theory and Compiler Design 21CS51

Course No.	Course Outcomes
C301.1	Interpret the core concepts in automata theory and compiler design
C301.2	Design and develop lexical analyzers, parsers.
C301.3	Design Grammars and Automata (recognizers) for different language classes and become knowledgeable about restricted models of Computation (Regular, Context Free) and their relative powers
C301.4	Design and develop semantic analyzer and code generators.
C301.5	Design computation models for problems in Automata theory and adaptation of such model in the field of compilers

Computer Networks 21CS52

Course No.	Course Outcomes
C302.1	Learn the basic needs of communication system.
C302.2	Interpret the communication challenges and its solution
C302.3	Identify and organize the communication system network components
C302.4	Design communication networks for user requirements
C302.5	Analyze issues related to the transport layer and distinguish the services provided by UDP and TCP protocols.

Database Management Systems 21CS53

Course No.	Course Outcomes
C303.1	Identify, analyze, define database objects and Design the ER diagrams for the given real world scenario by enforcing integrity constraints of the RDBMS concepts. RDBMS
C303.2	Describe and demonstrate the use of relational algebra, SQL, and embedded SQL statements for database manipulation
C303.3	Illustrate normal forms and apply the appropriate normal forms in designing of the databases
C303.4	Describe the various aspects of transaction processing and concurrency control mechanisms in developing of database applications.

Artificial Intelligence and Machine Learning 21CS54

Course No.	Course Outcomes
C304.1	Apply the knowledge of searching and reasoning techniques for different applications.
C304.2	Describe issues and challenges of machine learning with its applications in various fields.
C304.3	Apply the knowledge of classification algorithms on various dataset and evaluate performs matrixes.
C304.4	Develop a Neural Network, and analyze ANN learning with the process and its applications.
C304.5	Analyze the dataset and apply clustering algorithms.

Database Management Systems Laboratory with Mini Project 21CSL55

Course No.	Course Outcomes
C305.1	Make use of Structure Query Language (SQL) for Data Base Creation and Manipulation.
C305.2	Demonstrate the working of different concepts of DBMS
C305.3	Implement analyze and evaluate the project developed for an application

Research Methodology & Intellectual Property Rights 21RMI56

Course No.	Course Outcomes
C306.1	Interpret the meaning of engineering research.
C306.2	Explore the procedure of Literature Review and Technical Reading.
C306.3	Describe the fundamentals of patent laws and drafting procedure.
C306.4	Interpret the copyright laws and subject matters of copyrights and designs
C306.5	Examine the basic principles of design rights.

Angular JS and Node JS 21CSL581

Course No.	Course Outcomes
C307.1	Develop Angular JS programs using basic features
C307.2	Develop dynamic Web applications using AngularJS modules
C307.3	Make use of form validations and controls for interactive applications
C307.4	Appy the concepts of Expressions, data bindings and filters in developing Angular JS programs
C307.5	Make use of modern tools to develop Web applications

6th Semester Course Outcomes

Software Engineering & Project Management 21CS61

Course No.	Course Outcomes
C311.1	Comprehend the activities involved in software engineering and analyze the role of various process models.
C311.2	Interpret the basics of object-oriented concepts and build a suitable class model using modelling techniques.
C311.3	Describe various software testing methods and to understand the importance of agile methodology and DevOps.
C311.4	Illustrate the role of project planning and quality management in software development.
C311.5	Explore the importance of activity planning and different planning models.

Full Stack Development 21CS62

Course No.	Course Outcomes
C312.1	Comprehend the working of MVT based full stack web development with Django.
C312.2	Designing of Models and Forms for rapid development of web pages.
C312.3	Analyze the role of Template Inheritance and Generic views for developing full stack web Applications.
C312.4	Apply the Django framework libraries to render non HTML contents like CSV and PDF.
C312.5	Perform jQuery based AJAX integration to Django Apps to build responsive full stack web Applications.

Computer Graphics and Fundamentals of Image Processing 21CS63

Course No.	Course Outcomes
C313.1	Construct geometric objects using Computer Graphics principles and OpenGL APIs.
C313.2	Make use of OpenGL APIs and related mathematics for 2D and 3D geometric Operations on the objects.
C313.3	Design GUI with necessary techniques required to animate the created objects
C313.4	Apply OpenCV for developing Image processing applications.
C313.5	Apply Image segmentation techniques along with programming, using OpenCV, for developing

Data Science and Visualization 21CS644

Course No.	Course Outcomes
C314.1	Interpret the data in different forms.
C314.2	Apply different techniques to Explore Data Analysis and the Data Science Process.
C314.3	Analyze feature selection algorithms & design a recommender system.
C314.4	Evaluate data visualization tools and libraries and plot graphs.
C314.5	Develop different charts and include mathematical expressions.

Computer Graphics and Image Processing Laboratory 21CSL66

Course No.	Course Outcomes
C316.1	Construct geometric objects using Computer Graphics principles and OpenGL APIs.
C316.2	Make use of OpenGL APIs and related mathematics for 2D and 3D geometric Operations on the objects.
C316.3	Apply OpenCV for developing Image processing applications.
C316.4	Apply Image segmentation techniques along with programming, using OpenCV, for developing

Mini Project 21CSMP67

Course No.	Course Outcomes
C317.1	Identify and define a real-world problem relevant to the domain
C317.2	Apply appropriate tools, technologies, and methodologies to design a solution.
C317.3	Develop a working prototype/model/software/system to address the identified problem
C317.4	Demonstrate teamwork, time management, and project planning skills effectively through reports and presentations.

7th Semester Course Outcomes

Big Data Analytics 21CS71

Course No.	Course Outcomes
C401.1	Comprehend fundamentals of Big Data analytics.
C401.2	Investigate Hadoop framework and Hadoop Distributed File system.
C401.3	Illustrate the concepts of NoSQL using MongoDB and Cassandra for Big Data.
C401.4	Demonstrate the MapReduce programming model to process the big data along with Hadoop tools.
C401.5	Apply Machine Learning algorithms for real world big data, web contents and Social Networks to provide analytics with relevant visualization tools.

Cloud Computing 21CS72

Course No.	Course Outcomes
C402.1	Analyze various cloud computing platforms and service providers.
C402.2	Illustrate various virtualization concepts.
C402.3	Identify the architecture, infrastructure and delivery models of cloud computing.
C402.4	Apply the Security aspects of CLOUD
C402.5	Examine platforms for development of cloud applications

Internet of Things 21CS735

Course No.	Course Outcomes
C403.1	Discuss the evolution of IoT, IoT networking components, and addressing strategies in IoT
C403.2	Analyze various sensing devices and actuator types
C403.3	Demonstrate the processing in IoT.
C403.4	Apply different connectivity technologies
C403.5	Analyse the communication technologies, protocols and interoperability in IoT.

Deep Learning 21CS743

Course No.	Course Outcomes
C404.1	Comprehend the fundamental issues and challenges of deep learning data, model selection, model complexity etc.,
C404.2	Describe various knowledge on deep learning and algorithms
C404.3	Apply CNN and RNN model for real time applications
C404.4	Identify various challenges involved in designing and implementing deep learning algorithms.
C404.5	Relate the deep learning algorithms for the given types of learning tasks in varied domain

Project Work 21CSP76

Course No.	Course Outcomes
C405.1	Identify and define problems relevant to society, environment, or industry.
C405.2	Analyze the problem and determine its scope through collaborative efforts.
C405.3	Select and apply tools, technologies, and resources for solution development.
C405.4	Develop, test, and evaluate the solution using appropriate techniques.
C405.5	Document, present, and explore opportunities for innovation or entrepreneurship.

8th Semester Course Outcomes

Technical Seminar 21CS81

Course No.	Course Outcomes
C411.1	Identify recent technical topics from interested domains.
C411.2	Analyze the applicability of modern software tools and technology.
C411.3	Develop Presentation and Communication skills.
C411.4	Develop Technical report preparation skills

Internship 21INT82

Course No.	Course Outcomes
C412.1	Integrate theoretical knowledge with practice of software development.
C412.2	Ability to work independently and in teams
C412.3	Develop work habits and attitude necessary for job success
C412.4	Build oral and written communication skills.