



MARRI LAXMAN REDDY
Institute of Technology & Management
(Autonomous)



Department of Computer Science and Engineering
Course Outcomes

Regulation:R18

At the end of the course, **the students will be able to:**

S.No	Course Name & Code	Year/Sem	COURSE OUTCOMES
1	Mathematics-I MA101BS	C111.1	Solve a system of linear equations by representing them in matrix form and analyze its solution.
		C111.2	Optimize single and multivariable functions by using the methods of differential calculus.
		C111.3	Evaluate improper integrals using Beta and Gamma functions and find the area and volume of various regions using double and triple integrals.
		C111.4	Solve certain Ordinary Differential Equations using Laplace transform and transform functions on time domain to frequency domain
		C111.5	Understand the methods of differential calculus to optimize single and multivariable functions and convert line integrals to area integrals and surface integrals to volume integrals.
2	Chemistry CH102BS	C112.1	Apply the concept of electro chemistry, corrosion and corrosion protection methods
		C112.2	Understand polymers, plastics, fibers, cement and nano materials for various applications.
		C112.3	Identify appropriate method of water purification and pure water for domestic and industrial utilization and choose suitable energy source for their applications in the economic growth of nation.
		C112.4	Understand the concepts of phase rule and surface chemistry.
		C112.5	Demonstrate awareness and understanding of the skills necessary to live and work in a diverse engineering world.
3	Basic Electrical Engineering	C113.1	Design a system, component, or process to meet desired needs within realistic NA Constraints such as economic, environmental, social,

			political, ethical, health and safety, Manufacturability and sustainability
		C113.2	Analysis of Resistive Circuits and Solution of resistive circuits with independent sources
		C113.3	Acquire the knowledge about the characteristics and working principles of semiconductor diodes, Bipolar Junction Transistor. To get an insight about the basic introduction of Digital electronics.
		C113.4	Evaluate the breadth of electrical engineering, Acquire knowledge about battery technology.
		C113.5	Understand 3 phase balanced and unbalanced, star and delta connected supply and load and to measure power in 3 phase circuits.
4	Engineering Workshop ME105ES	C114.1	Understand the basic manufacturing processes of Casting, Joining, Forming and machining through hands on experience and use of hand tools
		C114.2	Describe the properties of different materials- metals and nonmetals.
		C114.3	Interpret the various measuring devices and to know about the importance of sequential plans of action in manufacturing through practice in various sections and acquire knowledge about electronic components
		C114.4	Acquire knowledge about soldering tools & components
		C114.5	Estimate the PCB soldering, household electronic appliances with cost.
5	English EN105HS	C115.1	Communicate effectively in both verbal and written visual, and non verbal modes, using concrete support and conventional language.
		C115.2	Demonstrate knowledge of professional and ethical responsibilities.
		C115.3	Develop presentation skills, communication skills and apply the marvels of technology and engineering to check counterfeiting the currency notes and design authentic polymer notes
		C115.4	Recognize the affects and effects of risk and disaster management.
		C115.5	Develop interview skills
6	Engineering Chemistry Lab CH106RS	C116.1	Determination of parameters like hardness and chloride content in water.
		C116.2	Estimation of rate constant of a reaction from concentration – time relationships.

		C116.3	Determination of physical properties like adsorption and viscosity and calculate Rf values of some organic molecules by TLC technique.
		C116.4	Demonstrate the analytical techniques, analysis of organic substances and chemical synthesis. Both quantitative and qualitative methods are emphasized.
		C116.5	Develop experimental skills to design new experiments in Engineering.
7	English Language and Communication Skills Lab EN107HS	C117.1	Gain the knowledge about the correct usage of English with an emphasis on reading skills in order to be able to study effectively & think logically.
		C117.2	Acquire enough English skills to further their study at advanced levels.
		C117.3	Communicate well and it will helpful in getting placements and Develop presentation skills, communication skills.
		C117.4	Apply the marvels of technology and engineering to check counterfeiting the currency notes and design authentic polymer notes.
		C117.5	Develop the interview skills and participate in group discussions effectively.
8	Basic Electrical Engineering Lab EE108ES	C118.1	Infer different meters and instruments for measurement of electrical quantities
		C118.2	Understand the linear and nonlinear characteristics of different types of loads experimentally
		C118.3	Design and experiment potential divider circuits and experimentally verify the basic circuit theorems
		C118.4	Understand threephase balanced and unbalanced, star and delta connected supply and load and to measure power in 3 phase circuits
		C118.5	Measure power and power factor in ac circuits
	1-2		1-2
9	Mathematics – II MA201BS	C121.1	Identify whether the given differential equation of first order is exact or not
		C121.2	Solve higher order differential equations.
		C121.3	Evaluate the multiple integrals and apply the concept to find areas, volumes and also evaluate the line, surface and volume integrals and

			converting them from one to another
		C121.4	Apply the concept of differential equation to real world problems
		C121.5	Understand basic properties of vector valued functions and their applications to line, surface and volume integrals
10	Applied Physics AP202BS	C122.1	Differentiate between materials on the basis of their structure, how to defect a material and their effects
		C122.2	Understand the electrical properties of solids and to derive their wave functions
		C122.3	Analyze the types of semi-conductors and diodes and analyze of dielectric and magnetic Materials
		C122.4	Identify the requirements of a building for clear audibility, fabrication process of nano-materials and their applications.
		C122.5	Develop problem solving skills and analytical skills.
11	Programming for Problem Solving CS203ES	C123.1	Explain the basics of computer hardware and software.
		C123.2	Understand various steps in program development and basic concepts in C Language
		C123.3	Develop modular programming using functions, arrays and pointer to solve matrices problems.
		C123.4	Analyze heterogeneous data using structures and handle large amount of I/O information using files
		C123.5	Apply effective searching and sorting techniques based on time complexities.
12	Engineering Graphics ME204ES	C124.1	Understand the fundamental concepts of engineering drawing.
		C124.2	Draw engineering curves, and to construct various types of scales.
		C124.3	Understand the concepts of projection of points, lines and planes in various angles of projection and in different types of projection.
		C124.4	Draw the interpenetration of solids, their curves of intersection in various types of projections
		C124.5	Apply the fundamental concepts of engineering drawing to draw engineering curves, and to construct various types of scales.
13	Applied Physics Lab AP205BS	C125.1	Understand the principles of motion of a particle, mechanical energy
		C125.2	Understand the principles of Newton's Laws of Motion
		C125.3	Acquire knowledge on Circular Motion, Work Energy and Power, Elastic Properties of Materials, Heat, Temperature
		C125.4	Analysis of Electric Forces, Fields and Potentials.
		C125.5	Develop experimental skills to design new experiments in Engineering.

14	Programming for Problem Solving Lab CS206ES	C126.1	Create the algorithms for simple problems
		C126.2	Translate given algorithms to a working and correct program
		C126.3	Develop programs to solve basic problems by understanding basic concepts in C like operators, control statements.
		C126.4	Write C program to represent and manipulate data with arrays, strings and structures
		C126.5	Create, read and write to and from simple text and binary files
15	Environmental Science MC209ES	C127.1	Understand technologies on the basis of ecological principles
		C127.2	Develop environmental regulations, which in turn help in sustainable development.
		C127.3	Apply systems concepts and methodologies to analyze and understand interactions between social and environmental processes.
		C127.4	Understand key concepts from economic, political, and social analysis as they pertain to the design and evaluation of environmental policies and institutions.
		C127.5	Demonstrate proficiency in quantitative methods, qualitative analysis, critical thinking, and written and oral communication needed to conduct high-level work as interdisciplinary scholars and/or practitioners.
	2-1		
16	Analog and Digital Electronics CS301ES	C211.1	Infer the characteristics of various components.
		C211.2	Understand the utilization of components.
		C211.3	Design and analyze small signal amplifier circuits and Minimize combinational functions and postulates of Boolean algebra
		C211.4	Design and analyze combinational and sequential circuits
		C211.5	Understands about the logic families and realization of logic gates.

17	Data Structures CS302PC	C212.1	Understand the basic concepts of algorithms, performance of algorithms, symbolic notations.
		C212.2	Design the concepts of abstract data types of linear and non linear structures.
		C212.3	Analyze the functionalities and representations of linear and non linear data structures and apply the various searching and sorting algorithms to real world applications.
		C212.4	Infer the behavior of binary trees.
		C212.5	Write programs in C to solve problems using DS and choose appropriate DS to specific application.
18	Computer Oriented Statistical Methods MA303BS	C213.1	Write programs in C to solve problems using DS and choose appropriate DS to specific application.
		C213.2	Apply the concepts of probability and distributions to some case studies
		C213.3	Analyze sampling theory and testing of hypothesis and making inferences and implement and correlate the material of one unit to the material in other units
		C213.4	Understand probability distributions of single and multiple random variables.
		C213.5	Understand Stochastic process and Markov chains.
19	Computer Organization and Architecture CS304PC	C214.1	Understand the basics of instructions sets and their impact on processor design.
		C214.2	Demonstrate an understanding of the design of the functional units of a digital computer system.
		C214.3	Evaluate cost performance and design trade-offs in designing and construct a computer processor including memory
		C214.4	Design a pipeline for consistent execution of instructions with minimum hazards.
		C214.5	Recognize and manipulate representations of numbers stored in digital computers.

20	Object Oriented Programming using C++ CS305PC	C2I5.1	Develop programs with reusability
		C2I5.2	Understand principles of data abstraction, inheritance and polymorphism
		C2I5.3	Create the base and derived class using inheritance feature of C++
		C2I5.4	Handle exceptions in programming
		C2I5.5	Develop applications for a range of problems using object-oriented programming techniques
21	Analog and Digital Electronics Lab CS306ES	C216.1	Identify the characteristics of various components.
		C216.2	Understand the utilization of components.
		C216.3	Design and analyze small signal amplifier circuits using Boolean algebra and minimize combinational functions
		C216.4	Design and analyze combinational and sequential circuits
		C216.5	Infer the logic families and realization of logic gates.
22	Data Structures Lab CS307PC	C217.1	Develop C programs for computing and real-life applications using basic elements like control statements, arrays, functions, pointers and strings,
		C217.2	Understand the difference between linear and non linear data structures.
		C217.3	Select appropriate data structure based on the real time scenario.
		C217.4	Implement searching and sorting algorithms
		C217.5	Implement different graph traversal methods.
23	IT Workshop Lab CS308PC	C218.1	Differentiate between Hardware and Software components of Computer.
		C218.2	Understand the architectural overview of computer.
		C218.3	Apply tools for preparation of documents, presentations and data sheets and can Implement the knowledge for installation of different operating systems and their commands
		C218.4	Configure and mount different peripherals on CPU and helpful in understanding, presenting and designing various CSE subjects.
		C218.5	Perform trouble shooting of the components of PC.

24	C++ Programming Lab CS309PC	C219.1	Understand object-oriented programming concepts using the C++ language.
		C219.2	Implement the principles of data abstraction, inheritance and polymorphism
		C219.3	Develop programs using the principles of virtual functions and polymorphism
		C219.4	Implement exception handling techniques
		C219.5	Develop applications for a range of problems using object-oriented programming techniques.
25	Gender Sensitization Lab MC309	C220.1	Understanding the important issues related to gender in contemporary India.
		C220.2	Sensitized to basic dimensions of the biological, sociological, psychological and legal aspects of gender.
		C220.3	Attain a finer grasp of how gender discrimination works in our society and how to counter it.
		C220.4	Develop a sense of appreciation of women in all walks of life.
		C220.5	Understand and respond to gender violence
	2-2		2-2
26	Discrete Mathematics CS401PC	C221.1	Construct precise mathematical proofs
		C221.2	Use logic and set theory to formulate precise statements
		C221.3	Analyze and solve counting problems on finite and discrete structures
		C221.4	Apply graph theory in solving computing problems
		C221.5	Understand the elementary discrete mathematics for computer science and engineering

27	Business Economics & Financial Analysis SM402MS	C222.1	Understand the various Forms of Business and the impact of economic variables on the Business.
		C222.2	Analyze the demand, supply for the business
		C222.3	Understand the different type of production function and Identify the impact of the Economy on Business and Firms specifically.
		C222.4	Analyze the Business from the Financial Perspective.
		C222.5	Understand the firm's financial position by analyzing the Financial Statements of a Company.
28	Operating Systems CS403PC	C223.1	Infer the issues to be considered in the design and development of operating system
		C223.2	Demonstrate the usage of Unix commands, system call interface for process management, interprocess communication and I/O in Unix
		C223.3	Create control access to a computer and the files that shared
		C223.4	Resolve user problems with standard operating environments.
		C223.5	Gain practical knowledge of how programming languages, operating systems, and architectures interact and how to use each effectively.
29	Database Management Systems CS404PC	C224.1	Understand the basics of SQL and construct queries using SQL.
		C224.2	Understand the topics include data models, database design, relational model, relational algebra, transaction control, concurrency control, storage structures and access techniques.
		C224.3	Gain knowledge of fundamentals of DBMS, database design and normal forms
		C224.4	Design the database with transaction processing and concurrency control.
		C224.5	Infer the database storage structures and access technique
30	Java Programming CS405PC	C225.1	Solve real world problems using OOP techniques.
		C225.2	Understand the use of abstract classes.
		C225.3	Solve problems using java collection framework and I/O classes and can develop multithreaded applications with synchronization
		C225.4	Develop applets for web application

		C225.5	Design GUI based applications
31	Operating Systems Lab CS406PC	C226.1	Understand the design aspects of operating system concepts through simulation
		C226.2	Use basic Unix commands, system call interface for process management
		C226.3	Implement interprocess communication and I/O in Unix and implement operating system concepts such as scheduling, deadlock management
		C226.4	Simulate and implement operating system file management and memory management.
		C226.5	Implement C programs using Unix system calls
32	Database Management Systems Lab CS407PC	C227.1	Design database schema for a given application
		C227.2	Apply normalization for the given database
		C227.3	Acquire skills in using SQL commands for data definition and can apply DDL and DML commands on the relational table
		C227.4	Develop solutions for database applications using procedures and triggers
		C227.5	Create the application where cursors improve the response time.
33	Java Programming Lab CS408PC	C228.1	Compile programs in java compiler and eclipse platform.
		C228.2	Write programs for solving real world problems using java collection frame work.
		C228.3	Write programs using abstract classes and multithreaded programs
		C228.4	Write GUI programs using swing controls in Java.
		C228.5	Develop applications with java programming.
34	Constitution of India MC409	C229.1	Understand the constitution law and constitutionalism
		C229.2	Understand Historical perspective of the Constitution of India
		C229.3	Understand Scheme of the fundamental rights and state Salient features and characteristics of theConstitution of India.

		C229.4	Gain Knowledge on the scheme of the Fundamental Duties and its legal status
		C229.5	Understand the Directive Principles of State Policy, its importance and implement them.
	3-1		3-1
35	Formal Languages & Automata Theory CS501PC	C311.1	Understand the mathematical principles behind theoretical computer science.
		C311.2	Differentiate and give examples for the different types of automata like finite automata, push down automata, linear bounded automata and Turing machine.
		C311.3	Correlate the different types of automata to real world applications and design appropriate automata for the different requirements outlined by theoretical computer science.
		C311.4	Identify the different computational Problems and their associated complexity.
		C311.5	Distinguish between decidability and undecidability.
36	Software Engineering CS502PC	C312.1	Translate end-user requirements into system and software requirements
		C312.2	Understand structure the requirements in a Software Requirements Document (SRD).
		C312.3	Identify and apply appropriate software architectures and can assessment of the problem
		C312.4	Develop a simple testing report
		C312.5	Design the high level design of a system and be able to critically compare alternative choices.
37	Computer Networks CS503PC	C313.1	Understand the concepts and fundamentals of computer networks physical layer.
		C313.2	Infer the standard models for the layered approach to communication between machines in a network.
		C313.3	Gain the knowledge of the network layer in OSI model and obtain the skills of subnetting and routing mechanisms

		C313.4	Gain the knowledge of the functions of each layer in the OSI and TCP/IP reference model.
		C313.5	Design network with the essential protocols of computer networks
38	Web Technologies CS504PC	C314.1	Gain knowledge of client-side scripting, validation of forms and AJAX programming
		C314.2	Understand what is XML and how to parse and use XML Data with Java
		C314.3	Understand the Common Gateway Interface and life cycle of Servlets
		C314.4	Design dynamic web page using PHP language for server-side scripting
		C314.5	Develop Client-side scripting with Javascript language.
39	Principles of Programming Language (PE-1) CS515PE	C315.1	Design expressing syntax and semantics in formal notation
		C315.2	Identify and apply a suitable programming paradigm for a given computing application
		C315.3	Gain knowledge of and able to compare the features of various programming languages
		C315.4	Infer the Concept of high-level language design and implementation
		C315.5	Understand different programming paradigms
40	Informational Retrieval Systems (PE- II) CS523PE	C316.1	Apply IR principles to locate relevant information large collections of data
		C316.2	Design different document clustering algorithms
		C316.3	Implement retrieval systems for web search tasks and can Understand the important concepts and algorithms in IRS
		C316.4	Understand the data/file structures that are necessary to design, and implement information retrieval (IR) systems
		C316.5	Design an Information Retrieval System for web search tasks.

41	Software Engineering Lab CS505PC	C317.1	Develop software project by using various software engineering principles
		C317.2	Solve methods in each of the phases of software development.
		C317.3	Translate end-user requirements into system and software requirements and generate a high-level design of the system from the software requirements
		C317.4	Apply testing tools and techniques to debug problems in the project
		C317.5	Develop simple testing report
42	Computer Networks & Web Technologies Lab CS506PC	C318.1	Implement data link layer framing methods
		C318.2	Analyze error detection and error correction codes.
		C318.3	Implement and analyze routing and congestion issues in network design. Encoding and Decoding techniques used in presentation layer
		C318.4	Utilize different network tools for maintenance of networks
		C318.5	Analyze the traffic flow and the contents of protocol frames
43	Advanced Communication Skills Lab EN508HS	C319.1	Gathering ideas and information to organize ideas relevantly and coherently.
		C319.2	Engaging in debates
		C319.3	Participate in group discussions and develop the skill to face interviews.
		C319.4	Writing project/research reports/technical reports.
		C319.5	Prepare oral presentations.
44	Intellectual Property Rights MC510	C320.1	Identify different types of Intellectual Properties (IPs), the right of ownership, scope of protection as well as the ways to create and to extract value from IP.
		C320.2	Recognize the crucial role of IP in organizations of different industrial sectors for the purposes of product and technology development.

		C320.3	Identify activities and constitute IP infringements and the remedies available to the IP owner to prevent infringement of proprietary rights in products and technology development.
		C320.4	Identify critical analysis arguments relating to the development and reform of intellectual property right institutions
		C320.5	Demonstrate a capacity to identify, apply and assess ownership rights and marketing protection under intellectual property law as applicable to information, ideas, new products and product marketing
	3-2		3-2
45	Machine Learning CS601PC	C321.1	Understand the concepts of computational intelligence like machine learning
		C321.2	Gain skill to apply machine learning techniques to address the real time problems in different areas
		C321.3	Understand the Neural Networks and its usage in machine learning application.
		C321.4	Understand computational learning theory
		C321.5	Demonstrate the pattern comparison techniques
46	Compiler Design CS602PC	C322.1	Demonstrate the ability to design a compiler given a set of language features.
		C322.2	Demonstrate the knowledge of patterns, tokens & regular expressions for lexical analysis.
		C322.3	Use lex tool & yacc tool for developing a scanner and parser.
		C322.4	Design algorithms to do code optimization in order to improve the performance of a program in terms of space and time complexity.
		C322.5	Design algorithms to generate machine code.
47	Design and Analysis of Algorithm	C323.1	Analyze the performance of algorithms
		C323.2	Choose appropriate data structures and algorithm design methods for a specified application

		C323.3	Understand how the choice of data structures and the algorithm design methods impact the performance of programs
		C323.4	Describes how to evaluate and compare different algorithms using worst-, average-, and bestcase analysis
		C323.5	Write the notations for analysis of the performance of algorithms
48	Mobile Application Development (PE-3) CS614PE	C324.1	Understand the fundamentals of Android operating systems
		C324.2	Demonstrate their ability to develop software with reasonable complexity on mobile platform
		C324.3	Develop Android user interfaces
		C324.4	Deploy the Android Applications.
		C324.5	Examines the Android Applications.
49	DISASTER PREPAREDNESS & PLANNING MANAGEMENT(Open Elective-I) CE600OE	C325.1	Understanding foundations of hazards, disasters and associated natural/social phenomena
		C325.2	Explain the disaster management theory
		C325.3	Infer the methods of community involvement as an essential part of successful DRR and Identify Humanitarian Assistance before and after disaster
		C325.4	Apply the technological innovations in Disaster Risk Reduction
		C325.5	Experience on conducting independent DM study including data search, analysis and presentation of disaster case study
50	Machine Learning Lab CS604PC	C326.1	Understand complexity of Machine Learning algorithms and their limitations
		C326.2	Understand modern notions in data analysis-oriented computing
		C326.3	Apply common Machine Learning algorithms in practice and implementing their own;
		C326.4	Extract the data from database using python
		C326.5	Implement k-nearest neighbors classification using python
51	Compiler Design	C327.1	Design and develop interactive and dynamic web applications using HTML, CSS, JavaScript and XML

		C327.2	Apply client-server principles to develop scalable and enterprise web application
		C327.3	Design, develops, and implements compiler for any language and can utilize lex and yacc tools for developing a scanner and a parser.
		C327.4	Design and implement LL and LR parsers.
		C327.5	Design of top-down and bottom-up parsers.
52	MOBILE APPLICATION DEVELOPMENT LAB CS624PE	C328.1	Understands the working of Android OS Practically.
		C328.2	Develop user interfaces.
		C328.3	Develop the Android Applications and can deploy.
		C328.4	Create the Android Applications.
		C328.5	Develop URL related applications.
53	Environmental Science MC609	C329.1	Understanding the importance of ecological balance for sustainable development.
		C329.2	Understanding the impacts of developmental activities and mitigation measures
		C329.3	Understanding the environmental policies and regulations.
		C329.4	Evaluate technologies on the basis of Environmental regulations.
		C329.5	Analyze the problems related to environmental pollution and management.
	4-1	4-1	
54	Cryptography & Network Security CS701PC	C411.1	Understand basic cryptographic algorithms, message and web authentication and security issues
		C411.2	Identify information system requirements for both of them such as client and server.

		C411.3	Understand the current legal issues towards information security and can explain the importance and application of each of confidentiality, integrity, authentication and availability
		C411.4	Generate and distribute a PGP key pair and use the PGP package to send an encrypted email message
		C411.5	Discuss Web security and Firewalls
55	Data Mining CS702PC	C412.1	Understand the types of the data to be mined and present a general classification of tasks and primitives to integrate a data mining system
		C412.2	Apply preprocessing methods for any given raw data.
		C412.3	Extract interesting patterns from large amounts of data and can discover the role played by data mining in various fields
		C412.4	Choose and employ suitable data mining algorithms to build analytical applications
		C412.5	Evaluate the accuracy of supervised and unsupervised models and algorithms.
56	CLOUD COMPUTING (PE-IV) CS714PE	C413.1	Discuss the various paradigm of cloud computing and articulate the main concepts, key technologies, strengths, and limitations of cloud computing
		C413.2	Identify the architecture and infrastructure of cloud computing suitable for the specified environment
		C413.3	Interpret various data, scalability and cloud services to acquire efficient database for cloud storage.
		C413.4	Explain the security, privacy, and interoperability of cloud computing with its controlling mechanism
		C413.5	Construct the cloud to utilize for the real-world applications.
57	REAL TIME SYSTEMS (PE-V) CS722PE	C414.1	Explain real-time concepts such as preemptive multitasking, task priorities, priority inversions and so on
		C414.2	Describe how a real-time operating system kernel is implemented
		C414.3	Intercept how tasks are managed and can explain how the real-time operating system implements time management.
		C414.4	Discuss Inter process communicate using semaphores, mailboxes, and queues.
		C414.5	Understand real time operating systems like RT Linux, Vx Works, MicroC /OSII, Tiny Os

58	Principles of Entrepreneurship (Open Elective - II) MT701OE	C415.1	Understand entrepreneurship definitions and different views of entrepreneurship
		C415.2	Apply approaches for generating new business ideas
		C415.3	Understand the methodology for business model formation.
		C415.4	Apply critical evaluation of business cases in entrepreneurship
		C415.5	Determine own suggestions for improving entrepreneurial practice
59	Cryptography & Network Security Lab CS703PC	C416.1	Apply the concepts of AND OR and XOR each character in this string and display the result.
		C416.2	Design a Java program to perform encryption and decryption using the following algorithms
		C416.3	Demonstrate a C/JAVA program to implement the DES algorithm logic and can determine the methods to create a C/JAVA program to implement the Blowfish algorithm logic
		C416.4	Identify the commonly used operations involving the RC4 logic in Java Using Java cryptography; encrypt the text “Hello world” using Blowfish. Create your own key using Java key tool.
		C416.5	Build exemplary applications related to the Diffie-Hellman Key
60	Industrial Oriented Mini Project/ Summer Internship CS704PC	C416.1	Understand the problem definition and gather the requirements of the problem.
		C416.2	Analyze the design and develop the application tool with the learned technologies.
		C416.3	Ability to initiate efforts to solve real time problems.
		C416.4	Develop different real time applications and can Implement new techniques and technologies.
		C416.5	Solve the challenges in real time applications.
61	Seminar CS705PC	C416.1	Analyze a current topic of professional interest and present it before an audience.
		C416.2	Gain knowledge on approaching engineering problems and providing effective and efficient solutions to solve it
		C416.3	Interact with subject experts, knowledge engineers and peer groups for dissemination of knowledge.

		C416.4	Gain Confidence to take on technical challenges and providing solutions for real world problems.
62	Project Stage-1 CS706PC	C417.1	Identify the requirements of the project.
		C417.2	Plan the schedule and budget required for project development
		C417.3	Utilize the application tool with the learned technologies and develop the real-time applications.
		C417.4	Analysis the performance of the application
		C417.5	Prepare the document for the project developed
	4-2	4-2	
63	Organizational Behaviour SM801MS	C421.1	Plan an organizational structure for a given context in the organization and carry out production operations through work study
		C421.2	Understand the markets, customers and competition better and price the given products appropriately.
		C421.3	Ensure quality for a given product or service and plan and control the HR function better
		C421.4	Plan, schedule and control projects through PERT and CPM
		C421.5	Evolve a strategy for a business or service organization
64	HUMAN COMPUTER INTERACTION Professional Elective – VI CS814PE	C422.1	Apply HCI and principles to interaction design.
		C422.2	Design certain tools for blind or PH people.
		C422.3	Identify and formulate characteristics and components of graphical user interface and can analyze & implement various design paradigms for human computer interaction.
		C422.4	Apply the navigation schemes through window, device and screen-based controls

		C422.5	Utilize HCI in the software process
65	Environmental Impact Assessment(Open Elective – III)	C423.1	Infer the multidisciplinary nature of environment
		C423.2	Understand the essence of environment, biodiversity and its Conservation.
		C423.3	Identify the natural resources and their protection andcauses and effects of environmental pollution as well as environmental issues
		C423.4	Understand management of environmental wastes, disasters and rules, regulations, policies for the protection of environment.
		C423.5	Identify the sustainable development and natural functioning of ecosystems
66	Project Stage – II CS802PC	C424.1	Identify the requirements of the project.
		C424.2	Plan the schedule and budget required for project development
		C424.3	Utilize the application tool with the learned technologies.
		C424.4	Develop the real-time applications and analysis the performance of the application
		C424.5	Prepare the document for the project developed