



Cambridge Institute of Technology

DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

Course outcomes of 2015-2016 scheme

| Course Code | Course Name | Course Outcomes-On completion of this course the students will be able to |
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| 15MAT11 | Engineering Mathematics-I | CO1: Use partial derivatives to calculate rates of change of multivariate functions. CO2: Analyse position, velocity, and acceleration in two or three dimensions CO3: using the calculus of vector valued functions. Recognize and solve first-order ordinary differential equations, Newton's CO4: law of cooling CO5: Use matrices techniques for solving systems of linear equations in the CO6: different areas of Linear Algebra. |
| 15MAT21 | Engineering Mathematics-II | CO1: solve differential equations of electrical circuits, forced oscillation of mass spring and elementary heat transfer. CO2: solve partial differential equations fluid mechanics, electromagnetic theory and heat transfer. CO3: Evaluate double and triple integrals to find area, volume, mass and moment of inertia of plane and solid region. CO4: Use curl and divergence of a vector valued functions in various applications of electricity, magnetism and fluid flows. CO5: Use Laplace transforms to determine general or complete solutions to linear ODE |
| 15PHY12/15PHY22 | Engineering Physics | CO1: Learn and understand more about basic principles and to develop problem solving skills and implementation in technology. CO2: Gain Knowledge about Modern physics and quantum mechanics will update the basic concepts to implement the skills. CO3: Study of material properties and their applications is the prime role to |

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| | | <p>understand and use in engineering applications and studies.</p> <p>CO4: Study Lasers and Optical fibers and its applications are to impart knowledge and to develop skills and to use modern instruments in the engineering applications.</p> <p>CO5: Understand Crystal structure and applications are to boost the technical skills and its applications.</p> <p>CO6: Expose shock waves concept and its applications will bring latest technology to the students at the first-year level to develop research orientation programs at higher semester level.</p> <p>CO7: Understand basic concepts of nano science and technology</p> |
| 15CIV13/23 | Elements Of Civil Engineering And Engineering Mechanics | <p>CO1: Know basics of Civil Engineering, its scope of study, knowledge about Roads, Bridges and Dams;</p> <p>CO2: Comprehend the action of Forces, Moments and other loads on systems of rigid bodies;</p> <p>CO3: Compute the reactive forces and the effects that develop as a result of the external loads;</p> <p>CO4: Locate the Centroid and compute the Moment of Inertia of regular cross-sections.</p> <p>CO5: Express the relationship between the motion of bodies and</p> <p>CO6: Equipped to pursue studies in allied courses in Mechanics</p> |
| 15EME14/15EME24 | Elements Of Mechanical Engineering | <p>CO1: Various Energy sources, Boilers, Prime movers such as turbines and IC engines, refrigeration and air-conditioning systems</p> <p>CO2: Metal removal process using Lathe, drilling, Milling Robotics and Automation.</p> <p>CO3: Fair understanding of application and usage of various engineering materials.</p> |
| 15ELE15/15ELE25 | Basic Electrical Engineering | <p>CO1: To predict the behavior of electrical and magnetic circuits.</p> <p>CO2: Select the type of generator / motor required for a particular application.</p> <p>CO3: Realize the requirement of transformers in transmission and distribution of electric power and other applications.</p> <p>CO4: Practice Electrical Safety Rules & standards.</p> |

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| | | CO5: To function on multi-disciplinary teams. |
| 15WSL16/15WSL26 | Workshop Practice | CO1: Demonstrate and produce different types of fitting models. CO2: Gain knowledge of development of sheet metal models with an understanding of their applications. CO3: Perform soldering and welding of different sheet metal & welded joints. CO4: Understand the Basics of Workshop practices. |
| 15PHYL17 / 15PHYL27 | Engineering Physics Lab | CO1: Develop skills to impart practical knowledge in real time solution. CO2: Understand principle, concept, working and application of new technology and comparison of results with theoretical calculations. CO3: Design new instruments with practical knowledge. CO4: Gain knowledge of new concept in the solution of practical oriented problems and to understand more deep knowledge about the solution to theoretical problems. CO5: Understand measurement technology, usage of new instruments and real time applications in engineering studies |
| 15CPH18/15CPH28 | Constitution Of India, Professional Ethics & Human Rights | CO1: Have general knowledge and legal literacy and thereby to take up competitive examinations CO2: Understand state and central policies, fundamental duties CO3: Understand Electoral Process, special provisions CO4: Understand powers and functions of Municipalities, Panchayats and Co-operative Societies, and CO5: Understand Engineering ethics and responsibilities of Engineers. CO6: Have an awareness about basic human rights in India |
| 15CHE12/15CHE22 | Engineering Chemistry | CO1: Electrochemical and concentration cells. Classical & modern batteries and fuel cells. CO2: Causes & effects of corrosion of metals and control of corrosion. Modification of surface properties of metals to develop resistance to corrosion, wear, tear, impact etc. by electroplating and electro less plating. CO3: Production & consumption of energy for industrialization of country and living standards of people. Utilization of solar energy for different useful forms of energy. |

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| | | <p>CO4: Replacement of conventional materials by polymers for various applications.</p> <p>CO5: Boiler troubles; sewage treatment and desalination of sea water, and</p> <p>CO6: Over viewing of synthesis, properties and applications of nanomaterials</p> |
| 15PCD13/23 | Programming In C And Data Structures | <p>CO1: Achieve Knowledge of design and development of C problem solving skills.</p> <p>CO2: Understand the basic principles of Programming in C language</p> <p>CO3: Design and develop modular programming skills.</p> <p>CO4: Effective utilization of memory using pointer technology</p> <p>CO5: Understands the basic concepts of pointers and data structures</p> |
| 15CED14/15CED24 | Computer Aided Engineering Drawing | <p>CO1: Students will be able to demonstrate the usage of CAD software.</p> <p>CO2: Students will be able to visualize and draw Orthographic projections, Sections of solids and Isometric views of solids.</p> <p>CO3: Students are evaluated for their ability in applying various concepts to solve practical problems related to engineering drawing.</p> |
| 15ELN15 / 15ELN25 | Basic Electronics | <p>CO1: Appreciate the significance of electronics in different applications,</p> <p>CO2: Understand the applications of diode in rectifiers, filter circuits and wave shaping,</p> <p>CO3: Apply the concept of diode in rectifiers, filters circuits</p> <p>CO4: Design simple circuits like amplifiers (inverting and non-inverting), comparators, adders, integrator and differentiator using OPAMPS,</p> <p>CO5: Compile the different building blocks in digital electronics using logic gates and implement simple logic function using basic universal gates, and</p> <p>CO6: Understand the functioning of a communication system, and different modulation technologies, and</p> <p>CO7: Understand the basic principles of different types of Transducers</p> |
| 15CPL 16 / 15CPL26 | Computer Programming Laboratory | <p>CO1: Gaining Knowledge on various parts of a computer.</p> <p>CO2: Able to draw flowcharts and write algorithms</p> <p>CO3: Able design and development of C problem solving skills.</p> <p>CO4: Able design and develop modular programming skills.</p> <p>CO5: Able to trace and debug a program</p> |

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| 15CHEL17/15CHEL27 | Engineering Chemistry Laboratory | CO1: Handling different types of instruments for analysis of materials using small quantities of materials involved for quick and accurate results, and CO2: Carrying out different types of titrations for estimation of concerned in materials using comparatively more quantities of materials involved for good results |
| 15CIV18/15CIV28 | Environmental Studies | CO1: Understand the principles of ecology and environmental issues that apply to air, land, and water issues on a global scale, CO2: Develop critical thinking and/or observation skills, and apply them to the analysis of a problem or question related to the environment, CO3: Demonstrate ecology knowledge of a complex relationship between biotic and abiotic components CO4: Apply their ecological knowledge to illustrate and graph a problem and describe the realities that managers face when dealing with complex issues |
| 15MAT31 | Engineering Mathematics – Iii | CO1: Use of periodic signals and Fourier series to analyze circuits CO2: Explain the general linear system theory for continuous-time signals and systems using the Fourier Transform CO3: Analyze discrete-time systems using convolution and the z-transform CO4 : Use appropriate numerical methods to solve algebraic and transcendental equations and also to calculate a definite integral CO5: Use curl and divergence of a vector function in three dimensions, as well as apply the Green's Theorem, Divergence Theorem and Stokes' theorem in various applications CO6: Solve the simple problem of the calculus of variations |
| 15CS32 | Analog And Digital Electronics | CO1: Use various Electronic Devices like Cathode ray Oscilloscope, Signal generators, Digital Trainer Kit, Multimeters and components like Resistors, Capacitors, Op amp and Integrated Circuit. CO2: Design and demonstrate various combinational logic circuits. CO3: Design and demonstrate various types of counters and Registers using Flip-flops CO4: Use simulation package to design circuits. CO5: Understand the working and implementation of ALU. |
| 15CS33 | Data Structures And Applications | CO1: Acquire knowledge of |

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| | | <p>CO2: Various types of data structures, operations and algorithms. Sorting and searching operations. File structures. CO3: Analyze the performance of CO4: Stack, Queue, Lists, Trees, Graphs, Searching and Sorting techniques. CO5: Implement all the applications of Data structures in a high-level language. CO6: Design and apply appropriate data structures for solving computing problems.</p> |
| 15CS34 | Computer Organization | <p>CO1: Acquire knowledge of The basic structure of computers & machine instructions and programs, Addressing Modes, Assembly Language, Stacks, Queues and Subroutines. Input/output Organization such as accessing I/O Devices, Interrupts. Memory system basic Concepts, Semiconductor RAM Memories, Static memories, Asynchronous DRAMS, Read Only Memories, Cache Memories and Virtual Memories. Some Fundamental Concepts of Basic Processing Unit, Execution of a Complete Instruction, Multiple Bus Organization, Hardwired Control and Micro programmed Control. Pipelining, embedded and large computing system architecture. CO2: Analyze and design arithmetic and logical units. CO3: Apply the knowledge gained in the design of Computer. CO4: Design and evaluate performance of memory systems CO5: Understand the importance of life-long learning</p> |
| 15CS35 | Unix And Shell Programming | <p>CO1: Explain multi user OS UNIX and its basic features CO2: Interpret UNIX Commands, Shell basics, and shell environments CO3: Design and develop shell programming, communication, System calls and terminology. CO4: Design and develop UNIX File I/O and UNIX Processes. CO5: Perl script writing</p> |
| 15CS36 | Discrete Mathematical Structures | <p>CO1: Verify the correctness of an argument using propositional and predicate logic and truth tables. CO2: Demonstrate the ability to solve problems using counting techniques and combinatorics in the context of discrete probability.</p> |

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| | | <p>CO3: Solve problems involving recurrence relations and generating functions.</p> <p>CO4: Construct proofs using direct proof, proof by contraposition, proof by contradiction, proof by cases, and mathematical induction.</p> <p>CO5: Explain and differentiate graphs and trees</p> |
| 15CSL37 | Analog And Digital Electronics Laboratory | <p>CO1: Use various Electronic Devices like Cathode ray Oscilloscope, Signal generators, Digital Trainer Kit, Multimeters and components like Resistors, Capacitors, Op amp and Integrated Circuit.</p> <p>CO2: Design and demonstrate various combinational logic circuits.</p> <p>CO3: Design and demonstrate various types of counters and Registers using Flip-flops</p> <p>CO4: Use simulation package to design circuits.</p> <p>CO5: Understand the working and implementation of AL</p> |
| 15CSL38 | Data Structures Laboratory | <p>CO1: Analyze and Compare various linear and non-linear data structures</p> <p>CO2: Code, debug and demonstrate the working nature of different types of data structures and their applications</p> <p>CO3: Implement, analyze and evaluate the searching and sorting algorithms</p> <p>CO4: Choose the appropriate data structure for solving real world problems</p> |
| 15MAT41 | Engineering Mathematics-Iv | <p>CO1: Use appropriate numerical methods to solve first and second order ordinary differential equations.</p> <p>CO2: Use Bessel's and Legendre's function which often arises when a problem possesses axial and spherical symmetry, such as in quantum mechanics, electromagnetic theory, hydrodynamics and heat conduction.</p> <p>CO3: State and prove Cauchy's theorem and its consequences including Cauchy's integral formula.</p> <p>CO4: Compute residues and apply the residue theorem to evaluate integrals.</p> <p>Analyze, interpret, and evaluate scientific hypotheses and theories using rigorous statistical methods.</p> |
| 15CS42 | Software Engineering | <p>CO1: Design a software system, component, or process to meet desired needs within realistic constraints.</p> <p>CO2: Assess professional and ethical responsibility</p> |

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| | | <p>CO3: Function on multi-disciplinary teams Use the techniques, skills, and modern engineering tools necessary for engineering practice CO4: Analyze, design, implement, verify, validate, implement, apply, and maintain software systems or parts of software systems.</p> |
| 15CS43 | Design And Analysis Of Algorithms | <p>CO1: Describe computational solution to well-known problems like searching, sorting etc. CO2: Estimate the computational complexity of different algorithms. CO3: Devise an algorithm using appropriate design strategies for problem solving.</p> |
| 15CS44 | Microprocessors And Microcontrollers | <p>CO1: Differentiate between microprocessors and microcontrollers CO2: Design and develop assembly language code to solve problems CO3: Gain the knowledge for interfacing various devices to x86 family and ARM processor CO4: Demonstrate design of interrupt routines for interfacing devices</p> |
| 15CS45 | Object Oriented Concepts | <p>CO1: Explain the object-oriented concepts and JAVA. CO2: Develop computer programs to solve real world problems in Java. CO3: Develop simple GUI interfaces for a computer program to interact with users, and to understand the event-based GUI handling principles using Applets and swings.</p> |
| 15CS46 | Data Communication | <p>CO1: Illustrate basic computer network technology. CO2: Identify the different types of network topologies and protocols. CO3: Enumerate the layers of the OSI model and TCP/IP functions of each layer. CO4: Make out the different types of network devices and their functions within a network CO5: Demonstrate the skills of subnetting and routing mechanisms.</p> |
| 15CSL47 | Design And Analysis Of Algorithm Laboratory | <p>CO1: Design algorithms using appropriate design techniques (brute-force, greedy, dynamic programming, etc.) CO2: Implement a variety of algorithms such as sorting, graph related, combinatorial, etc., in a high level language. CO3: Analyze and compare the performance of algorithms using language features. CO4: Apply and implement learned algorithm design techniques and data structures to solve real-world problems.</p> |
| 15CSL48 | Microprocessor And | <p>CO1: Learn 80x86 instruction sets and gain the knowledge of how assembly language works. CO2: Design and implement programs written in 80x86 assembly language</p> |

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| | Microcontroller Laboratory | CO3: Know functioning of hardware devices and interfacing them to x86 family CO4: Choose processors for various kinds of applications |
| 15CS51 | Management And Entrepreneurship For It Industry | CO1: Define management, organization, entrepreneur, planning, staffing, ERP and outline their importance in entrepreneurship CO2: Utilize the resources available effectively through ERP CO3: Make us of IPRs and institutional support in entrepreneurship |
| 15CS52 | Computer Networks | CO1: Explain principles of application layer protocols CO2: Recognize transport layer services and infer UDP and TCP protocols CO3: Classify routers, IP and Routing Algorithms in network layer CO4: Understand the Wireless and Mobile Networks covering IEEE 802.11 Standard CO5: Describe Multimedia Networking and Network Management |
| 15CS53 | Database Management System | CO1: Identify, analyze and define database objects, enforce integrity constraints on a database using RDBMS. CO2: Use Structured Query Language (SQL) for database manipulation. CO3: Design and build simple database systems CO4: Develop application to interact with databases |
| 15CS54 | Automata Theory And Computability | CO1: Acquire fundamental understanding of the core concepts in automata theory and Theory of Computation CO2: Learn how to translate between different models of Computation (e.g., Deterministic and Non-deterministic and Software models). CO3: Design Grammars and Automata (recognizers) for different language classes and become knowledgeable about restricted models of Computation (Regular, Context Free) and their relative powers. CO4: Develop skills in formal reasoning and reduction of a problem to a formal model, with an emphasis on semantic precision and conciseness. CO5: Classify a problem with respect to different models of Computation |
| 15CS551 | Object Oriented Modeling And Design | CO1: Describe the concepts of object-oriented and basic class modelling. CO2: Draw class diagrams, sequence diagrams and interaction diagrams to solve problems. CO3: Choose and apply a befitting design pattern for the given problem. |

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| 15IS552 | Social Network Analysis | CO1: Define notation and terminology used in network science. CO2: Demonstrate, summarize and compare networks. CO3: Explain basic principles behind network analysis algorithms. CO4: Analyzing real world network. |
| 15CS553 | Advanced Java And J2ee | CO1: Interpret the need for advanced Java concepts like enumerations and collections in developing modular and efficient programs CO2: Build client-server applications and TCP/IP socket programs CO3: Illustrate database access and details for managing information using the JDBC API CO4: Describe how servlets fit into Java-based web application architecture CO5: Develop reusable software components using Java Beans |
| 15IS554 | Programming Languages | CO1: Select appropriate languages for given applications CO2: Demonstrate usage and justification of different languages CO3: Compare and contrast the strengths and weaknesses of different languages |
| 15CSL57 | Computer Network Laboratory | CO1: Analyze and Compare various networking protocols. CO2: Demonstrate the working of different concepts of networking. CO3: Implement, analyze and evaluate networking protocols in NS2 / NS3 |
| 15CSL58 | Dbms Laboratory With Mini Project | CO1: Create, Update and query on the database. CO2: Demonstrate the working of different concepts of DBMS CO3: Implement, analyze and evaluate the project developed for an application |
| 15CS61 | Cryptography, Network Security And Cyber Law | CO4: Discuss cryptography and its need to various applications CO5: Design and develop simple cryptography algorithms CO6: Understand cyber security and need cyber Law |
| 15IS62 | File Structures | CO1: Choose appropriate file structure for storage representation. CO2: Identify a suitable sorting technique to arrange the data. CO3: Select suitable indexing and hashing techniques for better performance to a given problem. |
| 15IS63 | Software Testing | CO1: Derive test cases for any given problem CO2: Compare the different testing techniques CO3: Classify the problem into suitable testing model CO4: Apply the appropriate technique for the design of flow graph. |

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| | | CO5: Create appropriate document for the software artefact. |
| 15CS64 | Operating Systems | CO1: Demonstrate need for OS and different types of OS CO2: Apply suitable techniques for management of different resources CO3: Use processor, memory, storage and file system commands CO4: Realize the different concepts of OS in platform of usage through case studies |
| 15CS651 | Data Mining And Data Warehousing | CO1: Identify data mining problems and implement the data warehouse CO2: Write association rules for a given data pattern. CO3: Choose between classification and clustering solution |
| 15IS652 | System Software | CO1: Explain system software such as assemblers, loaders, linkers and microprocessors CO2: Design and develop lexical analyzers, parsers and code generators CO3: Utilize Lex and yacc tools for implementing different concepts of system software |
| 15CS653 | Operations Research | CO1: Select and apply optimization techniques for various problems. CO2: Model the given problem as transportation and assignment problem and solve. CO3: Apply game theory for decision support system. |
| 15CS654 | Distributed Computing System | CO1: Explain the characteristics of a distributed system along with its and design challenges CO2: Illustrate the mechanism of IPC between distributed objects CO3: Describe the distributed file service architecture and the important characteristics of SUN NFS. CO4: Discuss concurrency control algorithms applied in distributed transactions |
| 15ISL67 | Software Testing Laboratory | CO1: List out the requirements for the given problem CO2: Design and implement the solution for given problem in any programming language(C,C++,JAVA) CO3: Derive test cases for any given problem CO4: Apply the appropriate technique for the design of flow graph. CO5: Create appropriate document for the software artefact |
| 15ISL68 | File Structures Laboratory With Mini Project | CO1: Implement operations related to files CO2: Apply the concepts of file system to produce the given application. CO3: Evaluate performance of various file systems on given parameters. |

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| 15CS71 | Web Technology And Its Applications | CO1: Adapt HTML and CSS syntax and semantics to build web pages. CO2: Construct and visually format tables and forms using HTML and CSS CO3: Develop Client-Side Scripts using JavaScript and Server-Side Scripts using PHP to generate and display the contents dynamically. CO4: Appraise the principles of object-oriented development using PHP CO5: Inspect JavaScript frameworks like jQuery and Backbone which facilitates developer to focus on core features. |
| 15IS72 | Software Architecture And Design Patterns | CO1: Design and implement codes with higher performance and lower complexity CO2: Be aware of code qualities needed to keep code flexible CO3: Experience core design principles and be able to assess the quality of a design with respect to these principles. CO4: Capable of applying these principles in the design of object-oriented systems. CO5: Demonstrate an understanding of a range of design patterns. Be capable of comprehending a design presented using this vocabulary. CO6: Be able to select and apply suitable patterns in specific contexts |
| 15CS73 | Machine Learning | CO1: Identify the problems for machine learning. And select the either supervised, unsupervised or reinforcement learning. CO2: Explain theory of probability and statistics related to machine learning CO3: Investigate concept learning, ANN, Bayes classifier, k nearest neighbor, Q, |
| 15CS741 | Natural Language Processing | CO1: Analyze the natural language text. CO2: Generate the natural language. CO3: Do Text mining. CO4: Apply information retrieval techniques |
| 15CS742 | Cloud Computing And Its Applications | CO1: Explain cloud computing, virtualization and classify services of cloud computing CO2: Illustrate architecture and programming in cloud CO3: Describe the platforms for development of cloud applications and List the application of cloud. |
| 15CS743 | Information And Network Security | CO1: Analyze the Digitals security lapses CO2: Illustrate the need of key management |

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| 15CS744 | Unix System Programming | CO1: Ability to understand and reason out the working of Unix Systems CO2: Build an application/service over a Unix system |
| 15CS751 | Soft And Evolutionary Computing | CO1: Understand soft computing techniques CO2: Apply the learned techniques to solve realistic problems CO3: Differentiate soft computing with hard computing techniques |
| 15CS752 | Computer Vision And Robotics | CO1: Implement fundamental image processing techniques required for computer vision CO2: Perform shape analysis CO3: Implement boundary tracking techniques CO4: Apply chain codes and other region descriptors CO5: Apply Hough Transform for line, circle, and ellipse detections. CO6: Apply 3D vision techniques. CO7: Implement motion related techniques. CO8: Develop applications using computer vision techniques |
| 15IS753 | Information Management System | CO1: Describe the role of information technology and information systems in business CO2: Record the current issues of information technology and relate those issues to the firm CO3: Interpret how to use information technology to solve business problems |
| 15CS754 | Storage Area Networks | CO1: Identify key challenges in managing information and analyze different storage networking technologies and virtualization CO2: Explain components and the implementation of NAS CO3: Describe CAS architecture and types of archives and forms of virtualization CO4: Illustrate the storage infrastructure and management activities |
| 15CSL76 | Machine Learning Laboratory | CO1: Understand the implementation procedures for the machine learning algorithms. CO2: Design Java/Python programs for various Learning algorithms. CO3: Apply appropriate data sets to the Machine Learning algorithms. CO4: Identify and apply Machine Learning algorithms to solve real world problems |
| 15CSL77 | Web Technology Laboratory With Mini Project | CO1: Design and develop dynamic web pages with good aesthetic sense of designing and latest technical know-how's. CO2: Have a good understanding of Web Application Terminologies, Internet Tools other web services. CO3: Learn how to link and publish web sites. |

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| 15CS81 | Internet Of Things Technology | CO1: Interpret the impact and challenges posed by IoT networks leading to new architectural models. CO2: Compare and contrast the deployment of smart objects and the technologies to connect them to network. CO3: Appraise the role of IoT protocols for efficient network communication. CO4: Elaborate the need for Data Analytics and Security in IoT. CO5: Illustrate different sensor technologies for sensing real world entities and identify the applications of IoT in Industry. |
| 15CS82 | Big Data Analytics | CO1: Master the concepts of HDFS and MapReduce framework CO2: Investigate Hadoop related tools for Big Data Analytics and perform basic Hadoop Administration CO3: Recognize the role of Business Intelligence, Data warehousing and Visualization in decision making CO4: Infer the importance of core data mining techniques for data analytics CO5: Compare and contrast different Text Mining Techniques |
| 15CS831 | High Performance Computing | CO1: Illustrate the key factors affecting performance of CSE applications, and CO2: Make mapping of applications to high-performance computing systems, and CO3: Apply hardware/software co-design for achieving performance on real-world Applications |
| 15IS832 | Interface Design | CO1: Design the user interface, design, menu creation and windows creation and connection between menu and windows |
| 15IS833 | Virtual Reality | CO1: Illustrate technology, underlying principles, its potential and limits and to learn about the criteria for defining useful applications. CO2: Explain process of creating virtual environments |
| 15CS834 | System Modelling And Simulation | CO1: Explain the system concept and apply functional modeling method to model the activities of a static system CO2: Describe the behavior of a dynamic system and create an analogous model for a dynamic system; CO3: Simulate the operation of a dynamic system and make improvement according to the simulation results. |

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| 15CS84 | Internship / Professional Practise | CO1: Adapt easily to the industry environment CO2: Take part in team work CO3: Make use of modern tools |
| 15CSP85 | Project Work Phase Ii | CO1: Identify a issue and derive problem related to society, environment, economics, energy and technology CO2: Formulate and Analyze the problem and determine the scope of the solution chosen CO3: Determine, dissect, and estimate the parameters, required in the solution. CO4: Evaluate the solution by considering the standard data / Objective function and by using appropriate performance metrics. CO5: Compile the report and take part in present / publishing the finding in a reputed conference / publications CO6: Attempt to obtain ownership of the solution / product developed |
| 15CSS86 | Seminar | CO1: Survey the changes in the technologies relevant to the topic selected CO2: Discuss the technology and interpret the impact on the society, environment and domain. CO3: Compile report of the study and present to the audience, following the ethics. |



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