



Hope Foundation's  
**International Institute of Information Technology**

P-14, Rajiv Gandhi Info Tech Park, Phase – 1, Hinjawadi, Pune – 411 057

**Department of Computer Engineering**

---

**Course Outcomes (COs)**

---

**SE (Computer Engineering) -2015 Pattern**

Course Code	Name of Subject/ Course	Course Outcome (COs)
210241	Discrete Mathematics	<ul style="list-style-type: none"><li><input type="checkbox"/> Student will able to solve real world problems logically using appropriate set, function, and relation, relation models.</li><li><input type="checkbox"/> Student will able to interpret the associated operations and terminologies in context.</li><li><input type="checkbox"/> Student will able to analyze the real world problems using discrete mathematics.</li><li><input type="checkbox"/> Student will able to synthesize the real world problems using discrete mathematics.</li><li><input type="checkbox"/> Student will able to formulate problems precisely using discrete mathematics.</li><li><input type="checkbox"/> Student will able to apply formal proof techniques and explain the reasoning.</li></ul>
210242	Digital Electronics & Logic Design	<ul style="list-style-type: none"><li><input type="checkbox"/> Realize and simplify Boolean Algebraic assignments for designing digital circuits using KMaps.</li><li><input type="checkbox"/> Design and implement Sequential and Combinational digital circuits as per the specifications.</li><li><input type="checkbox"/> Apply the knowledge to select the logic families IC packages as per the design specifications.</li><li><input type="checkbox"/> Design the minimum systems using VHDL.</li><li><input type="checkbox"/> Develop minimum embedded system for simple real world application.</li><li><input type="checkbox"/> To develop skill to build and troubleshoot digital circuit</li></ul>
210243	Data Structures & Algorithms	<ul style="list-style-type: none"><li><input type="checkbox"/> To Explain the basic concepts like Algorithms, Algorithmic Strategies and Data Structures</li><li><input type="checkbox"/> To illustrate Data Structures Using Sequential Organization</li><li><input type="checkbox"/> To Describe Linear Data Structures Using Linked Organization</li><li><input type="checkbox"/> To Express Stack as LIFO data structure</li><li><input type="checkbox"/> To Express Queue as FIFO data structure</li></ul>
210244	Computer Organization & Architecture	<ul style="list-style-type: none"><li><input type="checkbox"/> To understand the structure, function and characteristics of computer systems.</li><li><input type="checkbox"/> To understand the design of the various functional units</li></ul>

		<p>and components of digital computers.</p> <ul style="list-style-type: none"> <li>❑ To identify the elements of modern instructions sets and explain their impact on processor design.</li> <li>❑ To explain the function of each element of a memory hierarchy, identify and compare different methods for computer I/O.</li> <li>❑ To compare simple computer architectures and organizations based on established performance metrics.</li> <li>❑ To discuss in detail the operation of the arithmetic unit including the algorithms &amp; implementation of fixed-point and floating-point arithmetic.</li> </ul>
210245	Object Oriented Programming	<ul style="list-style-type: none"> <li>❑ Analyze the strengths of object oriented programming</li> <li>❑ Design and apply OOP principles for effective programming</li> <li>❑ Develop programming application using object oriented programming language C++</li> <li>❑ Percept the utility and applicability of OOP</li> <li>❑ To implement File handling using object-oriented programming.</li> <li>❑ Able to analyse, design and construct sophisticated software applications to industry standards</li> </ul>
210246	Digital Electronics lab	<ul style="list-style-type: none"> <li>❑ Apply knowledge and concepts and methods of digital system design techniques</li> <li>❑ Use logic function representation for simplification with K-Maps and analyze as well as design Combinational logic circuits using SSI &amp; MSI chips.</li> <li>❑ Analyze Sequential circuits like Flip-Flops (Truth Table, Excitation table) &amp; design the applications like Asynchronous and Synchronous Counters</li> <li>❑ Design Sequential Logic circuits: Sequence generators, MOD counters with registers/Counters using synchronous /asynchronous counters</li> <li>❑ Understand the need of skills, techniques and learn state-of-the-art engineering tools through hands-on experimentation on the Xilinx tools for design as well as the basics of VHDL.</li> <li>❑ Understand and implement the design Steps, main programming technique with different modeling styles for any digital circuits with VHDL Programming</li> </ul>
210247	Data Structures Lab	<ul style="list-style-type: none"> <li>❑ To explain Linear Data Structures.</li> <li>❑ To apply stack to the given application.</li> <li>❑ To apply queue to the given application.</li> <li>❑ To compute various sorting algorithms.</li> </ul>
210248	Object oriented Programming Lab	<ul style="list-style-type: none"> <li>❑ Able to know basic architecture, memory system of 64 bit Linux operating system</li> <li>❑ Implement and analysis the concept of function and polymorphism by using C++ programming I</li> <li>❑ Implement the concept of exception and file handling</li> </ul>

		<ul style="list-style-type: none"> <li>❑ Implement the various data structure using C++ programming</li> <li>❑ Design and implement the application software using C++.</li> </ul>
210249	Soft Skills	<ul style="list-style-type: none"> <li>❑ Effectively communicate through verbal/oral communication and improve the listening skills</li> <li>❑ Write precise briefs or reports and technical documents.</li> <li>❑ Actively participate in group discussion / meetings / interviews and prepare &amp; deliver presentations.</li> <li>❑ Become more effective individual through goal/target setting, self motivation and practicing creative thinking.</li> <li>❑ Function effectively in multi-disciplinary and heterogeneous teams through the knowledge of team work, interpersonal relationships, conflict management and leadership quality.</li> </ul>
<b>SEM-II</b>		
207003	Engineering Mathematics-3	<ul style="list-style-type: none"> <li>❑ Student will able to solve higher order linear differential equations to understand appropriate techniques of modeling and analyzing electrical circuits.</li> <li>❑ Student will able to solve problems related to Fourier transform, Z-transform and applications to signal and image processing.</li> <li>❑ Student will able to apply statistical methods like correlation and regression analysis, Measures of central tendency and its applications..</li> <li>❑ Student will able to understand probability theory and its applications. Probability distributions. Analysis and prediction of data as applied to machine intelligence.</li> <li>❑ Student will able to perform vector differentiation and integration to analyze the vector fields and apply to compute line, surface and volume integrals.</li> <li>❑ Student will able to analyze conformal mappings, transformations and perform contour integration of complex functions required in image processing, digital filters and computer graphics.</li> </ul>
210251	Computer Graphics	<ul style="list-style-type: none"> <li>❑ Introduce and give exposure to fundamental of computer graphics and various Applications in computer graphics.</li> <li>❑ To understand scan conversion of line, Circle, and ellipse.</li> <li>❑ To understand polygon clipping and windowing clipping.</li> <li>❑ To understand 2-D and 3-D transformation.</li> <li>❑ To provide basis modeling of object with curves, fractals and hidden Surfaces</li> <li>❑ To understand segments, Animation, gaming platforms with interactive graphics usage tools</li> </ul>
210252	Advanced Data Structures	<ul style="list-style-type: none"> <li>❑ To apply appropriate advanced data structure and efficient algorithms to approach the problems of various domain.</li> <li>❑ To design the algorithms to solve the programming</li> </ul>

		<p>problems.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> To use effective and efficient data structures in solving various Computer Engineering domain problems.</li> <li><input type="checkbox"/> To analyze the algorithmic solutions for resource requirements and optimization</li> <li><input type="checkbox"/> To use appropriate modern tools to understand and analyze the functionalities confined to the data structure usage.</li> </ul>
210253	Microprocessor	<ul style="list-style-type: none"> <li><input type="checkbox"/> Apply the assembly language programming to develop small real life embedded application.</li> <li><input type="checkbox"/> Understand the architecture of the advanced processor thoroughly to use the resources for programming</li> <li><input type="checkbox"/> Understand the higher processor architectures descended from 80386 architecture</li> <li><input type="checkbox"/> Understand debugging and testing techniques</li> <li><input type="checkbox"/> Understand processor's various modes of operation and mode switching</li> <li><input type="checkbox"/> Understand Numeric data processor and its working with main processor</li> </ul>
210254	Principles of Programming Languages	<ul style="list-style-type: none"> <li><input type="checkbox"/> To analyze the strengths and weaknesses of programming languages for effective and efficient program development.</li> <li><input type="checkbox"/> To inculcate the principles underlying the programming languages enabling to learn new programming languages</li> <li><input type="checkbox"/> To use the programming paradigms effectively in application development.</li> <li><input type="checkbox"/> To understand the fundamentals of Java</li> <li><input type="checkbox"/> To understand the Web development features of Java</li> </ul>
210255	Computer Graphics lab	<ul style="list-style-type: none"> <li><input type="checkbox"/> Understand the basic concepts of computer graphics.</li> <li><input type="checkbox"/> Design scan conversion problems using C++ programming.</li> <li><input type="checkbox"/> Apply clipping and filling techniques for modifying an object.</li> <li><input type="checkbox"/> Understand the concepts of different type of geometric transformation of objects in 2D and 3D.</li> <li><input type="checkbox"/> Understand the practical implementation of modeling, rendering, viewing of objects in 2D &amp; 3D.</li> <li><input type="checkbox"/> Understanding different fractal structures and implementation of Koch &amp; Hilbert curves and animation sequences.</li> </ul>
210256	Advanced Data Structures Lab	<ul style="list-style-type: none"> <li><input type="checkbox"/> To apply appropriate advanced data structure and efficient algorithms to approach the problems of various domain.</li> <li><input type="checkbox"/> To design the algorithms to solve the programming problems.</li> <li><input type="checkbox"/> To use effective and efficient data structures in solving various Computer Engineering domain problems.</li> <li><input type="checkbox"/> To analyze the algorithmic solutions for resource requirements and optimization</li> <li><input type="checkbox"/> To use appropriate modern tools to understand and analyze</li> </ul>

		the functionalities confined to the data structure usage.
210257	Microprocessor Lab	<ul style="list-style-type: none"><li>❑ To perform various numerical computations using assembly language programming.</li><li>❑ To explain various types of 80386 modes and switching among them.</li><li>❑ To Describe the recursion technique in assembly language programming</li><li>❑ To Understand implementation of various DOS Commands.</li><li>❑ To Understand Numeric data processor and its working with main processor.</li><li>❑ To Analyse the Terminate but Stay Resident (TSR) program.</li></ul>



Hope Foundation's  
**International Institute of Information Technology**

P-14, Rajiv Gandhi Info Tech Park, Phase – 1, Hinjawadi, Pune – 411 057

**Department of Computer Engineering**

---

**Course Outcomes (COs)**

---

**TE (Computer Engineering) -2015 Pattern**

Course Code	Name of Subject/ Course	Course Outcome (COs)
310241	Theory of Computation	<ul style="list-style-type: none"><li><input type="checkbox"/> Design DFA, NFA &amp; e-NFA for the given problem</li><li><input type="checkbox"/> Convert RE to Automata &amp; vice-versa</li><li><input type="checkbox"/> Design grammar for context free and regular languages.</li><li><input type="checkbox"/> Design Pushdown Automata for context free language.</li><li><input type="checkbox"/> Design deterministic or non deterministic Turing machine for all input all output , NP Complete or NP Hard</li><li><input type="checkbox"/> Identify the decidability of the problem statement.</li></ul>
310242	Database Managements System	<ul style="list-style-type: none"><li><input type="checkbox"/> Design E-R Model for given requirements and convert the same into database tables.</li><li><input type="checkbox"/> Use database techniques such as SQL &amp; PL/SQL</li><li><input type="checkbox"/> Design relational databases for real life problems using conceptual or logical design processes</li><li><input type="checkbox"/> Explain transaction Management in relational database System.</li><li><input type="checkbox"/> Describe different database architecture and analyze the use of appropriate architecture in real time environment</li><li><input type="checkbox"/> Use modern database techniques and advanced database Programming concepts such as NOSQL and Big Data</li></ul>
310243	Software Engineering & Project Management	<ul style="list-style-type: none"><li><input type="checkbox"/> Decide on a process model for a developing a software project</li><li><input type="checkbox"/> Classify software applications and Identify unique features of various domains</li><li><input type="checkbox"/> Design test cases of a software system</li><li><input type="checkbox"/> Understand basics of IT Project management</li><li><input type="checkbox"/> Plan, schedule and execute a project considering the risk management</li><li><input type="checkbox"/> Apply quality attributes in software development life cycle</li></ul>
310244	Information Systems & Engineering Economics	<ul style="list-style-type: none"><li><input type="checkbox"/> Understand the need, usage and importance of an Information System to an organization.</li><li><input type="checkbox"/> Perform and evaluate present worth, future worth and annual worth analysis on one or more economic alternatives.</li><li><input type="checkbox"/> Understand the activities that are undertaken while managing, designing, planning, implementation, and</li></ul>

		<p>deployment of computerized information system in an organization.</p> <ul style="list-style-type: none"> <li>❑ Student would be aware of various Information System solutions like ERP, CRM, Data warehouses and the issues in successful implementation of these technology solutions in any organizations.</li> <li>❑ Outline the past history, present position and expected performance of a company engaged in engineering practice or in the computer industry.</li> <li>❑ Be able to carry out and evaluate benefit/cost, life cycle and breakeven analysis on one or more economic alternatives.</li> </ul>
310245	Computer Networks	<ul style="list-style-type: none"> <li>❑ Learn to use Network Related commands and configuration files in Linux Operating System.</li> <li>❑ Learn to Develop Network Application Programs.</li> <li>❑ Analyze Network Traffic using network Monitoring Tools</li> <li>❑ Illustrate client-server architectures and protocols by the means of correct standards and technology.</li> <li>❑ Demonstrate different routing and switching algorithms and simulation programming.</li> </ul>
310246	Skill Development Lab	<ul style="list-style-type: none"> <li>❑ Evaluate problems and analyze data using current technologies in a wide variety of business and organizational contexts.</li> <li>❑ Create data-driven web applications</li> <li>❑ Incorporate best practices for building applications.</li> <li>❑ Employ Integrated Development Environment(IDE) for implementing and testing of software solution</li> <li>❑ Construct software solutions by evaluating alternate architectural patterns.</li> <li>❑ Understand and to use data advanced analytic tools</li> </ul>
310247	DBMS Lab	<ul style="list-style-type: none"> <li>❑ Understand working of MySQL relational database and handle SQL objects such as Table, View, Index, Sequence, Synonym</li> <li>❑ Populate and query relational databases using SQL DML statements for various database applications</li> <li>❑ Use PL/SQL Programming concepts such as Cursors, Control structure and Exception handling Stored Procedures and Triggers for various database applications</li> <li>❑ Understand working of MongoDB - NoSQL database and design basic MongoDB queries, Aggregation, Indexing &amp; Map Reduce operations</li> <li>❑ Design and develop Database navigation operations using various databases with front end technologies</li> </ul>
310248	CN Lab	<ul style="list-style-type: none"> <li>❑ Analyze the requirements for a given organizational structure to select the most appropriate networking architectures, topologies, transmission medium and technologies.</li> <li>❑ Demonstrate design issues, flow control and error control.</li> <li>❑ Analyze data flow between TCP/IP model using Application, Transport and Network layer protocols.</li> </ul>

		<ul style="list-style-type: none"> <li><input type="checkbox"/> Illustrate applications of Computer Network capabilities, selection and usage for various sectors of user community.</li> <li><input type="checkbox"/> Illustrate client-server architectures and protocols by the means of correct standards and technology.</li> <li><input type="checkbox"/> Demonstrate different routing and switching algorithms.</li> </ul>
<b>SEM-II</b>		
310250	Design & Analysis of Algorithm	<ul style="list-style-type: none"> <li><input type="checkbox"/> To survey algorithmic strategies give presentation using open source documentation tools like Latex and soft skill methodologies</li> <li><input type="checkbox"/> To write mathematical modeling of algorithms for problem solving</li> <li><input type="checkbox"/> To solve problems for multi core or distributed or concurrent/parallel/embedded environments.</li> <li><input type="checkbox"/> To solve real world problems by using optimization algorithms.</li> <li><input type="checkbox"/> To apply the mathematical modeling, adaptive, dynamic and numerical analysis in IOT</li> </ul>
310251	Systems Programming & Operating Systems	<ul style="list-style-type: none"> <li><input type="checkbox"/> Analyze and synthesize role played various system software</li> <li><input type="checkbox"/> Apply techniques to develop macros, loaders and linkers</li> <li><input type="checkbox"/> To use tools like LEX &amp; YACC for designing a compiler for an elementary language grammar</li> <li><input type="checkbox"/> To understand and analyze process management in operating systems including scheduling &amp; deadlocks.</li> <li><input type="checkbox"/> To understand various memory-management techniques, including paging and segmentation.</li> <li><input type="checkbox"/> To discuss file system design including access methods, file sharing, locking and directory structure.</li> </ul>
310252	Embedded Systems & IoT	<ul style="list-style-type: none"> <li><input type="checkbox"/> Implement an architectural design for IoT for specified requirement</li> <li><input type="checkbox"/> Solve the given societal challenge using IoT</li> <li><input type="checkbox"/> Choose between available technologies and devices for stated IoT challenge</li> <li><input type="checkbox"/> learn the Key features required for IoT security</li> <li><input type="checkbox"/> Understand the Architecture of WoT and its specification</li> <li><input type="checkbox"/> Understand the architecture of Cloud of Things</li> </ul>
310253	Software Modeling & Design	<ul style="list-style-type: none"> <li><input type="checkbox"/> Analyze the problem statement (SRS) and choose proper design technique for designing web-based/ desktop application</li> <li><input type="checkbox"/> Design and analyze an application using UML modeling as fundamental tool</li> <li><input type="checkbox"/> Apply design patterns to understand reusability in OO design</li> <li><input type="checkbox"/> Decide and apply appropriate modern tool for designing and modeling</li> <li><input type="checkbox"/> Decide and apply appropriate modern testing tool for testing web-based/desktop application</li> </ul>
310254	Web Technologies	<ul style="list-style-type: none"> <li><input type="checkbox"/> Analyze given assignment to select sustainable web development and design methodology.</li> </ul>



		<ul style="list-style-type: none"> <li><input type="checkbox"/> Develop and deploy web based application using suitable client side web technologies.</li> <li><input type="checkbox"/> Develop and deploy web based application using suitable server side web technologies.</li> <li><input type="checkbox"/> Develop web based application using suitable client and server side web technologies with form and database handling.</li> <li><input type="checkbox"/> Design and deploy the emerging client and server side frameworks.</li> <li><input type="checkbox"/> Develop solution to complex problems using appropriate method, technologies, frameworks, web services and content management.</li> </ul>
310255	Seminar & Technical Communication	<p>On completion of the course, student will–</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Be able to be familiar with basic technical writing concepts and terms, such as audience analysis, jargon, format, visuals, and presentation.</li> <li><input type="checkbox"/> Be able to improve skills to read, understand, and interpret material on technology.</li> <li><input type="checkbox"/> improve communication and writing skills</li> </ul>
310256	WT Lab	<ul style="list-style-type: none"> <li><input type="checkbox"/> Installation, configuration of Web Servers and Developing Web Page using HTML, CSS and XML.</li> <li><input type="checkbox"/> To Study validation of web page Contents</li> <li><input type="checkbox"/> To study Dynamic Web Page Creation using Servlet and JSP</li> <li><input type="checkbox"/> To study Dynamic Web Page Creation using PHP, Mysql and AJAX</li> <li><input type="checkbox"/> Develop solution to complex problems using appropriate method, technologies, frameworks</li> <li><input type="checkbox"/> Develop web based application using suitable client side and server side web technologies web services and content management</li> </ul>
310257	SP&OS Lab	<ul style="list-style-type: none"> <li><input type="checkbox"/> Design and evaluate assembler Pass-I &amp; Pass-II</li> <li><input type="checkbox"/> Design and evaluate macro Pass-I &amp; Pass-II</li> <li><input type="checkbox"/> Create lexical analyzer using lex tool</li> <li><input type="checkbox"/> Create syntax analyzer using YAAC tool</li> <li><input type="checkbox"/> Create and use dynamic link libraries</li> <li><input type="checkbox"/> Understand and implement process scheduling mechanisms</li> <li><input type="checkbox"/> Understand and implement memory management functionalities in operating system</li> </ul>
310258	ES & IoT Lab	<ul style="list-style-type: none"> <li><input type="checkbox"/> To understand functionalities of various single board embedded platforms fundamentals</li> <li><input type="checkbox"/> To develop comprehensive approach towards building small low cost embedded IoT system</li> <li><input type="checkbox"/> To understand different sensory inputs</li> <li><input type="checkbox"/> To develop remote controlled smart system</li> <li><input type="checkbox"/> To understand the process to store sensor data on cloud</li> <li><input type="checkbox"/> To develop smart surveillance system</li> </ul>



Hope Foundation's  
**International Institute of Information Technology**

P-14, Rajiv Gandhi Info Tech Park, Phase – 1, Hinjawadi, Pune – 411 057

**Department of Computer Engineering**

**Course Outcomes (COs)**

**BE (Computer Engineering) -2015 Pattern**

Course Code	Name of Subject/ Course	Course Outcome (COs)
410241	High Performance Computing	<ul style="list-style-type: none"> <li><input type="checkbox"/> Describe different parallel architectures, interconnect networks, programming models</li> <li><input type="checkbox"/> Develop an efficient parallel algorithm to solve given problem</li> <li><input type="checkbox"/> Analyze and measure performance of modern parallel computing systems</li> <li><input type="checkbox"/> Build the logic to parallelize the programming task</li> <li><input type="checkbox"/> An ability to apply design and development principles of parallelization in the construction of software systems of varying complexity.</li> <li><input type="checkbox"/> Understand the CUDA programming models and Parallelize sequential tasks.</li> </ul>
410242	Artificial Intelligence and Robotics	<p>On completion of the course, student will be able to–</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Identify and apply suitable Intelligent agents for various AI applications</li> <li><input type="checkbox"/> Design smart system using different informed search / uninformed search or heuristic approaches.</li> <li><input type="checkbox"/> Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.</li> <li><input type="checkbox"/> Apply the suitable algorithms to solve AI problems.</li> </ul>
410243	Data Analytics	<p>On completion of the course, student will be able to–</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Write case studies in Business Analytic and Intelligence using mathematical models</li> <li><input type="checkbox"/> Present a survey on applications for Business Analytic and Intelligence</li> <li><input type="checkbox"/> Provide problem solutions for multi-core or distributed, concurrent/Parallel environments</li> </ul>
410244(D)	Ele-1:Data Mining and Warehousing	<p>On completion of the course the student should be able to-</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Apply basic, intermediate and advanced techniques to mine the data</li> <li><input type="checkbox"/> Analyze the output generated by the process of data mining</li> <li><input type="checkbox"/> Explore the hidden patterns in the data</li> <li><input type="checkbox"/> Optimize the mining process by choosing best data mining</li> </ul>

		technique
410245(B)	Ele-2:Software Testing and Quality Assurance	<p>On completion of the course, student will be able to–</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Describe fundamental concepts in software testing such as manual testing, automation testing and software quality assurance.</li> <li><input type="checkbox"/> Design and develop project test plan, design test cases, test data, and conduct test operations</li> <li><input type="checkbox"/> Apply recent automation tool for various software testing for testing software</li> <li><input type="checkbox"/> Apply different approaches of quality management, assurance, and quality standard to software system</li> <li><input type="checkbox"/> Apply and analyze effectiveness Software Quality Tools</li> </ul>
410245(A)	Distributed Systems	<p>On completion of the course, student will be able to–</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Able to learn and apply the concept of remote method invocation and Remote Procedure Calls</li> <li><input type="checkbox"/> Able to analyze the mechanism of peer to peer systems and Distributed File Systems</li> <li><input type="checkbox"/> Demonstrate an understanding of the challenges faced by current and future distributed systems</li> </ul>
410246	Laboratory Practice I	<ul style="list-style-type: none"> <li><input type="checkbox"/> Build the logic to parallelize the programming task</li> <li><input type="checkbox"/> Analyze and measure performance of modern parallel computing systems</li> <li><input type="checkbox"/> Identify and apply suitable Intelligent agents for various AI applications</li> <li><input type="checkbox"/> "Design smart system using different informed search / uninformed search or heuristic approaches"</li> <li><input type="checkbox"/> Understand the statistics and Mathematics use to solve big data analytics problem.</li> <li><input type="checkbox"/> Understand the impact of big data for business decisions and strategy</li> </ul>
410247	Laboratory Practice II	<ul style="list-style-type: none"> <li><input type="checkbox"/> Able to learn and apply the concept of remote method invocation and Remote Procedure Calls.</li> <li><input type="checkbox"/> Learn and apply the concept of Inter-process Communication.</li> <li><input type="checkbox"/> Analyze the different distributed algorithm.</li> <li><input type="checkbox"/> Analyze the mechanism of peer to peer systems and Distributed File Systems.</li> <li><input type="checkbox"/> Learn and apply the concept of Time, Global state and coordination.</li> <li><input type="checkbox"/> Demonstrate an understanding of the challenges faced by current and future distributed systems.</li> <li><input type="checkbox"/> Implement the mini projects based on software testing framework.</li> </ul>
<b>SEM-II</b>		
410250	Machine Learning	<p>On completion of the course, student will be able to–</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Distinguish different learning based applications</li> <li><input type="checkbox"/> Apply different preprocessing methods to prepare training data set for machine learning.</li> </ul>

		<ul style="list-style-type: none"> <li><input type="checkbox"/> Design and implement supervised and unsupervised machine learning algorithm.</li> <li><input type="checkbox"/> Implement different learning models</li> <li><input type="checkbox"/> Learn Meta classifiers and deep learning concepts</li> </ul>
410251	Information and Cyber Security	<p>On completion of the course, student will be able to–</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Gauge the security protections and limitations provided by today's technology.</li> <li><input type="checkbox"/> Identify information security and cyber security threats.</li> <li><input type="checkbox"/> Analyze threats in order to protect or defend it in cyberspace from cyber-attacks.</li> <li><input type="checkbox"/> Build appropriate security solutions against cyber-attacks.</li> </ul>