

II B. Tech – I Semester

Computer Science and Engineering

Mathematics III (II YEAR I SEM) R20, C211

By the end of this Course the student is able to

CO	COURSE OUTCOMES
C211.1	Interpret the physical meaning of different operators such as gradient, curl and divergence
C211.2	Estimate the work done against a field, circulation and flux using vector calculus
C211.3	Apply the Laplace transform for solving differential equations
C211.4	Find or compute the Fourier series of periodic signals
C211.5	Identify solution methods for partial differential equations that model physical processes

Object Oriented Programming through C++ (II YEAR I SEM) R20, C212

By the end of this Course, the student is able to

CO	COURSE OUTCOMES
C212.1	Explain the Difference between procedural and Object Oriented Programming.
C212.2	Design a class for creation of objects.
C212.3	Experiment with Operators, control structures, functions, overloading, recursion
C212.4	Develop programs using inheritance and polymorphism concepts and Implement overloading for different operators.
C212.5	Analyze the various Exception Handling Techniques.

Operating Systems (II YEAR I SEM) R20, C213

By the end of this Course, the student is able to

CO	COURSE OUTCOMES
C213.1	Outline various generations of Operating System and functions of Operating System
C213.2	Analyze various CPU Scheduling Algorithms and compare their performance
C213.3	Apply InterProcess Communication problems using Mathematical Equations by various methods
C213.4	Apply various Page Replacement Techniques
C213.5	Outline File Systems in Operating System like UNIX/Linux and Windows

Sub: Software Engineering (II YEAR I SEM) R20, C214

By the end of this Course the student is able to

CO	COURSE OUTCOMES
C214.1	Analyze various software development process models and their suitability to industrial applications
C214.2	Apply the methods of requirement elicitation, analysis, and design and develop SRS document.
C214.3	Analyze different requirements and software Design styles
C214.4	Analyze different software architectural styles
C214.5	Analyze different user interface design methodology and Design software testing approaches and aspects

Sub: Mathematical Foundations of Computer Science (II YEAR I SEM) R20, C215

By the end of this Course the student is able to

CO	COURSE OUTCOMES
C215.1	Distinguish Propositional Calculus and Predicate calculus
C215.2	Apply the operations in sets and relations
C215.3	Compare the variations in permutations and combinations
C215.4	Solve recurrence relations
C215.5	Outline various types of graphs

Sub: Object Oriented Programming Lab (II YEAR I SEM) R20, C216

By the end of this lab the student is able to

CO	COURSE OUTCOMES
C216.1	Develop object oriented programming skills
C216.2	Design programs using data encapsulation, abstraction, Inheritance, Polymorphism and Exceptions Handling.
C216.3	Demonstrate Templates.

Sub: Operating Systems (II YEAR I SEM) R20, C217

By the end of this Course the student is able to

CO	COURSE OUTCOMES
C.217.1	Make use of Unix utilities and perform basic shell control of the utilities
C.217.2	Apply operating system to develop software
C.217.3	Apply the Linux environment efficiently and implement algorithms to solve data mining problems using weka tool

Sub: Software Engineering Lab (II YEAR I SEM) R20, C218

By the end of this the student is able to

CO	COURSE OUTCOMES
C.218.1	Explain software requirements through a productive working relationship with various stakeholders of the project
C.218.2	Construct the SRS document, design document, test cases and software configuration management and risk management related document
C.218.3	Utilize modern engineering tools necessary for software project management, estimations, time management and software reuse generate test cases for software testing

Sub: Web Application Development Using Full Stack Lab (II YEAR I SEM) R20, C219

By the end of this lab the student is able to

CO	COURSE OUTCOMES
C219.1	Analyze a web page and identify its elements and attributes
C219.2	Demonstrate the important HTML tags for designing static pages and separate design from content using Cascading Style sheet.
C219.3	Implement MVC and responsive design to scale well across PC, tablet and Mobile Phone

Sub: Constitution of India (II YEAR I SEM) R20, C21A

By the end of this Course, the student is able to

CO	COURSE OUTCOMES
C21A.1	Explain the historical background of the constitution making and its importance for building a democratic India.
C21A.2	Outline the functioning of three wings of the government i.e., executive, legislative and judiciary.
C21A.3	Summarize the value of the fundamental rights and duties for becoming good citizen of India.
C21A.4	Analyze the decentralization of power between central, state and local self-government.
C21A.5	Apply the knowledge in strengthening of the constitutional institutions like CAG, Election Commission and UPSC for sustaining democracy

II B. Tech – II Semester

Sub: Probability and Statistics (II YEAR II SEM) R20, C201

By the end of this Course the student is able to

CO	COURSE OUTCOMES
C201.1	Classify the concepts of data science and its importance
C201.2	Interpret the association of characteristics and through correlation and regression tools
C201.3	Make use of the concepts of probability and their applications
C201.4	Apply discrete and continuous probability distributions
C201.5	Design the components of a classical hypothesis test

Sub: Database Management Systems (II YEAR II SEM) R20, C202

By the end of this Course the student is able to

CO	COURSE OUTCOMES
C202.1	Explain the relational database and object-oriented database.
C202.2	Create, maintain and manipulate a relational database using SQL
C202.3	Outline ER model and normalization for database design
C202.4	Examine issues in data storage and query processing and can formulate appropriate solutions.
C202.5	Outline the role and issues in management of data such as efficiency, privacy, security, ethical responsibility, and strategic advantage

Sub: Formal Languages and Automata Theory (II YEAR II SEM) R20, C203

By the end of this Course the student is able to

CO	COURSE OUTCOMES
C203.1	Classify machines by their power to recognize languages
C203.2	Summarize language classes & grammars relationship among them with the help of Chomsky hierarchy
C203.3	Employ finite state machines to solve problems in computing
C203.4	Illustrate deterministic and non-deterministic machines
C203.5	Quote the hierarchy of problems arising in the computer science

Sub: Java Programming (II YEAR II SEM) R20, C204

By the end of this Course the student is able to

CO	COURSE OUTCOMES
C204.1	Explain the concept of Object Oriented Programming & Java Programming Constructs
C204.2	Outline the basic concepts of Java such as operators, classes, objects, inheritance, packages, Enumeration and various keywords
C204.3	Apply the concept of exception handling and Input/ Output operations
C204.4	Design the applications of Java & Java applet
C204.5	Analyze & Design the concept of Event Handling and Abstract Window Toolkit

Sub: Managerial Economics and Financial Accountancy (II YEAR II SEM) R20, C205

By the end of this Course the student is able to

CO	COURSE OUTCOMES
C205.1	Explain the knowledge of estimating the demand and demand elasticities for a product.
C205.2	Compare the input-output-cost relationships and estimate the least cost combination of inputs.
C205.3	Infer the nature of different markets and price output
C205.4	Develop financial statements and the usage of various accounting tools for analysis.
C205.5	Evaluate various investment project proposals with the help of capital budgeting techniques for decision making.

Sub: Database Management Systems Lab (II YEAR II SEM) R20, C206

By the end of this Course the student is able to

CO	COURSE OUTCOMES
C206.1	Utilize SQL to execute queries for creating database and performing data manipulation operations
C206.2	Examine integrity constraints to build efficient databases.
C206.3	Build PL/SQL programs including stored procedures, functions, cursors and triggers.

Sub: R Programming Lab (II YEAR II SEM) R20, C207

By the end of this lab the student is able to

CO	COURSE OUTCOMES
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C.207.1	Access online resources for R and import new function packages into the R workspace
C.207.2	Plan, Import, review, manipulate and summarize data-sets in R
C.207.3	Create testable hypotheses and identify appropriate statistical tests

Sub: Java Programming Lab (II YEAR II SEM) R20, C208

By the end of this lab the student is able to

CO	COURSE OUTCOMES
C.208.1	Evaluate default value of all primitive data type, Operations, Expressions, Control flow, Strings
C.208.2	Determine Class, Objects, Methods, Inheritance, Exception, Runtime Polymorphism, User defined Exception handling mechanism
C.208.3	Illustrate simple inheritance, multi-level inheritance, Exception handling mechanism

Sub: Web Application Development Using Full Stack Lab-1 (II YEAR I SEM) R20, C209

By the end of this lab the student is able to

CO	COURSE OUTCOMES
C209.1	Develop of the major Web application tier- Client side development
C209.2	Experiment with the active development of cross-browser applications through JavaScript
C209.3	Develop JavaScript applications that transition between states

III B. Tech – I Semester

Sub: **Computer Networks** (C311, III-I, R20)

By the end of this Course the student is able to

CO	COURSE OUTCOMES
C311.1	Demonstrate different network models for networking links OSI, TCP/IP, B-ISDN, N-BISDN and get knowledge about various communication techniques, methods and protocol standards.
C311.2	Discuss different transmission media and different switching networks.
C311.3	Analyze data link layer services, functions and protocols like HDLC and PPP.
C311.4	Compare and Classify medium access control protocols like ALOHA, CSMA, CSMA/CD, CSMA/CA, Polling, Token passing, FDMA, TDMA, CDMA protocols
C311.5	Develop application layer services and client server protocols working with the client server paradigms like WWW, HTTP, FTP, e-mail and SNMP etc.

Sub: **Design analysis and algorithm** (C312, III-I, R20)

By the end of this Course the student is able to

CO	COURSE OUTCOMES
C312.1	Analyze the performance of a given algorithm, denote its time complexity using the asymptotic notation for recursive and non-recursive algorithms
C312.2	List and describe various algorithmic approaches and Solve problems using divide and conquer & greedy Method
C312.3	Synthesize efficient algorithms dynamic programming approaches to solve in common engineering design situations.
C312.4	Organize important algorithmic design paradigms and methods of analysis: backtracking, branch and bound algorithmic approaches
C312.5	Demonstrate and solve NP- Completeness theory ,lower bound theory and String Matching

Sub: Data ware Housing and Mining (C313, III-I, R20)

By the end of this Course the student is able to

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C313.1	Illustrate the importance of Data Warehousing, Data Mining and its functionalities and Design schema for real time data warehousing applications.
C313.2	Demonstrate on various Data Preprocessing Techniques viz. data cleaning, data integration, data transformation and data reduction and Process raw data to make it suitable for various data mining algorithms.
C313.3	Choose appropriate classification technique to perform classification, model building and evaluation.
C313.4	Make use of association rule mining techniques viz. Apriori and FP Growth algorithms and analyze on frequent item sets generation.
C313.5	Identify and apply various clustering algorithm (with open source tools), interpret, evaluate and report the result.

Sub: Software Project Management (C315, III-I, R20)

By the end of this Course the student is able to

CO	COURSE OUTCOMES
C315.1	Apply the process to be followed in the software development life-cycle models.
C315.2	Apply the concepts of project management & planning.
C315.3	Make use of the project plans through managing people, communications and change
C315.4	Make use of activities necessary to successfully complete and close the Software projects
C315.5	Make use of communication, modeling, and construction & deployment practices in software development

**Sub: DATA WARE HOUSING AND DATA MINING LAB (III-Year- 1Sem)
C316, R20**

By the end of this Course the student is able to

C316.1	Apply preprocessing techniques on real world datasets
C316.2	Identify Association rules for any real-world dataset using Apriori algorithm
C316.3	Apply Classification and clustering algorithms on real world datasets

Sub: Computer Networks Lab (C317) III-I R20

At the end of the Lab the students will be able to:

C317.1	Apply the physical layer in real time applications
C317.2	Apply Network layer routing protocols and IP addressing
C317.3	Make use of the functions of Application layer and Presentation layer paradigms and Protocols