LIST OF COURSE OUTCOMES (COs) R – 19 Regulation

List of Course of II B.Tech I Semester

Code	II Year – I SEMESTER
C2101	Mathematical Foundations of Computer Science
C2102	Software Engineering
C2103	Python Programming
C2104	Data Structures
C2105	Object Oriented Programming through C++
C2106	Computer Organization
C2107	Python Programming Lab
C2108	Data Structures through C++ Lab
C5109	Essence of Indian Traditional Knowledge
C2110	Employability Skills- I*

List of Course Outcomes of II B.Tech I Semester

Course Name	Mathematical Foundations of Computer Science	Regulation	R – 19
Course Outcome	**Statement**		
C2101.1	Demonstrate skills in solving mathematical problems		
C2101.2	Comprehend mathematical principles and logic		
C2101.3	Demonstrate knowledge of mathematical modeling and proficiency in using mathematical software		
C2101.4	Apply Fermats and Eulers theorem.		
C2101.5	Manipulate and analyze data numerically and/or graphically using appropriate Software		
C2101.6	Communicate effectively mathematical ideas/results verbally or in writing		

Course Name	Software Engineering	Regulation	R – 19
Course Outcome	**Statement**		
C2102.1	Ability to transform an object-oriented design into high quality, executable code.		
C2102.2	Skills to design, implement, and execute test cases at the unit and integration level		
C2102.3	Compare conventional and agile software methods		
C2102.4	Illustrate the phases of software development, common process models including Waterfall, and Unified Process, and agile process		
C2102.5	Derive variety of software engineering practices such as requirements analysis and specification, code analysis, code debugging, testing, traceability, and version control		
C2102.6	Receive exposure to software design techniques		

Course Name	Python Programming	Regulation	R – 19
Course Outcome	**Statement**		
C2103.1	Develop essential programming skills in computer programming concepts like data types, constraints		
C2103.2	Apply the basics of programming in the Python language		
C2103.3	Solve coding tasks related conditional execution, loops		
C2103.4	Solve coding tasks related to the fundamental notations and techniques used in object oriented programming		
C2103.5	Explain general computer programming concepts like conditional execution, loops & functions		
C2103.6	Illustrate general coding techniques and object-oriented programming		

Course Name	Data Structures	Regulation	R – 19
Course Outcome	**Statement**		
C2104.1	Summarize the properties, interfaces, and behaviors of basic abstract data types		
C2104.2	Discuss the computational efficiency of the principal algorithms for sorting & searching		
C2104.3	Use arrays, records, linked structures, stacks, queues, trees, and graphs in writing programs		
C2104.4	Demonstrate different methods for traversing trees		
C2104.5	Define the fundamental concepts of data structures and abstract data types		
C2104.6	Explain the importance of data structures in developing and implementing efficient algorithms		

Course Name	Object Oriented Programming through C++	Regulation	R – 19
Course Outcome	**Statement**		
C2105.1	Classify object oriented programming and procedural programming		
C2105.2	Apply C++ features such as composition of objects, operator overloads, dynamic memory allocation, inheritance, polymorphism, file I/O, exception handling		
C2105.3	Find C++ classes using appropriate encapsulation and design principles		
C2105.4	Apply object oriented or non-object oriented techniques to solve bigger computing problems.		
C2105.5	Describe the concept of function overloading, operator overloading, virtual functions and polymorphism		
C2105.6	Demonstrate the use of various OOPs concepts with the help of programs		

Course Name	Computer Organization	Regulation	R – 19
Course Outcome	**Statement**		
C2106.1	Develop a detailed understanding of computer systems		
C2106.2	Analyse different number systems, binary additions and Subtraction, standard, floating point, and micro operations		
C2106.3	Develop a detailed understanding of architecture and functionality of central processing unit		
C2106.4	Exemplify in a better way the I/O and memory organization		
C2106.5	Illustrate concepts of parallel processing, pipelining and inter processor communication		
C2106.6	Understand about Data transfer and manipulation in central processing unit		

Course Name	Python Programming Lab	Regulation	R – 19
Course Outcome	**Statement**		
C2107.1	Examine Python syntax and semantic and be fluent in the use of Python flow control and functions		
C2107.2	Demonstrate proficiency in handling Threads, Files and Exceptions		
C2107.3	Create, run and manipulate Python programs using core data structures like Lists, Dictionaries and use Regular Expression		
C2107.4	Interpret the concepts of GUI and Web Programming as used in Python		
C2107.5	Implement exemplary applications related to Database Programming with ORM in Python		
C2107.6	Implement Web Applications using Python		

Course Name	Data Structures though C++ Lab	Regulation	R – 19
Course Outcome	**Statement**		
C2108.1	Distinguish between procedures and object oriented programming		
C2108.2	Apply advanced data structure strategies for exploring complex data structures		
C2108.3	Compare and contrast various data structures and design techniques in the area of Performance		
C2108.4	Implement data structure algorithms through C++. Incorporate data structures into the applications such as binary search trees, AVL and B Trees		
C2108.5	Implement all data structures like stacks, queries, trees, lists and graphs and compare their performance and trade offs		
C2108.6	Solve problems using data structures such as linear lists, stacks queues, hash tables		

Course Name	Essence of Indian Traditional Knowledge	Regulation	R – 19
Course Outcome	**Statement**		
C2109.1	Understand the concept of traditional knowledge and its importance		
C2109.2	Know the need and importance of protecting the traditional knowledge		
C2109.3	Know the various enactments related the protection of traditional knowledge		
C2109.4	Understand the concepts of intellectual property to protect the traditional knowledge		

Course Name	Employability Skills- I*	Regulation	R – 19
Course Outcome	**Statement**		
C2110.1	Establisheffectivecommunicationwithemployers and supervisors.		
C2110.2	Establisheffectivecommunicationwith co-workers.		
C2110.3	Identifytoexploretheirvaluesandcareerchoicesthroughindividualskillassessments.		
C2110.4	Adaptspositiveattitudeandappropriatebodylanguage.		
C2110.5	Interpretthecorecompetenciestosucceedinprofessionallife.		
C2110.6	Interpretthecorecompetenciestosucceedin personal life.		

List of Course of II B.Tech II Semester

Code	II Year – II SEMESTER
C2201	Probability and Statistics
C2202	Java Programming
C2203	Operating Systems
C2204	Database Management Systems
C2205	Formal Languages and Automata Theory
C2206	Java Programming Lab
C2207	UNIX Operating System Lab
C2208	Database Management Systems Lab
C2209	Professional Ethics & Human Values
C2210	Socially Relevant Project*

List of Course Outcomes of II B.Tech II Semester

Course Name	Probability and Statistics	Regulation	R – 19
Course Outcome	**Statement**		
C2201.1	Calculate Measures of central tendency and Measures of dispersion.		
C2201.2	Understand the curve fitting by the method of least squares ,correlation and regression lines.		
C2201.3	Solve conditional probability of Baye's theorem.		
C2201.4	Understand the concept of discrete and continuous random variables.		
C2201.5	Apply the necessary sampling techniques based on objective.		
C2201.6	Gain the knowledge on definitions and properties of chi-square, t and F-distributions.		

Course Name	Java Programming	Regulation	R – 19
Course Outcome	**Statement**		
C2202.1	Able to realize the concept of object oriented programming &java programming constructs		
C2202.2	Able to describe the basic concepts of java such as operators, classes, objects, inheritance, packages, enumeration and various keywords.		
C2202.3	Apply the concept of exception handling and input/output operations		
C2202.4	Able to design the applications of java &java applet		
C2202.5	Able to analyze & design the concept of Event Handling and Abstract Window Toolkit		
C2202.6	Understand how to use java APIs for program development		

Course Name	Operating Systems	Regulation	R – 19
Course Outcome	**Statement**		
C2203.1	Describe various generations of operating system and functions of operating system.		
C2203.2	Describe the concept of program, process and thread and analyze various CPU scheduling algorithms and compare their performance.		
C2203.3	Solve the inter process communication problems using mathematical equations by various methods.		
C2203.4	Compare various memory management schemes especially paging and segmentation in operating system and apply various page replacement techniques.		
C2203.5	Outline file systems in operating system like UNIX/LINUX and Windows.		
C2203.6	Analyze security and protection mechanism in operating system.		

Course Name	Database Management Systems	Regulation	R – 19
Course Outcome	**Statement**		
C2204.1	An ability to determine the basic concepts and applications of database systems.		
C2204.2	An ability to describe data models and schemas in DBMS.		
C2204.3	An ability to understand the relational database system using relational operators in queries.		
C2204.4	An ability to use SQL – standard language queries on data.		
C2204.5	An ability to analyze the functional dependencies and design of the database.		
C2204.6	An ability to the role and issues in management of data such as efficiency, privacy, security, ethical responsibility, and strategic advantage.		

Course Name	Formal Language and Automata Theory	Regulation	R – 19
Course Outcome	**Statement**		
C2205.1	Classify machines by their power to recognize languages.		
C2205.2	Summarize language classes and grammars relationship among them with the help of Chomsky hierarchy.		
C2205.3	Employ finite state machines to solve problems in computing.		
C2205.4	Illustrate deterministic and non-deterministic machines.		
C2205.5	Quote the hierarchy of problems arising in the computer science.		
C2205.6	Understand the relation between contexts free languages, PDA and TM.		

Course Name	Java Programming Lab	Regulation	R – 19
Course Outcome	**Statement**		
C2206.1	Define OOPs concepts and basics of java programming.		
C2206.2	Identify the use of classes, Interface, packages in solving specific problems.		
C2206.3	Apply method overloading and overriding strategy in java objects.		
C2206.4	Implement text processing and error handing.		
C2206.5	Organize data using different data structures.		
C2206.6	Design the java programming using strings		

Course Name	UNIX Operating Systems Lab	Regulation	R – 19
Course Outcome	**Statement**		
C2207.1	Illustrate the different CPU scheduling algorithms using c-language		
C2207.2	Able to implement c programs for different file allocation and file organization techniques.		
C2207.3	Able to develop c program for various memory allocation strategies like MVT and MFT.		
C2207.4	Able to implement c programs for prevention and avoidance of deadlocks.		
C2207.5	Illustrate the various CPU scheduling algorithms.		
C2207.6	Analyze the performance of the various page replacement algorithms.		

Course Name	Database Management Systems Lab	Regulation	R – 19
Course Outcome	**Statement**		
C2208.1	An ability to utilize SQL to execute queries for creating data base and performing data manipulation operations.		
C2208.2	An ability to examine integrity constraints to build efficient databases.		
C2208.3	An ability to apply Queries using advanced concepts of SQL.		
C2208.4	An ability to build PL/SQL programs including stored procedures, functions		
C2208.5	An ability to build PL/SQL programs cursors and triggers		
C2208.6	An ability to design Forms and Report		

Course Name	Professional Ethics & Human Values	Regulation	R – 19
Course Outcome	**Statement**		
C2209.1	Identify and analyze an ethical issue in the subject matter under investigations or in a relevant field		
C2209.2	Identify the multiple ethical interests at stake in a real-world situation or practice		
C2209.3	Articulate what makes a particular course of action ethically defensible		
C2209.4	Assess their own ethical values and the social context of problems		
C2209.5	Identify ethical concerns in research and intellectual contexts, including academic integrity ,use and citation of sources, the objective presentation of data, and the treatment of human objects		
C2209.6	Demonstrate knowledge of ethical values in non-class room activities, such as service learning, internships, and field work		
C2209.7	Integrate, synthesize, and apply knowledge of ethical dilemmas and resolutions in academic settings, including focused and interdisciplinary- research.		

Course Name	Socially Relevant Project*	Regulation	R – 19
Course Outcome	**Statement**		
C2210.1	Usescientificreasoningtogather and evaluate		
C2210.2	Usescientificreasoningtogather interpretideas		
C2210.3	Analyzeanddesignsolutionstosolvetheideas		
C2210.4	Useoneormorecreativetoolstocompletetheprojects		

List of Course of III B. Tech I Semester

Code	III Year – I SEMESTER
C3101	Data Warehousing and Data Mining
C3102	Computer Networks
C3103	Compiler Design
C3104	Artificial Intelligence
C3105	Software Testing Methodologies
C3106	Computer Networks Lab
C3107	AI Tools & Techniques Lab
C3108	Data Mining Lab
C3109	Employability Skills –II

List of Course Outcomes of III B. Tech I Semester

Course Name	Data Warehousing and Data Mining	Regulation	R – 19
Course Outcome	**Statement**		
C3101.1	Understand the various functionalities of data warehouse and plan business analysis with OLAP tools.		
C3101.2	Apply suitable pre-processing and visualization techniques for data analysis.		
C3101.3	Analyse various mining and visualization techniques for data analysis.		
C3101.4	Compare various classification techniques for data analysis.		
C3101.5	Compare various clustering techniques for data analysis.		
C3101.6	Apply suitable clustering algorithm for the given data.		

Course Name	Computer Networks	Regulation	R – 19
Course Outcome	**Statement**		
C3102.1	Illustrate the OSI and TCP/IP reference model		
C3102.2	Analyze MAC layer protocols and LAN technologies		
C3102.3	Design applications using internet protocols		
C3102.4	Implement routing and congestion control algorithms		
C3102.5	Develop Application layer Protocols		
C3102.6	Analyze World Wide Web & Firewalls		

Course Name	Compiler Design	Regulation	R – 19
Course Outcome	**Statement**		
C3103.1	Understand the system software such as assemblers and microprocessors.		
C3103.2	Understand the system software's such as assemblers and loaders.		
C3103.3	Develop top down and bottom up parsers.		
C3103.4	Understand the usage of lex and yacc tools.		
C3103.5	Understand SDD, SDT, intermediate code generation and machine code generation.		
C3103.6	Analyze the performance of the various page replacement algorithms.		

Course Name	Artificial Intelligence	Regulation	R – 19
Course Outcome	**Statement**		
C3104.1	Understanding the basic concepts of Artificial Intelligence and applications.		
C3104.2	Analyzing the searching algorithms and game playing techniques.		
C3104.3	Explaining the concepts of natural language processing in AI		
C3104.4	Applying knowledge representation and techniques to real time application systems.		
C3104.5	Defining some of the more advanced topics of AI such as expert systems.		
C3104.6	Classifying the fuzzy sets based on their analyzation.		

Course Name	Software Testing Methodologies	Regulation	R – 19
Course Outcome	**Statement**		
C3105.1	Identify and understand various software testing problems, apply software testing knowledge and engineering methods and solve these problems by designing and selecting software test models, criteria, strategies, and methods		
C3105.2	Design and conduct a software test process for a software project		
C3105.3	Analyze the needs of software test automation		
C3105.4	Use various communication methods and skills to communicate with their teammates to conduct their practice-oriented software testing projects		
C3105.5	Basic understanding and knowledge of contemporary issues in software testing, such as component-based, web based and object oriented software testing problems		
C3105.6	Write test cases for given software to test it before delivery to the customer and write test scripts for both desktop and web based applications		

Course Name	Computer Networks Lab	Regulation	R – 19
Course Outcome	**Statement**		
C3106.1	Apply the basics of Physical layer in real time applications		
C3106.2	Apply data link layer concepts, design issues, and protocols		
C3106.3	Apply Network layer routing protocols and IP addressing		
C3106.4	Implement the functions of Application layer		
C3106.5	Implement the functions of Presentation layer paradigms		
C3106.6	Simulate the OPEN SHORTEST PATH FIRST routing protocol		

Course Name	AI Tools & Techniques Lab	Regulation	R – 19
Course Outcome	**Statement**		
C3107.1	Identify problems that are amenable to solution by AI methods		
C3107.2	Identify appropriate AI methods to solve a given problem		
C3107.3	Use language/framework of different AI methods for solving problems		
C3107.4	Implement basic AI algorithms.		
C3107.5	Design and carry out an empirical evaluation of different algorithms on problem formalization, and state the conclusions that the evaluation supports		
C3107.6	Classifying the fuzzy sets based on their analyzation.		

Course Name	Data Mining Lab	Regulation	R – 19
Course Outcome	**Statement**		
C3108.1	Understand the mathematical basics quickly and covers each and every condition of data mining in order to prepare for real-world problems		
C3108.2	Extend the functionality of R by using add-on packages		
C3108.3	Examine data from files and other sources and perform various data manipulation tasks on them		
C3108.4	Code statistical functions in R		
C3108.5	Use R Graphics and Tables to visualize results of various statistical operations on data		
C3108.6	Apply the knowledge of R gained to data Analytics for real life applications		

Course Name	Employability Skills –II	Regulation	R – 19
Course Outcome	**Statement**		
C3109.1	Recitethecorporateetiquette.		
C3109.2	Makepresentationseffectivelywithappropriatebodylanguage		
C3109.3	Becomposedwithpositiveattitude		
C3109.4	Applytheir corecompetenciestosucceedinprofessionalandpersonallife		

List of Course of IIIB.Tech II Semester

Code	III Year – II SEMESTER
C3201	Web Technologies
C3202	Distributed Systems
C3203	Design and Analysis of Algorithms
C3204	Information Retrieval Systems
C3205	Principles Of Communication
C3206	Managerial Economics and Financial Accountancy
C3207	Web Technologies Lab
C3208	Industrial Training / Skill Development Programmes

List of Course Outcomes of III B.Tech II Semester

Course Name	Web Technologies	Regulation	R – 19
Course Outcome	**Statement**		
C3201.1	Describe the basic concepts of HTML and CSS & apply those concepts to design static web pages.		
C3201.2	Identify and understand various concepts related to dynamic web pages and validate them using JavaScript angular JS and node JS.		
C3201.3	Understand the XML schemas and concepts of AJAX.		
C3201.4	Run the PHP script and working with various concepts.		
C3201.5	Create and deploy secure, usable database driven web applications using PHP and RUBY.		
C3201.6	Develop web Applications using Scripting Languages & Frameworks.		

Course Name	Distributed Systems	Regulation	R – 19
Course Outcome	**Statement**		
C3202.1	Understand the fundamentals of Distributed systems and issues of distributed systems.		
C3202.2	Describe various synchronization issues and snapshot recording algorithms.		
C3202.3	Apply the Distributed Mutual Exclusion algorithm and to detect deadlock in Distributed systems.		
C3202.4	Analyze agreement protocols and fault tolerance mechanisms in distributed systems.		
C3202.5	Describe characteristics of peer-to-peer and distributed shared memory systems.		
C3202.6	Apply Check Pointing algorithm for recovering from failure.		

Course Name	Design and Analysis of Algorithms	Regulation	R – 19
Course Outcome	**Statement**		
C3203.1	Able to Argue the correctness of algorithms using inductive proofs and Analyze worst-case running times of algorithms using asymptotic analysis		
C3203.2	Able to explain important algorithmic design paradigms (divide-and-conquer, greedy method, dynamic-programming and Backtracking) and apply When an algorithmic design situation calls for it.		
C3203.3	Able to Explain the major graph algorithms and employ graphs to model engineering problems, when appropriate.		
C3203.4	Able to Compare between different data structures and pick an appropriate data structure for a design situation.		
C3203.5	Able to Describe the classes P, NP, and NP-Complete and be able to prove that a certain problem is NP-Complete.		
C3203.6	Able to analyze String matching algorithms.		

Course Name	Information Retrieval Systems	Regulation	R – 19
Course Outcome	**Statement**		
C3204.1	Overview of text retrieval systems		
C3204.2	Retrieval models and implementation Vector Space Models		
C3204.3	Query expansion and feedback		
C3204.4	Probabilistic models; statistical language models		
C3204.5	Text classification &Text clustering		
C3204.6	Web search basics, crawling, indexes, Link analysis		
C3204.7	IR applications		

Course Name	Principles Of Communication	Regulation	R – 19
Course Outcome	**Statement**		
C3205.1	Understand simple systems for generating and demodulating AM, DSB, SSB andVSBsignals		
C3205.2	Understand the concepts in Angle modulation for the design of communicationsystems		
C3205.3	Study simple systems for generating and demodulating frequency modulatedsignals		
C3205.4	Learn the concepts of random process and various types ofnoise.		
C3205.5	Study the performance of the communication system in presence ofnoise.		
C3205.6	Learn pulse modulation and samplingtechniques		

Course Name	Managerial Economics and Financial Accountancy	Regulation	R – 19
Course Outcome	**Statement**		
C3206.1	Knowledge of estimating the Demand and demand elasticities for a product.		
C3206.2	Understanding of the Input-Output-Cost relationships and estimation of the least cost combination of inputs.		
C3206.3	Analyze the nature of different markets and Price Output determination under various market conditions		
C3206.4	Evaluation of Sole Trader and Phases of a Business Cycle		
C3206.5	Prepare Financial Statements and the usage of various Accounting tools for Analysis.		
C3206.6	Evaluate various investment project proposals with the help of capital budgeting techniques for decision making.		

Course Name	Web Technologies Lab	Regulation	R – 19
Course Outcome	**Statement**		
C3207.1	Analyze the role of languages like HTML, CSS,XML		
C3207.2	Understand the java script, PHP protocols in the working of the web and web applications.		
C3207.3	Apply web application terminologies, internet tools, E-commerce and other web services.		
C3207.4	Develop dynamic web applications using PHP and MySql		
C3207.5	Develop web Applications using Scripting Languages & Frameworks.		
C3207.6	Install and use frameworks.		

List of Course of IVB.Tech I Semester

Code	IV Year – I SEMESTER
C4101	Cryptography and Network Security
C4102	UML & Design Patterns
C4103	Machine Learning
C4104	Fundamental Of Utilization Of Electrical Energy
C4105	Software Project Management
C4106	Cyber Security & Forensics
C4107	UML Lab
C4108	Project –I
C4109	IPR & Patents

List of Course Outcomes of IVB.Tech I Semester

Course Name	Cryptography and Network Security	Regulation	R – 19
Course Outcome	**Statement**		
C4101.1	Describe the basic principles of Network Security.		
C4101.2	Classify the Symmetric Encryption Techniques		
C4101.3	Apply the public key cryptographic techniques to encrypt the data.		
C4101.4	Evaluate the authentication and hash algorithms.		
C4101.5	Analyze how PGP & S/MIME is used to protect the messages		
C4101.6	Illustrate the requirements for web security and implementing security through SSL/TLS		

Course Name	UML & Design Patterns	Regulation	R – 19
Course Outcome	**Statement**		
C4102.1	Understand Object Oriented and UML concepts		
C4102.2	Apply advanced behavioral modelling techniques in design and drawing UML diagrams for various systems		
C4102.3	Analyze architectural modelling techniques in design and drawing UML diagrams for different systems		
C4102.4	Identify the appropriate design patterns to solve object oriented design problems.		
C4102.5	Apply creational and structural patterns to solve design problems.		
C4102.6	Construct design solutions by using behavioral patterns.		

Course Name	Machine Learning	Regulation	R – 19
Course Outcome	**Statement**		
C4103.1	Recognize the characteristics of machine learning that make it useful to real-world Problems		
C4103.2	Examine the machine learning algorithms as supervised, semi-supervised and unsupervised.		
C4103.3	Examine the few machine learning tool boxes		
C4103.4	Analyze to use support vector machines		
C4103.5	Analyze to use regularized regression algorithms		
C4103.6	Choose the concept behind neural networks for learning non-learning functions		

Course Name	Fundamental Of Utilization Of Electrical Energy	Regulation	R – 19
Course Outcome	**Statement**		
C4104.1	Know various sources of electrical energy, methods used for generation of electrical energy.		
C4104.2	Study the various types of Illumination equipment, measurement of Illumination, Illumination techniques.		
C4104.3	Know the various technologies used for heating and welding applications using electrical energy.		
C4104.4	Know the various systems of traction, equipment used for traction.		
C4104.5	Understand the importance of earthing, earthing equipment and earthing measurement of electrical equipment.		
C4104.6	Estimate Energy Consumption Levels At Various Modes Of Operation		

Course Name	Software Project Management	Regulation	R – 19
Course Outcome	**Statement**		
C4105.1	Apply the process to be followed in the software development life-cycle models.		
C4105.2	Apply the concepts of project management & planning.		
C4105.3	Implement the project plans through managing people, communications and change		
C4105.4	Conduct activities necessary to successfully complete and close the Software projects		
C4105.5	Implement communication, modeling		
C4105.6	Construction & deployment practices in software development.		

Course Name	Cyber Security & Forensics	Regulation	R – 19
Course Outcome	**Statement**		
C4106.1	Enumerate the computer forensics fundamentals		
C4106.2	Describe the types of computer forensics technology		
C4106.3	Analyze various computer forensics systems		
C4106.4	Illustrate the methods for data recovery, evidence collection		
C4106.5	Illustrate the methods for data seizure		
C4106.6	Identify the Role of CERT-In Security		

Course Name	UML Lab	Regulation	R – 19
Course Outcome	**Statement**		
C4107.1	UnderstandtheCases studiesanddesign theModel		
C4107.2	Understand howto identifyevents andclasses		
C4107.3	Apply object oriented and designconceptstosolveagivenproblem specifications		
C4107.4	IdentifyandmapbasicsoftwarerequirementsinUMLmapping.		
C4107.5	Applyobject orienteddesigntodevelopasoftware		
C4107.6	AnalyzetheEngineeringactivities with effectivepresentationandreport.		

Course Name	Project – I	Regulation	R – 19
Course Outcome	**Statement**		
C4108.1	Identify the problem and formulate the appropriate solution		
C4108.2	Identify and analyze the requirements for a given project through literature survey		
C4108.3	Design various sub circuits as required to solve the problem.		
C4108.4	Test each sub circuit for its performance and limitations.		
C4108.5	Integrate various sub circuits as required within the time frame and test the same.		
C4108.6	Prepare the project thesis and present using appropriate method		

Course Name	IPR & Patents	Regulation	R – 19
Course Outcome	**Statement**		
C4109.1	Distinguish and explain various forms of IPRs.		
C4109.2	Identify criteria's to fit one's own intellectual work in particular form of IPRs		
C4109.3	Apply statutory provisions to protect particular form of IPRs		
C4109.4	Analyse rights and responsibilities of holder of Patent, Copyright, Trademark, Industrial design etc.		
C4109.5	Identify procedure to protect different forms of IPRs national and international level.		
C4109.6	Develop skill of making search using modern tools and techniques.		

List of Course of IV B.Tech II Semester

Code	IV Year – II SEMESTER
C4201	Management and Organizational Behavior
C4202	Entrepreneurship
C4203	DevOps
C4204	Project

List of Course Outcomes of IV B. TechII Semester

Course Name	Management and Organizational Behavior	Regulation	R – 19
Course Outcome	**Statement**		
C4201.1	After completion of the Course the student will acquire the knowledge on management functions, global leadership and organizational structure		
C4201.2	Will familiarize with the concepts of functional management that is HRM and Marketing of new product developments		
C4201.3	The learner is able to think in strategically through contemporary management practices		
C4201.4	The learner can develop post attitude through personality development and can equip with motivational theories		
C4201.5	The student can attain the group performance		
C4201.6	The student can attain the grievance handling in managing the organizational culture		

Course Name	Entrepreneurship	Regulation	R – 19
Course Outcome	**Statement**		
C4202.1	Students increase their awareness and deliberately practice the skills.		
C4202.2	Students increase their disciplines necessary to increase confidence.		
C4202.3	Students increase their agency foster self-efficacy and self-advocacy.		
C4202.4	improve communication and problem-solving skills.		
C4202.5	manage strong impulses and feelings.		
C4202.6	identify personal purpose.		

Course Name	DevOps	Regulation	R – 19
Course Outcome	**Statement**		
C4203.1	Describe the principles of continuous development and deployment, inter-team collaboration, and IT service agility		
C4203.2	Explain the automation of configuration management, culture, and metrics are essential to a successful DevOps project		
C4203.3	Illustrate the fundamental concepts of DevOps & DevOps methodologies.		
C4203.4	Demonstrate the types of version control systems, continuous integration tools, continuous monitoring tools, and cloud models		
C4203.5	Analyse the infrastructure using version control systems and CI/CD tools		
C4203.6	Classify the access to development platforms, speed of application development for addressing Various issues.		

Course Name	Project	Regulation	R – 19
Course Outcome	**Statement**		
C4204.1	Identify the problem and formulate the appropriate solution		
C4204.2	Identify and analyze the requirements for a given project through literature survey		
C4204.3	Design various sub circuits as required to solve the problem.		
C4204.4	Test each sub circuit for its performance and limitations.		
C4204.5	Integrate various sub circuits as required within the time frame and test the same.		
C4204.6	Prepare the project thesis and present using appropriate method		