COURSE OUTCOMES FOR B.TECH-CSE R18 FOR THE YEAR 2018-2019

Course Outcome	Year/Semester I/I Sem	Subject Name (Subject Code) LINEAR ALGEBRA AND CALCULUS (B18MA01)	No. of Hours L:3 T:1 P:0	Credits: 4
After the completion of this course, the students should be able to				
1	Understand the principles of matrix to calculate the characteristics of system of linear algebraic equations using multiple methods.			
2	Determine eigen values, eigen vectors and orthogonally diagonalize symmetricmatrices.			
3	Analyze the nature of sequence and series to identify the convergence.			
4	Evaluate limits of single-variable functions graphically and computationally. Analyze improper integrals using Beta and Gamma functions.			
5	Calculate Partial derivatives, Jacobian and extrema of functions of multiple variables with or without constraints.			
Course Outcome	**Year /Semester I / I Sem**	**Subject Name (Subject Code)** APPLIED PHYSICS (B18PH01)	**No. of Hours L:4 T:0 P:0**	**Credits:4**
After completion of this course, the student shall be/shall				
1	Illustrate fabrication of semi conductors, photo detectors, design basis of quantum mechanics			
2	Recall facts of wave optics extend & construct basics of wave optics.			
3	Interpret about lasers, which leads to new innovations and improvements			
4	Elaborate and formulate the study of characterization properties of opto-devices, organize the students to prepare new materials for various engineering applications			
5	Apply basic knowledge on principles and recalls facts of light properties, and motivate for new innovations and analyse applications of optical fibers			
Course Outcome	**Year / semester I/I Sem**	**Subject Name (Subject Code)** ENGLISH(B18EN01)	**No. of Hours L:2 T:0 P:0**	**Credits:2**
After the completion of this course, the students should be able to				
1	Use English Language effectively in spoken and written forms.			
2	Comprehend the given texts and respond appropriately.			
3	Communicate confidently in various contexts and different cultures			
4	Acquire basic proficiency in English including reading and listening comprehension, writing and speaking skills.			
5	Develops and Communicates by stating main ideas relevantly and coherently in speaking &writing.			
Course Outcome	**Year / semester I/I Sem**	**Subject Name (Subject Code)** ENGINEERING GRAPHICS (B18ME01)	**No. of Hours L:1 T:0 P:4**	**Credits: 3**
After the completion of this course, the students should be able to				
1	Analyze the Projections of points.			
2	Understand the Projections of solids.			
3	Estimate the use of Drawings, dimensioning, scales and conic sections.			
4	Modify the Applications of this knowledge in Computer Graphics.			
5	Compare the conversion of isometric views to Orthographic views.			
Course Outcome	**Year / semester I/I Sem**	**Subject Name (Subject Code)** PROGRAMMING FOR PROBLEM SOLVING(B18CS01)	**No. of Hours L:4 T:0 P:0**	**Credits: 4**
After the completion of this course, the students should be able to				
1	Understanding how problems are posed and how they can be analyzed for obtaining solution.			
2	Understanding the fundamentals of C programming.			

3	Learning of sequencing, branching, looping and decision making statements to solve Scientific and engineering problems.			
4	Implementing different operations on arrays and creating and using of functions to solve problems			
5	Ability to design and implement different types of file structures using standard Methodology			
Course Outcome	**Year / semester I/I Sem**	**Subject Name (Subject Code)** APPLIED PHYSICS LAB (B18PH02)	**No. of Hours L:0 T:0 P:3**	**Credits: 1.5**
After the completion of this course, the students should be able to				
1	Operate different equipments related to light & electronics.			
2	Develop experimental skills to design new experiments & circuit design.			
3	Understand about modern equipment like solar cell, optical fibre etc.,			
4	Have Exposure to develop novel semi conductor devices.			
Course Outcome	**Year / semester I/I Sem**	**Subject Name (Subject Code)** PROGRAMMING FOR PROBLEM SOLVING – LAB (B18CS02)	**No. of Hours L:0 T:0 P:2**	**Credits:1**
After the completion of this course, the students should be able to				
1	Understand basic structure of the C Programming, data types, declaration and usage of variables, control structures and all related concepts.			
2	Ability to understand any algorithm and Write the C programming code in executable form.			
3	Implement Programs using functions, pointers and arrays, and use the pre-processors to solve real time problems.			
4	Ability to use file structures and implement programs on files.			
Course Outcome	**Year / semester I/II Sem**	**Subject Name (Subject Code)** DIFFERENTIAL EQUATIONS AND VECTOR CALCULUS (B18MA02)	**No. of Hours L:3 T:1 P:0**	**Credits: 4**
After the completion of this course, the students should be able to				
1	Apply the fundamental concepts of ordinary differential equations to real time problems.			
2	Find the complete solution of a non homogeneous differential equations and applying its conceptsin solving physical problems of Engineering.			
3	Evaluate the multiple integrals in various coordinate systems.			
4	Apply the concepts of gradient, divergence and curl to formulate Engineering problems.			
5	Analyze line, surface and volume integrals using fundamental theorems.			
Course Outcome	**Year / semester I/II Sem**	**Subject Name (Subject Code)** BASIC ELECTRICAL AND ELECTRONICS ENGINEERING (B18EE02)	**No. of Hours L:3 T:0 P:0**	**Credits: 3**
After the completion of this course, the students should be able to				
1	Learn Basic circuit concepts such as electrical parameters, quantities , laws and network reduction techniques and apply the network theorems with DC excitation in the systems			
2	Analyze the steady state operation of single phase and three phase AC circuits and study the relationship between voltage and current for delta and star connections			
3	Explore the construction, working , control and testing of various DC and AC Machines			
4	Gain knowledge on basic electronic devices such as P-N junction Diode, rectifiers and filter with their V-I characteristics.			
5	Acquire extended knowledge on next generation of electronic devices such transistors, zener diode and SCR devices.			

Course Outcome	Year / semester I/II Sem	Subject Name (Subject Code) ENGINEERING CHEMISTRY (B18CH01)	No. of Hours L:3 T:1 P:0	Credits: 4
After the completion of this course, the students should be able to				
1	Recall previous knowledge regarding atomic and molecular structure.			
2	Design polymeric engineering materials. Recall basic organic reactions			
3	Construct batteries and classify different electronics and electrical like cells , electrodes, e.t.c…help them to construct different electrical/ electronic parts.			
4	Examine which type of impurities are present in water, specification of drinking water and explain the corrosion behavior/ activity of metals.			
5	Apply phase rule and adsorption to construct the materials by analyzing their compositions.			
Course Outcome	Year / semester I/II Sem	Subject Name (Subject Code) ENGLISH LANGUAGE AND COMMUNICATION SKILLS LAB(B18EN02)	No. of Hours L:0 T:0 P:2	Credits: 1
After the completion of this course, the students should be able to				
1	Neutralization of the influence of the sounds of their mother tongue			
2	Better understanding of nuances of English language through audio- visual experience and group activities			
3	Speaking with clarity and confidence which in turn enhances their employability skills			
4	Using language appropriately for public speaking			
Course Outcome	Year / semester I/II Sem	Subject Name (Subject Code) BASIC ELECTRICAL AND ELECTRONICS ENGINEERING LAB (B18EE03)	No. of Hours L:0 T:0 P:3	Credits:1.5
After the completion of this course, the students should be able to				
1	Learn to simplify complex electric and electronic circuits by applying the KVL and KCL laws.			
2	Identify the optimal loading on the system.			
3	Analyze the performance of DC machines			
4	Identify and analyze the performance and operation of semi conducting devices.			
Course Outcome	Year / semester I/II Sem	Subject Name (Subject Code) ENGINEERING WORKSHOP & ITWORKSHOP (B18ME02)	No. of Hours L:0 T:0 P:3	Credits:1 .5
After the completion of this course, the students should be able to				
1	Know the fundamental knowledge of various trades and their usage in real time Applications.			
2	Gain knowledge of Foundry, Welding, Black smithy, Fitting, Machine shop and house wiring.			
3	Understand the basis for analyzing power tools in construction and wood working, electrical engineering and mechanical engineering.			
4	Use basic concepts of computer hardware for assembly and disassembly.			
Course Outcome	Year / semester II/I Sem	Subject Name (Subject Code) **MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE(B18CS03)**	No. of Hours L:4 T:0 P:0	Credits: 4
After the completion of this course, the students should be able to				
1	Evaluate the notions of propositions, predicate formulae, Rules of inference.			
2	Illustrate and describe various types of Relations and Functions.			
3	Apply knowledge of Mathematics, Combinations & Permutations, Binomial Multinomial theorems, Pigeon hole principles.			
4	Develop to solve the recurrence relations by using various methods.			
5	Perceive the basic concepts of graph theory and apply for real time examples.			

Course Outcome	Year / semester II/I Sem	Subject Name (Subject Code) DIGITAL LOGIC DESIGN & MICRO PROCESSORS(B18EC49)	No. of Hours L:3 T:0 P:0	Credits: 3
After the completion of this course, the students should be able to				
1	Understand the basic concepts of different Number systems and basic theorems using inBoolean algebra.			
2	Design the logic circuits using basic logic gates by reducing the Boolean expressions withthe help of Karnaugh Map.			
3	Analyze various types of combinational and sequential circuits.			
4	Understand the internal organization of popular 8086microprocessors.			
5	Learn the design of microprocessors – based systems			
Course Outcome	Year / semester II/I Sem	Subject Name (Subject Code) DATABASE MANAGEMENT SYSYEMS(B18CS04)	No. of Hours L:4 T:0 P:0	Credits: 4
After the completion of this course, the students should be able to				
1	Perceive the fundamental concepts of database management.			
2	Analyze database models & Entity Relationship models and to draw the E-R diagram forthe given case study.			
3	Apply relational Database Theory, and be able to write relational algebra expressions forqueries.			
4	Apply Normalization Process to construct the database and explain Basic Issues ofTransaction processing.			
5	Compare the basic Database storage structures and access techniques: File Organizationindexing methods including B- Tree and Hashing.			
Course Outcome	Year / semester II/I Sem	Subject Name (Subject Code) DATA STRUCTURES THROUGH C++(B18CS05)	No. of Hours L:4 T:0 P:0	Credits: 4
After the completion of this course, the students should be able to				
1	To find the difference between structured programming and object oriented programming Language and understanding the features of C++ supporting object oriented programming.			
2	To explain and apply the major object oriented concepts to implement object orientedPrograms in C++.			
3	To build the basic knowledge to handle operations like insertions, deletions, searching, andTraversing mechanisms in linear data structures.			
4	Examine with advanced data structure such as hash tables and priority queue datastructures.			
5	Ability to have knowledge on trees, balanced trees, graphs and developing C++ code fornon- linear data structures, and different sorting techniques.			
Course Outcome	Year / semester II/I Sem	Subject Name (Subject Code) COMPUTER ORGANIZATION & ARCHITECTURE(B18CS06)	No. of Hours L:4 T:0 P:0	Credits: 4
After the completion of this course, the students should be able to				
1	Perceive basics Computer types, buses, registers.			
2	Understand basic design of Computer, addressing modes, Micro Program Example.			
3	Perceive control unit operations and arithmetic Operations.			
4	Understand various Peripheral devices operations.			
5	Design memory organization that uses banks for different word size operations.			
Course Outcome	Year / semester II/I Sem	Subject Name (Subject Code) DIGITAL LOGIC DESIGN & MICROPROCESSORS	No. of Hours L:0 T:0 P:3	Credits: 1.5

		LAB(B18EC50)		
After the completion of this course, the students should be able to				
1	Demonstrate various types of logic gates (AND, OR, NOT, NAND, NOR, XOR, XNOR)and flip flops.			
2	Analyze and design various types of combinational and sequential circuits.			
3	Develop microprocessor based programs for Arithmetic and Logical Operations			
4	Develop microprocessor based programs for various problems.			
Course Outcome	**Year / semester II/I Sem**	**Subject Name (Subject Code) DATABASE MANAGEMENT SYSTEMS LAB(B18CS07)**	**No. of Hours L:0 T:0 P:3**	**Credits: 1.5**
After the completion of this course, the students should be able to				
1	Design database schema for given Application.			
2	Transform ER Model to Relational Model.			
3	Apply the normalization techniques for development of application software to realisticproblems.			
4	Construct SQL queries to retrieve information from databases.			
Course Outcome	**Year/semester II/I Sem**	**Subject Name (Subject Code) DATA STRUCTURES THROUGH C++ Lab(B18CS08)**	**No. of Hours L:0 T:0 P:3**	**Credits:1 .5**
After the completion of this course, the students should be able to				
1	To be able to design and implement Object Oriented Programming concepts.			
2	Be able to select the appropriate Data Structure for given problem.			
3	To illustrate operations like searching, insertion, deletion and traversing mechanism onVarious Data Structures.			
4	To understand and apply the hashing techniques.			
Course Outcome	**Year / semester II/I Sem**	**Subject Name (Subject Code) ENVIRONMENTAL SCIENCE(B18MC02)**	**No. of Hours L:2 T:0 P:0**	**Credits: 0**
After the completion of this course, the students should be able to				
1	Recall previously learned ecosystem and find how the biodiversity changes went in theenvironment.			
2	Demonstrate outlines of types of pollutions and related to day-to-day life.			
3	Organize important seminars on natural resources.			
4	Apply models of food chains and energy flow models to solve the identified parameters.			
5	Classify the types of pollutants and distinguish the functions of sustainable developmentthat take part in the environment.			
Course Outcome	**Year / semester II/II Sem**	**Subject Name (Subject Code) STATISTICAL METHODS FOR ENGINEERS(B18MA04)**	**No. of Hours L:3 T:0 P:0**	**Credits: 3**
After the completion of this course, the students should be able to				
1	Use probability theory and deals with modeling uncertainty in order to evaluatethe probability of real time events.			
2	Develop discrete and continuous probability distributions to generate data from Binomial, Poisson and Normal Distributions.			

3	Perform correlation and regression analysis, in order to estimate the nature andthe strength of the linear relationship between two variables.			
4	Construct confidence interval estimates for population parameters to test the hypothesis.			
5	Formulate concrete problems using Queuing theoretical approaches and gainstrong knowledge and principles of Queuing Theory.			
Course Outcome	**Year / semester II/II Sem**	**Subject Name (Subject Code) DESIGN AND ANALYSIS OF ALGORITHMS (B18CS09)**	**No. of Hours L:3 T:1 P:0**	**Credits:4**
After the completion of this course, the students should be able to				
1	Expose student's to few known methods of solution processes, build new solution algorithms, analyze the asymptotic performance of algorithms and to write rigorous correctness proofs for algorithms.			
2	Identify appropriate data structures and algorithm design methods for specified classes of applications.			
3	Perceive how the choice of data structures and algorithm design methods would impact theperformance of programs and how to compare them.			
4	Design methods such as the greedy method, divide and conquer, dynamic programming, backtracking and branch and bound			
5	Perceive methods to deal with logarithmic type, polynomial type and non-polynomial type of classes of problems and Synthesis of efficient algorithms in common engineering designsituations would be discussed.			
Course Outcome	**Year / semester II/II Sem**	**Subject Name (Subject Code) FORMAL LANGUAGES AND AUTOMATA THEORY(B18CS10)**	**No. of Hours L:3 T:0 P:0**	**Credits: 3**
After the completion of this course, the students should be able to				
1	Explain basic concepts in formal language theory, grammars, automata theory(DFA&NFA), computability theory, and complexity theory.			
2	Know the production rules of regular expressions and grammars, includingcontext: free and context: sensitive grammars.			
3	Construct a pushdown automata and context free, regular, normal formgrammars to design computer languages			
4	Evaluate solution for various problems using a theoretical computer (Turingmachine) for a computer language.			
5	Explain the relationship among language classes and grammars with the help ofChomsky Hierarchy, and Distinguish between decidability and undecidability.			
Course Outcome	**Year / semester II/II Sem**	**Subject Name (Subject Code) OPERATING SYSTEMS (B18CS11)**	**No. of Hours L:4 T:0 P:0**	**Credits:4**
After the completion of this course, the students should be able to				
1	Compare various Operating Systems architectures, IO structures, Network Structure			
2	Analyze the virtual memory, paging and memory allocation techniques for variousapplications.			
3	Apply Deadlock prevention and Deadlock Detection algorithms and perceive the workingof an operating system as a File manager, I/O manager, Process manager.			
4	Understand the overview of Disk Storage Structure.			
5	Analyze assess access controls to protect files.			
Course Outcome	**Year / semester II/II Sem**	**Subject Name (Subject Code) MANAGERIAL ECONOMICS & FINANCIAL**	**No. of Hours L:3 T:0 P:0**	**Credits:3**

		ACCOUNTANCY(B18MB01)		
After the completion of this course, the students should be able to				
1	Understand the nature, scope and importance of Managerial Economics.			
2	Know what demand is, analyze demand and how elasticity of demand is used for pricing decisions and to evaluate methods for forecasting demand.			
3	Know how production function is carried out to achieve least cost combination of Inputsand how to analyze cost.			
4	Understand the characteristics of different kinds of markets and outline different form ofbusiness organization and analyze how capital budgeting techniques are used for investment decisions.			
5	Know how to prepare final accounts and how to interpret them, analyze and interpretfinancial statements using ratio analysis.			
Course Outcome	**Year / semester II/II Sem**	**Subject Name (Subject Code) OPERATING SYSTEMS LAB (B18CS12)**	**No. of Hours L:0 T:0 P:3**	**Credits:1.5**
After the completion of this course, the students should be able to				
1	Apply CPU scheduling algorithms, Page replacement algorithms.			
2	Explain Bankers Algorithm for Dead Lock Avoidance & Dead Lock Prevention			
3	Describe the concepts of paging and segmentation.			
4	Make use of Linux commands.			
Course Outcome	**Year / semester II/II Sem**	**Subject Name (Subject Code) WEB TECHNOLOGIES LAB(B18CS13)**	**No. of Hours L:0 T:0 P:3**	**Credits:1.5**
After the completion of this course, the students should be able to				
1	Develop applications for a range of problems using object oriented programmingtechniques.			
2	Design GUI based applications and Applets for web applications.			
3	How to connect a java program with the mysql database.			
4	Develop web pages using advanced server side programming through Servlets and JSP.			
Course Outcome	**Year / semester II/II Sem**	**Subject Name (Subject Code) GENDER SENSITIZATION (B18MC07)**	**No. of Hours L:2 T:0 P:0**	**Credits: 0**
After the completion of this course, the students should be able to				
1	Define the need and importance of women empowerment.			
2	Extend the levels of understanding and classification of gender disparities.			
3	Identify the need of equal distribution of work in the entire sector irrespective ofgender.			
4	Construct the emergency needs of saving girl child.			
5	Improves thinking levels to find solution to the missing women and bring realizationin the society.			
Course Outcome	**Year / semester III/I Sem**	**Subject Name (Subject Code) DATA COMMUNICATIONS AND COMPUTER NETWORKS (B18CS14)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Illustrate basic computer network technology.			
2	Identify the different types of network topologies and protocols.			

3	Categorize the hardware and software commonly used in data communications and networking.			
4	Interpret Design and Evaluate subnet masks and addresses to fulfill networking requirements			
5	Analyze the features and Operations of TCP/UDP, FTP, HTTP, SMTP,SNMP etc.			
Course Outcome	**Year / semester III/I Sem**	**Subject Name (Subject Code) COMPILER DESIGN (B18CS15)**	**No. of Hours L:3 T:1 P:0**	**Credits:4**
After the completion of this course, the students should be able to				
1	Apply the knowledge of modern phases of compiler and its features.			
2	Identify the similarities and differences among varies parsing techniques.			
3	Explain semantic analysis in the context of the compilation process.			
4	Design a symbol table format for the language defined by a grammar			
5	Analyze the code generation algorithm.			
Course Outcome	**Year / semester III/I Sem**	**Subject Name (Subject Code) SOFTWARE ENGINEERING (B18CS16)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Define Software Engineering and list core principles of software engineering and understand various process models			
2	Develop an understanding of software requirements and be able to prepare SRS document.			
3	Understand software design engineering process using structural and object oriented approaches and be able to model.			
4	Differentiate the techniques of verification and validation in the process of software development, Apply the testing strategies on different level of implementation (unit, integration,…)			
5	Understand and able to compute quality measures and develop a software quality assurance plan for a software development.			
Course Outcome	**Year / semester III/I Sem**	**Subject Name (Subject Code) MACHINE LEARNING (B18CS17)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Explain the theory underlying machine learning.			
2	Learn beyond binary classification.			
3	Recognize and implement various genetic algorithms.			
4	Construct algorithms to learn tree, to learn linear, non-linear models and Probabilistic models			
5	Able to analyze the data using R Programming.			
Course Outcome	**Year / semester III/I Sem**	**Subject Name (Subject Code) PRINCIPLES OF PROGRAMMING LANGUAGES (PROFESSIONAL ELECTIVE-I) (B18CS18)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Analyze Syntax related concepts including context free grammars, Attribute Grammar parse trees.			
2	Perceive the semantic issues associated with function implementations.			

3	Perceive the concepts of Abstraction and Encapsulation constructs of classes, interfaces, packages of various Language Examples.			
4	Perceive the implementation of object oriented languages.			
5	Compare the Functional Programming Languages and Logic Programming Languages.			
Course Outcome	**Year / semester III/I Sem**	**Subject Name (Subject Code) COMPUTER GRAPHICS (PROFESSIONAL ELECTIVE-I) (B18CS19)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Get overview on applications areas of Computer Graphics, Graphic devices and Monitors.			
2	Learn about basic tools for constructing pictures with straight lines, methods for performing geometric transformations i.e 2-Dimensional, curves, filled area, celNo. of Hours L:array patterns, and text.			
3	Learn about various surface functions such as quadrics, polygon surfaces, super quadrics, splines or blobby objects and 3-Dimensions transformations in computer graphics.			
4	Describe the importance of viewing. Learn major considerations in the generation of realistic graphic displays, detecting visible surfaces in a 3-Dimension scene and designing animation sequences.			
5	Discuss the applications of computer Graphics. Analyze the fundamentals of animations			
Course Outcome	**Year / semester III/I Sem**	**Subject Name (Subject Code) MOBILE APPLICATION DEVELOPMENT (PROFESSIONAL ELECTIVE-I) (B18CS20)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Student understands the working of Android OS Practically.			
2	Ability to evaluate and select appropriate solutions to the mobile computing platform.			
3	Ability to develop the user interface.			
4	Ability to work with SQLITE DB.			
5	Student will be able to develop, deploy and maintain the Android Applications.			
Course Outcome	**Year / semester III/I Sem**	**Subject Name (Subject Code) INTELLECTUAL PROPERTY RIGHTS (OPEN ELECTIVE-I) (B18MB06)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Understand the legal rights related to design, trade and unfair competition.			
2	Ability to apply and assess principles in intellectual property.			
3	Discuss the real time areas related to semiconductor chip protection act.			
4	Develop different law of patents.			
5	Introduce trade secret and apply state law and trade secret law.			
Course Outcome	**Year / semester III/I Sem**	**Subject Name (Subject Code) DISASTER MANAGEMENT (OPEN ELECTIVE-I) (B18CE53)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Perceive the various types of disaster.			
2	Interpret the various types of Hazards and Vulnerability.			
3	Perceive different approaches of disaster risk reduction.			
4	Describe the disaster management and safety plan.			

5	Discuss the various disaster risks in India.			
Course Outcome	**Year / semester III/I Sem**	**Subject Name (Subject Code) MANAGEMENT SCIENCE (OPEN ELECTIVE –I) (B18MB02)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Outline the fundamentals of management and contributions to management.			
2	Define the social Responsibilities of an organization towards stakeholders and build the suitable organization structure and to identify factors influencing plant location and layout decisions.			
3	Know importance of materials management, evaluate quality of products using SQC techniques and Identify the basic concepts of marketing mix and Human Resource concepts.			
4	Know how PERT and CPM different and to construct network by proper planning organizing an managing the efforts to accomplish a successful project.			
5	Appraise all contemporary management practices and analyze how these contemporary management practices one applicable in modern business and service organizations.			
Course Outcome	**Year / semester III/I Sem**	**Subject Name (Subject Code) COMPUTER NETWORKS AND COMPILER DESIGN LAB (B18CS21)**	**No. of Hours L:0 T:0 P:3**	**Credits:1.5**
After the completion of this course, the students should be able to				
1	Create any topology using network devices and build a device for sharing on network.			
2	Explain the major software and hardware technologies used on computer networks.			
3	Demonstrate a working process of lexical analysis, parsing and other compiler design aspects.			
4	Interpret the working of lex and yacc compiler for debugging of programs.			
Course Outcome	**Year / semester III/I Sem**	**Subject Name (Subject Code) MACHINE LEARNING LAB (B18CS22)**	**No. of Hours L:0 T:0 P:3**	**Credits:1.5**
After the completion of this course the students should be able to :				
1	Discuss different application on Machine Learning problems.			
2	Describe various algorithms on Machine Learning mentioning its strengths and weaknesses.			
3	Improve the performance of Machine Learning algorithms with different parameters.			
4	Understand the latest issues raised by current researchers.			
Course Outcome	**Year / semester III/I Sem**	**Subject Name (Subject Code) INDIAN CONSTITUTION (B18MC04)**	**No. of Hours L:2 T:0 P:0**	**Credits:0**
After the completion of this course, the students should be able to				
1	Demonstrate the fundamental rights and duties of a citizen			
2	Classify the administrative structure of the Indian union			
3	Identify the power of state government and make use of positions			
4	Categorize the various department and local administrations responsibilities			
5	Functions of election commission and its roles			
Course Outcome	**Year / semester III/II Sem**	**Subject Name (Subject Code) NETWORK PROGRAMMING (B18CS23)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				

1	Demonstrate advanced knowledge of OSI layers, TCP & UDP concepts, Networking.			
2	Summarize the TCP socket functions and Byte Ordering.			
3	Make use of TCP client server applications and analyze I/O Multiplexing and socket options.			
4	Define about the Elementary UDP sockets and Address conversions.			
5	Explain inter process communication consisting of pipes, FIFOs, Semaphores, Message Queues and Remote Procedure Calls			
Course Outcome	**Year / semester III/II Sem**	**Subject Name (Subject Code) SOFTWARE TESTING (B18CS24)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Design test cases suitable for a software development for different domains.			
2	Prepare test planning based on the document.			
3	Identify suitable tests to be carried out.			
4	Validate test plan and test cases designed.			
5	Use of automatic testing tools.			
Course Outcome	**Year / semester III/II Sem**	**Subject Name (Subject Code) DATA WAREHOUSING AND DATA MINING (B18CS25)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Introduce data mining concepts and develops understanding of data mining application.			
2	Develop an understanding of data warehouse, designing and using data in data warehouse using various operations.			
3	Develop an outlook of Association rule mining, association rule mining methods and their application on some sample data sets, evaluate these methods based on need.			
4	Develop an understanding of classification and prediction, classification methods and their application on some sample data sets, evaluate these methods based on need.			
5	Develop conceptual understanding of clustering, various clustering methods and their application on some sample data sets, evaluate these methods based on need.			
Course Outcome	**Year / semester III/II Sem**	**Subject Name (Subject Code) WEB SERVICES (B18CS26)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Implement Web service client and server with interoperable systems like core distributed computing, J2EE, SOA, WSDL, UDDI and EBXML			
2	Perceive and analyze the principles of SOAP.			
3	Perceive the implement Web Services life cycle, Anatomy of WSDL definition document.			
4	How to utilize the semantics of web services. Working with UDDI, programming with UDDI, UDDI data structures.			
5	Explore interoperability between different frameworks. Design web based applications that use web services			
Course Outcome	**Year / semester III/II Sem**	**Subject Name (Subject Code) ADVANCED DATABASE MANAGEMENT SYSTEMS (PROFESSIONAL ELECTIVE-II) (B18CS27)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Define Database Languages, Models along with Client Server Architecture.			
2	Explain principles of Database Recovery protocols.			

3	Construct EER model for real world problems.
4	Determine various database security issues.
5	Adapt with advanced Data models and its applications.

Course Outcome	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits:3
	III/II Sem	DESIGN PATTERNS (PROFESSIONAL ELECTIVE-II) (B18CS28)	L:3 T:0 P:0	

After the completion of this course, the students should be able to

1	Identify the appropriate design patterns to solve object oriented design problems.
2	Identify and implement appropriate solutions to recurring programming problems by consulting technical documentation and specifications, including design pattern catalogs and existing source code.
3	Understand basic elements of structural patterns and their implementation.
4	Understand basic elements of creational patterns and their implementations.
5	Understand basic elements of behavioral patterns and their implementation along with growth in the field of using design patterns.

Course Outcome	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits:3
	III/II Sem	OPEN SOURCE SOFTWARE (PROFESSIONAL ELECTIVE-II) (B18CS29)	L:3 T:0 P:0	

After the completion of this course, the students should be able to

1	Install and run open-source operating systems.
2	Gather Information about free and open source software projects from software releases and from sites on the internet.
3	Build and modify one or more free and open source software packages.
4	Ability to learn version control system and interface with version control systems used by development communities.
5	Contribute software to and interact with free and open source software development Projects.

Course Outcome	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits:3
	III/I Sem	AIR POLLUTION CONTROL (OPEN ELECTIVE – II) (B18CE52)	L:3 T:0 P:0	

After the completion of this course, the students should be able to

1	Perceive Air pollution Concepts.
2	Analyze the Effects of air pollution on the environment.
3	Identify the significance of meteorological factors in pollutant dispersion and to predict the pollutant concentration.
4	Apply plume dispersion modelling and assess the concentrations.
5	Perceive Air quality monitoring devices.

Course Outcome	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits:3
	III/II Sem	BIOMEDICAL INSTRUMENTAION (OPEN ELECTIVE – II) (B18EC23)	L:3 T:0 P:0	

After the completion of this course, the students should be able to

1	Understand the functions of bio amplifiers, characteristics of medical instruments and bio signals.
2	Discuss the various internal, external Bio electrodes and relations between electrical and mechanical activities of heart.
3	Compare various concepts of Cardiac Instrumentation and gain the knowledge about
4	Analyze the Therapeutic Equipment and their operation.

5	Acquires knowledge about neuro-muscular Instrumentation like ECG EMG and EEG.			
Course Outcome	**Year / semester III/II Sem**	**Subject Name (Subject Code) DIGITAL IMAGE PROCESSING (OPEN ELECTIVE – II) (B18EC24)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Gain the knowledge of digital image fundamentals and image transforms.			
2	Discuss the analysis of image enhancement in spatial and frequency domain.			
3	Understand the different methods to restore an image.			
4	Inspect different image segmentation techniques and understand morphological image processing.			
5	Analyze the different image compression techniques.			
Course Outcome	**Year / semester III/II Sem**	**Subject Name (Subject Code) ADVANCED ENGLISH COMMUNICATION SKILLS LAB (B18EN03)**	**No. of Hours L:0 T:0 P:3**	**Credits:1.5**
After the completion of this course, the students should be able to				
1	Developing effectively and appropriate vocabulary to be used contextually			
2	Inculcating flair for Writing and felicity in written expression.			
3	Enhancing job prospects.			
4	Acquiring effective speaking abilities			
Course Outcome	**Year / semester III/II Sem**	**Subject Name (Subject Code) NETWORK PROGRAMMING LAB (B18CS30)**	**No. of Hours L:0 T:0 P:3**	**Credits:1.5**
After the completion of this course, the students should be able to				
1	Elaborate basic UNIX commands, shell scripts and AWK scripts.			
2	Organize and manipulate files and directories.			
3	Model TCP and UDP client server applications and outline the I/O multiplexing concepts of Select and Poll functions.			
4	Design inter process communication consisting of pipes, FIFOs, Semaphores and message Queues and develop RPC applications.			
Course Outcome	**Year / semester III/II Sem**	**Subject Name (Subject Code) DATAMINING AND SE LAB (B18CS31)**	**No. of Hours L:0 T:0 P:3**	**Credits:1.5**
After the completion of this course, the students should be able to				
1	Develop a design of data warehouse and implement OLAP operations.			
2	Explore WEKA for data mining task such as association rule mining, classification and clustering using a few algorithms from the respective task.			
3	Explore text mining using WEKA and apply classification using Naive bayes technique.			
4	Will have experience and/or awareness of testing problems and will be able to develop a simple testing report.			
Course Outcome	**Year / semester III/II Sem**	**Subject Name (Subject Code) LOGICAL REASONING & QUANTITATIVE APTITUDE (B18MC05)**	**No. of Hours L:2 T:0 P:0**	**Credits:0**
After the completion of this course, the students should be able to				
1	Apply quantitative reasoning and mathematical analysis methodologies to understand and solve problems.			
2	Interpret given information correctly, determine which mathematical model best describes the data.			

3	Correctly apply mathematical language and notation to explain the reasoning underlying their conclusions			
4	Improve their mathematical skills in various general aspects to solve real world problems.			
5	Ability to draw conclusions or make decisions based on logical reasoning and mathematical ability.			
Course Outcome	**Year / semester IV/I Sem**	**Subject Name (Subject Code) NETWORK SECURITY & CRYPTOGRAPHY (B18CS32)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Identifies various types of vulnerabilities, attacks, mechanisms and security services.			
2	Compare and contrast symmetric and asymmetric encryption algorithms.			
3	Implementation of message authentication, hashing algorithms and able to understand kerberos.			
4	Explore the attacks and controls associated with IP, transport level, web and E-mailsecurity.			
5	Develop intrusion detection system, solutions for wireless networks and designing ofvarious types of firewalls.			
Course Outcome	**Year / semester IV/I Sem**	**Subject Name (Subject Code) MANAGEMENT AND ORGANISATIONAL BEHAVIOR (B18MB04)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Evolution of Management and contribution of Management thinkers.			
2	The relevance of environmental scanning, planning and to take decisions.			
3	Organizing and controlling.			
4	Individual and group Behaviour.			
5	Leadership and Motivation.			
Course Outcome	**Year / semester IV/I Sem**	**Subject Name (Subject Code) CLOUD COMPUTING (PROFESSIONAL ELECTIVE-III) (B18CS33)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Perceive the main concepts, key technologies of virtualization			
2	Describe the architecture and infrastructure of cloud computing with all services of cloudand deployment models.			
3	Analyze the issues of cloud computing like cloud security. Explain the core issues of cloudcomputing such as security and privacy			
4	Identify problems; analyze various cloud computing solutions using python. Writecomprehensive case studies by analyzing different cloud computing solutions			
5	Perceive the virtualization and cloud computing concepts. Develop scalable applicationsusing AWS.			
Course Outcome	**Year / semester IV/I Sem**	**Subject Name (Subject Code) INFORMATION SYSTEMS AND AUDITING (PROFESSIONAL ELECTIVE-III) (B18CS34)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Recognize the propensity of errors and remedies in processes involving InformationTechnology.			
2	A consummate knowledge of risks and controls in IT operations in Industry.			

3	Apply the information systems auditing methodology. Identify and manage the securitycontrols.			
4	Provide protective IT security guidelines for various types of Industries. Analyze thecurrent issues in auditing			
5	The necessary wherewithal to become an IS Auditor and/or Security specialist eventually. Evaluate asset safeguarding and data integrity, system effectiveness and system efficiency.			
Course Outcome	**Year / semester IV/I Sem**	**Subject Name (Subject Code) ARTIFICIAL INTELLIGENCE (PROFESSIONAL ELECTIVE-III) (B18CS35)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Remember various AI concepts like the AI technique, level of model, there underlyingassumptions etc.			
2	Perceive the concepts of AI search techniques. Solve various problems by apply in search methods			
3	Apply knowledge Representation techniques. Analyze different structures of representation.			
4	Evaluate AI search techniques. Analyze different Planning Techniques			
5	Create Expert systems.			
Course Outcome	**Year / semester IV/I Sem**	**Subject Name (Subject Code) SOFT COMPUTING (PROFESSIONAL ELECTIVE-IV) (B18CS36)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Learn basics of artificial neural network and soft computing techniques.			
2	Perceive various supervised learning networks and training algorithms of various Associativememory networks			
3	Perceive the algorithms for pattern association unsupervised learning networks, Specialnetworks.			
4	Apply functional mappings in fuzzy sets. Interpret the Scope of Membership functions andperceive defuzzification methods and discussions on concepts of fuzzy sets			
5	Analyze and comprehends the concepts and applications of genetic algorithms, various softcomputing techniques for problem solving			
Course Outcome	**Year / semester IV/I Sem**	**Subject Name (Subject Code) BUSINESS INTELLIGENCE AND BIG DATA(PROFESSIONAL ELECTIVE-IV) (B18CS37)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Explain the foundations, definitions and capabilities of Bigdata.			
2	List the definitions, concepts, architectures and challenges in Big data environment. Outline the definitions, concepts, and enabling technologies of big data analytics			
3	Understand concepts on Handoop Ecosystem in Big data.			
4	Analyze the Map reduce programming in Big data Analytics.			
5	Apply Security big data technologies in business intelligence using geospatial data, location-based analytics, social networking, Web 2.0, reality mining, and cloud computing.			
Course Outcome	**Year / semester IV/I Sem**	**Subject Name (Subject Code) SOFTWARE PROJECT MANAGEMENT (PROFESSIONAL ELECTIVE-IV) (B18CS38)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**

After the completion of this course, the students should be able to				
1	Gain knowledge of software economics, phases in the life cycle of software development, project organization, and project control and process instrumentation.			
2	Summarize software economics, software development life cycle, artifacts of the process, workflows, checkpoints, project organization and responsibilities, project control and process instrumentation.			
3	Choose the right software development approach. Compare various project organizations and responsibilities.			
4	Analyze the major and minor milestones, artifacts and metrics for management and technical perspective.			
5	Design software product using conventional and modern principles of software project management.			
Course Outcome	**Year / semester IV/I Sem**	**Subject Name (Subject Code) NANO TECHNOLOGY (OPEN ELECTIVE-III) (B18ME25)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Know the importance of nano scale ,types and their properties.			
2	Identify quantum mechanical phenomenon in two and three dimensional confinements.			
3	Understand the applications of carbon nano structures.			
4	Differentiate nano scale characterization techniques.			
5	Categorize nano devices and other devices.			
Course Outcome	**Year / semester IV/I Sem**	**Subject Name (Subject Code) ENTREPRENEURSHIP DEVELOPMENT (OPEN ELECTIVE-III) (B18MB03)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Define the nature and Qualities of Entrepreneur and relate to types of ownership.			
2	What are risk Reduction, market scope and Imitation strategies.			
3	Explain the legal regulations system and IPRs and summarize the source of finance fromdifferent institutions.			
4	Identify the needs of business ethics and develop the principles.			
5	Evaluate the issues of corporate governance and interpret the guidelines. Elaborate theconcept of social responsibility and improve professional ethics.			
Course Outcome	**Year / semester IV/I Sem**	**Subject Name (Subject Code) EMBEDDESYSTEMS (OPEN ELECTIVE-III) (B18EC31)**	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Explain the different embedded system design techniques and the metrics or challenges in designing them.			
2	Understand the complete architecture of 8051 and Advanced Processor.			
3	Demonstrate Software programming in Assembly language and High Level Language.			
4	Classify the different Real Time Operating System (RTOS), RTOS Vx Works, WindowsCE.			
5	Understand the Embedded Software Development Process and Tools and Perform testing onTesting on Host Machine, Simulators, Laboratory Tools			
Course Outcome	**Year / semester IV/I Sem**	**Subject Name (Subject Code) MINI PROJECT & INTERNSHIP (B18CS46)**	**No. of Hours L:0 T:0 P:0**	**Credits:2**

After the completion of this course, the students should be able to				
1	Perceive, plan and execute a mini project as an individual or in a team in development ofmini project.			
2	Prepare a technical report based on the Mini project.			
3	As a team student can organize, record and compile their work done throughout the projectin an efficient manner.			
4	Develop effective communication skills for presentation of mini project related activities.			
5	Demonstrate technical seminar based on the Mini Project work carried out.			
Course Outcome	**Year / semester IV/I Sem**	**Subject Name (Subject Code) NETWORK SECURITY & CRYPTOGRAPHY LAB (B18CS39)**	**No. of Hours L:0 T:0 P:3**	**Credits:1.5**
After the completion of this course, the students should be able to				
1	Implement the cipher techniques.			
2	Apply the mathematical foundation required for various cryptographic algorithms.			
3	Develop the various security algorithms.			
4	Use different open source tools for network security and analysis.			
Course Outcome	**Year / semester IV/I Sem**	**Subject Name (Subject Code) MAJOR PROJECT PHASE – I (B18CS47)**	**No. of Hours L:0 T:0 P:8**	**Credits:4**
After the completion of this course, the students should be able to				
1	Uses fundamental knowledge and skills in engineering and apply it effectively on a project.			
2	Apply knowledge of the ‘real world’ situations that a professional engineer can encounter.			
3	Apply critical and creative thinking in the design of software, Hardware and Networkingprojects.			
4	As a team student can organise, record and compile their work done throughout the projectin an efficient manner.			
5	Manage any disputes and conflicts within and outside their team.			
6	Demonstrate a sound technical knowledge of their selected project topic.			
7	Demonstrate the knowledge, skills and attitudes of a professional engineer.			
8	Summarize an appropriate list of literature review, analyse previous work and relate them tocurrent project.			
Course Outcome	**Year / semester IV/I Sem**	**Subject Name (Subject Code) HUMAN VALUES AND PROFESSIONAL ETHICS (B18MC09)**	**No. of Hours L:2 T:0 P:0**	**Credits:0**
After the completion of this course, the students should be able to				
1	Perceive the importance of ethics and values in life and society.			
2	Develop moral responsibility and mould them as best professionals.			
3	Create ethical vision and achieve harmony in life.			
4	Provide a critical perspective on the socialization of men and women.			
5	Perceive the important issues related to gender in contemporary India.			

Course Outcome	Year / semester IV/II Sem	Subject Name (Subject Code) INTERNET OF THINGS (IoT) (PROFESSIONAL ELECTIVE-V) (B18CS40)	No. of Hours L:3 T:0 P:0	Credits:3
After the completion of this course, the students should be able to				
1	Interpret the vision of IoT from global context.			
2	Perceive building blocks of Internet of Things and its characteristics.			
3	Learn the basic concepts of Python. Implement the python programming using Raspberry.			
4	Perceive the application areas of IoT. Realize the revolution of Internet in Mobile Devices, Cloud & Sensor Networks			
5	Determine the Market perspective of IoT. Develop Python web applications and cloud servers for IoT.			
Course Outcome	Year / semester IV/II Sem	Subject Name (Subject Code) ADVANCED OPERATING SYSTEMS (PROFESSIONAL ELECTIVE-V) (B18CS41)	No. of Hours L:3 T:0 P:0	Credits:3
After the completion of this course, the students should be able to				
1	Discuss the various synchronization, scheduling and memory management issues demonstrate the Mutual exclusion.			
2	Deadlock detection and agreement protocols of Distributed operating system			
3	Discuss the various resource management techniques for distributed systems			
4	Identify the different features of real time and mobile operating systems			
5	Install and use available open source kernel. Modify existing open source kernels in terms of functionality or features used			
Course Outcome	Year / semester IV/II Sem	Subject Name (Subject Code) PYTHON PROGRAMMING (PROFESSIONAL ELECTIVE-V) (B18CS42)	No. of Hours L:3 T:0 P:0	Credits:3
After the completion of this course, the students should be able to				
1	Read, write, execute by hand simple Python programs.			
2	Structure simple Python programs and decomposing program into functions.			
3	Represent compound data using Python lists, tuples, dictionaries,			
4	Read and write data from/to files in Python Programs.			
5	To build software for real needs.			
Course Outcome	Year / semester IV/II Sem	Subject Name (Subject Code) CYBER SECURITY& HACKING (PROFESSIONAL ELECTIVE-VI) (B18CS43)	No. of Hours L:3 T:0 P:0	Credits:3
After the completion of this course, the students should be able to				
1	Outline key terms and concepts in cyber law, intellectual property and cybercrimes.			
2	Explore the vulnerabilities, threats and cybercrimes posed by criminals.			
3	Identify various security challenges phased by mobile devices.			
4	Identify various types of tools and methods used in cybercrime, develops the secure countermethods to maintain security protection.			
5	Analyze the cyber security risk management policies in order to adequately protect anorganization's critical information and assets.			

Course Outcome	Year / semester IV/II Sem	Subject Name (Subject Code) SERVICE ORIENTED ARCHITECTURE (PROFESSIONAL ELECTIVE-VI) (B18CS44)	No. of Hours L:3 T:0 P:0	Credits:3
After the completion of this course, the students should be able to				
1	Design various service layers			
2	Model service candidate derived from existing business documentation.			
3	Design the composition of SOA.			
4	Design application services for technology abstraction.			
5	Principles of Service-Orientation			
Course Outcome	Year / semester IV/II Sem	Subject Name (Subject Code) INFORMATION RETRIEVAL SYSTEMS (PROFESSIONAL ELECTIVE-VI) (B18CS45)	No. of Hours L:3 T:0 P:0	Credits:3
After the completion of this course, the students should be able to				
1	Define Vector space model, understand various similarity coefficient and measures.			
2	Develop an Understanding on Relevance feedback, , Clustering, Regression Analysis,Thesauri.			
3	Apply various Retrieval Utilities for Information Retrieval.			
4	Develop an Understanding about Signature files, Duplicate document detection.			
5	Apply IR principles to locate relevant information large collection of data.			
Course Outcome	Year / semester IV/II Sem	Subject Name (Subject Code) TECHNICAL SEMINAR (B18CS48)	No. of Hours L:0 T:0 P:2	Credits:1
After the completion of this course, the students should be able to				
1	Identifies, understand and discuss current, real -world issues.			
2	Explain the role of self-efficacy, personal goals, and motivation in improving academic life			
3	Describe the behaviours and characteristics of an effective learner. Gain knowledge of fast and rapidly changing by self learning			
4	Practice finding relevant course material on the Internet and incorporate them in their courses. Develop articles and presentation skills			
5	Develop the interpersonal skills, soft skills and creativity. Present features of the developedproject to the targeted group through written and oral communication.			
Course Outcome	Year / semester IV/II Sem	Subject Name (Subject Code) MAJOR PROJECT PHASE –II (B18CS49)	No. of Hours L:0 T:0 P:16	Credits:8
After the completion of this course, the students should be able to				
1	Uses fundamental knowledge and skills in engineering and apply it effectively on a project.			
2	Apply knowledge of the ‘real world’ situations that a professional engineer can encounter.			
3	Apply critical and creative thinking in the design of software, Hardware and Networking projects.			

4	As a team student can organize, record and compile their work done throughout the projectin an efficient manner.
5	Manage any disputes and conflicts within and outside their team.
6	Demonstrate a sound technical knowledge of their selected project topic.
7	Demonstrate the knowledge, skills and attitudes of a professional engineer.
8	Summarize an appropriate list of literature review, analyze previous work and relate them tocurrent project.