

SL NO	SUBJECT	CO#	Students will be able to :	BTL
COURSE OUTCOMES				
1	Digital Logic Design	CO1	Understand the digital logic design and various combinational circuits. Have a detailed Understand of number systems and its application. Acquire the knowledge on the boolean alzebric operations.	2
		CO2	Identify basic requirements for a design application and propose a cost effective solution	2
		CO3	Understand various combinational circuits. Identify and prevent various hazards problems in a digital design.	2,3
		CO4	Understand and acquire the idea on design of various counters and registers. Understand the implementation of various algorithmic state machines.	2
		CO5	Simulate and implement combinational and sequential circuits using VHDL systems	2
		CO6	Classify different semiconductor memories.	3
COURSE OUTCOMES				
2	Data Structure	CO1	Explain various linear data structures like stacks, queues, linked lists using static and dynamic allocation and use them in solving problems.	2
		CO2	Understand the recursive and non-recursive procedures for solving problems like searching mechanism (linear search, binary search, hashing).	2,3
		CO3	Acquire the knowledge of the nonlinear data structures like binary tree, binary search tree and threaded binary trees and use them in designing applications like sorting, expression trees etc.	2
		CO4	Apply the various sorting algorithms including bubble sort, insertion sort, selection sort, heap sort and quick sort.	3
		CO5	Understand algorithms for graph traversals and shortest path problems.	2
		CO6	Choose appropriate abstract data types and algorithms to solve particular problems.	3
COURSE OUTCOMES				
3	Mathematics – III	CO1	Apply & solve Analytic Function, Cauchy-Riemann equations, line integral in complex plane, Cauchy Integral theorem, Taylor's series, Maclaurin's series, Laurent's series.	3
		CO2	Solve and explain Residue Integration method, Evaluation of Real Integrals, Error & Error Propagation, Lagranges Interpolation, Newton's Divided Difference Interpolation, Newton's Forward and backward Interpolation, Spline's Interpolation.	3, 2
		CO3	Explain Trapezoidal Rule, Simpson's 1/3rd Rule, Simpson's 3/8th Rule, Gauss Integral Formula, Euler's Method for ODE, Runge-Kutta 2 nd order and 4 th order Method, Multi-Step method.	2
		CO4	Apply & solve Probability & Random Variables, Probability Distribution Function, Probability Density Function, Binomial Distribution, Poisson's Distribution, Uniform Distribution, Normal Distribution.	3
		CO5	Apply & solve distribution of several random variable, scope of statistics & random sampling, sampling distribution, correlation analysis, regression analysis.	3
		CO6	Solve Fitting of straight lines, Estimation of Parameter & statistical Hypothesis.	3
COURSE OUTCOMES				
4	Organisational Behaviour	CO1	Define organisational behaviour, and explain nature of learning.	1,2
		CO2	Define personality and explain determinants of personality, personality Traits.	1,2
		CO3	Explain perception and explain perceptual process, importance of perception in OB.	1,2
		CO4	Explain types of communication , gateways and Barriers to communication, communication as a tool for improving Interpersonal Effectiveness.	2
		CO5	Explain Theories of Leadership-Trait theory, Leader Behaviour theory, Contingency Theory, Leadership and Followership, How to be an effective leader.	2
		CO6	Explain organizational culture and organizational effectiveness.	2
COURSE OUTCOMES				
5	Object Oriented Programming Using Java	CO1	Explain the basic concepts and features of OOPS, use of compiler and intepreter in Java programming. Able to acquire the knowledge on JDK, JRE, JVM, And program execution.	2
		CO2	Understand the use of classes, objects, members of a class and relationships among them in different scenario. Able to explain the inheritance and string manipulation for various scenario.	2
		CO3	Understand and demonstrate the use of data abstraction, polymorphism, use of exception handling and multi threading.	2,3
		CO4	Understand the use of IO stream in java application. Acquire the idea of GUI design using various components of Applet and AWT.	2
		CO5	Make use of MVC architecture to develop various advanced GUI application using the module like SWING and JavaFX.	3
		CO6	Understand the impact of exception handling to avoid abnormal termination of program using checked and unchecked exceptions.	2
COURSE OUTCOMES				
6	Digital Logic Design Lab.	CO1	Learn the basics of gates.	2
		CO2	Construct basic combinational circuits and verify their functionalities	4
		CO3	Apply the design procedures to design basic sequential circuits	3
		CO4	Learn about counters	3
		CO5	Learn about Shift registers	2
		CO6	Understand the basic digital circuits and to verify their operation	2
COURSE OUTCOMES				
7	Data Structure Lab.	CO1	Transform an information model into a relational database schema and to use a data definition language and/or utilities to implement the schema using a DBMS.	3
		CO2	Use an SQL interface of a multi-user relational DBMS package to create, secure, populate, maintain, and query a database.	3
		CO3	Formulate query, using SQL, solutions to a broad range of query and data update problems.	3
		CO4	Use a desktop database package to create, populate, maintain, and query a database.	3
		CO5	Demonstrate a rudimentary understanding of programmatic interfaces to a database and be able to use the basic functions of one such interface.	3
		CO6	Analyze an information storage problem and derive an information model expressed in the form	3
COURSE OUTCOMES				
8	Oop Using Java Lab.	CO1	Understand the programming language concepts	2
		CO2	Write, Debug and document well-structured java applications	3
		CO3	Implement Java classes from specification, create and use objects from predefined class libraries	3
		CO4	Understand the behaviour of primitive data types , control statements , object reference and arrays	2
		CO5	Implement Modular , multithreading and event driven programming	3
		CO6	Implement interface, inheritance polymorphism,exception handling, file I/O and multithreading	3
COURSE OUTCOMES - Academic Year 2019-20 4th Semester				
COURSE OUTCOMES				
1	Discrete Mathematics	CO1	Understand the logic behind all kinds of mathematical reasoning.	2
		CO2	Understand the use predicate to predict the values of reasoning and quantifiers to quantify the reasoning.	2
		CO3	Understand the recurrence relations using characteristics method and generating function method.	2
		CO4	Explain the shortest path in a network.	2
		CO5	Understand different kind of traversal in a tree.	2
		CO6	Explain the data systematically using boolean algebra.	2
COURSE OUTCOMES				
2	Design and Analysis of Algorithm	CO1	Understand the worst-case running times of algorithm using asymptotic notation and can solve recurrences using substitution, iteration and master method.	2,3
		CO2	Understand the divide-and-conquer algorithms. Able to explain the sorting and searching techniques, such as binary search quick sort, merge sort and heap sort.	2
		CO3	Understand the algorithm for dynamic programming to solve the problems like Matrix-chain multiplication, LCS, Greedy approach to solve problems such as Knapsack problem, Huffman coding and complexity of these algorithms and analyze the time complexity of these algorithms.	2,3
		CO4	Apply the major graph algorithms to find MST, DFS, BFS and shortest path from one vertex to another.	3
		CO5	Understand Backtracking, Branch and Bound problems like TSP and Eight queen. Able to understand, implement and analyze string matching concepts like Rabin Karp Algorithm for various string matching problem.	3
		CO6	Outline the concepts of NP completeness, NP hard and approximation algorithm such as Vortex-Cover problem & Traveling salesman problem.	2
COURSE OUTCOMES				
3	Computer Organization and Architecture	CO1	Identification of different components of a PC and understand assembling & disassembling of a PC.	3
		CO2	Identify and solve various issues of the peripheral devises.	3
		CO3	Analyze the power supply system of the computer through the SMPS trainer kit	4
		CO4	Understand and apply the assembly language programming for various operation.	3
		CO5	Prepare a model of HA, FA, MUX and DMUX using VHDL.	3
		CO6	Implement the Booth's multiplication algorithm and IEEE number conervation using C++	4
COURSE OUTCOMES				
4	Data Communication	CO1	Describe the basic concepts of data communication, networks, Internet, OSI and TCP/IP models	2
		CO2	Illustrate the Digital-to-Digital, Analog-to-Analog and Digital-to-Analog conversion techniques	2
		CO3	Explain Analog-to-Analog conversion, different types of multiplexing techniques and transmission	2
		CO4	Understand the different functionalities of data link layer and discuss error detection and correction codes	2
		CO5	Discuss the different media access control protocols and IEEE standards for wired and wireless LANs	2

4	Green Technologies	CO4	Understand the concept of Biomass energy resources and their classification.	2
		CO5	Compare Solar, Wind and bio energy systems, their prospects, Advantages and limitations	2
		CO6	Explain green guidelines such as GRIHA and LEED.	2
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			COURSE OUTCOMES	
2	Computer Network And Data Communication	CO1	Describe the basic concepts of data communication, networks, Internet, OSI and TCP/IP models	2
		CO2	Illustrate the Digital-to-Digital, Analog-to-Analog and Digital-to-Analog conversion techniques	2
		CO3	Explain Analog-to-Analog conversion, different types of multiplexing techniques and transmission	2
		CO4	Understand the different functionalities of data link layer and discuss error detection and correction codes	2
		CO5	Discuss the different media access control protocols and IEEE standards for wired and wireless LANs	2
		CO6	Understand the routing protocols and analyze how to assign the IP addresses for the given network	2
SL NO	SUBJECT	CO#	Students will be able to :	BTL
			COURSE OUTCOMES	
3	Compiler Design	CO1	Explain the phase of the compiler, the basic knowledge of patterns, tokens, lexeme, regular expression and design the lexical analyser as a DFA	2
		CO2	Determine the FIRST and FOLLOW technique for parsing and create parsing table using predictive parser, SLR, CLR and LALR parser and its Implementation	2
		CO3	Compare inherited and synthesized attributes and evaluate the order of SDD	2
		CO4	Identify the features of symbol table, symbol attributes and scopes	2
		CO5	Understand three address code for looping, decision making statements and array reference.	2
		CO6	Create activation records for calling sequence and optimise the code using DAG expression and Peephole expression.	2
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			COURSE OUTCOMES	
4	Wireless Sensor Networks	CO1	Understand the basics and challenges of Wireless sensor Networks	2
		CO2	Explain single node and network architectures of Wireless sensor Networks.	2
		CO3	Acquire the knowledge of MAC and link layer protocols of wireless sensor networks.	2
		CO4	Use Topology control and Routing protocols for solving the problems creatively.	2
		CO5	Understand the Sensor management ,sensor network middleware, operating systems.	2
		CO6	Understand about Localization and Synchronization	2
SL NO	SUBJECT	CO#	Students will be able to :	BTL
			COURSE OUTCOMES	
5	Internet & Web Technology	CO1	Explain the various internet protocols, addressing schemes, web server and application servers. Understand the structure of a web page.	2
		CO2	Understand the integration of CSS, HTML and Java scripting languages to develop and validate the web applications.	2
		CO3	Understand the development of dynamic web pages and deployment of the web applications in web servers. Explain various life cycle methods of server side scripting.	2
		CO4	Understand various security threats in the web application, role of firewall and proxy gateway applications.	2
		CO5	Apply the PHP as the serverside scripting and communicate to various databases.	3
		CO6	Describe and differentiate different Web Extensions and Web Services.	3
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			COURSE OUTCOMES	
6	Business Communication & Skill For Interview	CO1	Communicate effectively in work places.	3
		CO2	Make effective presentation.	3
		CO3	Develop problem solving skills.	3
		CO4	Extend engineering ethics and human values.	2
		CO5	Develop leadership skills.	3
		CO6	Face group discussion and interview..	3
SL NO	SUBJECT	CO#	Students will be able to :	BTL
			COURSE OUTCOMES	
7	Embed System	CO1	Understand the basic knowledge about fundamentals of microcontrollers	2
		CO2	Understand about programming and system control to perform a specific task	2
		CO3	Understand about devices and buses used in embedded networking	2
		CO4	Develop programming skills in embedded systems for various applications.	3
		CO5	Understand the basic concepts of circuit emulators.	2
		CO6	Understand the Life cycle of embedded design and its testing.	2
Course Outcomes - Academic Year 2019-20 7th Semester				
SL NO	SUBJECT	CO#	Students will be able to :	BTL
			COURSE OUTCOMES	
1	Internet Of Things (IOT)	CO1	Define and explain various issues and challenges of IOT and understand the components of IOT.	1,2
		CO2	Understand various protocols of IOT and architecture of various IOT layers.	2
		CO3	Understand the resource management like software agent, data synchronization and network architecture	2
		CO4	Understand various case studies of IOT application and use of IOT in Big Data and industry.	2
		CO5	Outline the difference between WoT and IoT. Understand the use of IOT in Grid and Cloud	2
		CO6	Understand the revolution of Internet in Mobile Devices, Cloud & Sensor Networks	2
SL NO	SUBJECT	CO#	Students will be able to :	BTL
			COURSE OUTCOMES	
2	Soft Computing	CO1	Explain the basic models, architectures, and terminology of Artificial Neural Networks that can be potentially used to model numerous problems.	2
		CO2	Understand the classification of Artificial Neural Network systems for classifications, Clustering, and pattern identification problems	2
		CO3	Understand the neural network learning methods and rules that can be applied for the training of different Artificial Neural Network system.	2
		CO4	Explain Fuzzy inference mechanisms and its applications for knowledge inference and to represent and reason human like decisions	2
		CO5	Describe the genetic algorithm concepts and operations for modelling optimisation problems.	2
		CO6	Explain the Neuro, Fuzzy, and Genetic Algorithm based hybrid soft computing techniques and their possible real-world applications	2
SL NO	SUBJECT	CO#	Students will be able to :	BTL
			COURSE OUTCOMES	
3	Cryptography & Network Security	CO1	Classify the symmetric encryption techniques	2
		CO2	Illustrate various Public key cryptographic techniques	2
		CO3	Understand the authentication and hash algorithms.	2
		CO4	Elaborate on authentication applications	2
		CO5	Summarize the intrusion detection and its solutions to overcome the attacks.	2
		CO6	Understand the basic concepts of system level security.	2
SL NO	SUBJECT	CO#	Students will be able to :	BTL
			COURSE OUTCOMES	
4	Software Project Management	CO1	Define various software application domains and remember different process model used in software development.	1
		CO2	Explain the needs for software specifications and able to classify different types of software requirements and their gathering techniques.	2
		CO3	Understand the conversion of requirements of the model into design model and demonstrate use of software and user interface design principles.	2
		CO4	Distinguish among SCM and SQA and can classify different testing strategies and tactics and compare them.	2
		CO5	Justify role of SDLC in Software Project Development and can evaluate importance of Software Engineering in PLC.	2
		CO6	Understand the project schedule and can construct, design and develop network diagram for different type of Projects.	2
SL NO	SUBJECT	CO#	Students will be able to :	BTL
			COURSE OUTCOMES	
5	Seminar	CO1	Represent the technical concepts and understanding of the subject	1
		CO2	Demonstrate effective communication	2
		CO3	Demonstrate the presentation ability in front of a group of experts	2
		CO4	Apply modern software and/or application tools for representing	3
		CO5	Analyse the modern and contemporary trends in the engineering field	3
		CO6	Show professional ethics on a stage	1
SL NO	SUBJECT	CO#	Students will be able to :	BTL
			COURSE OUTCOMES	
6	Minor Project	CO1	Demonstrate the capability of effectively utilising the allotted time	3
		CO2	Apply the theoretical branch knowledge to the practical engineering product/services	3
		CO3	Show contribution to the team work	1
		CO4	Show cooperation to the team work	1
		CO5	Demonstrate the capability of learning from the failures	3
		CO6	Mentor/lead the team/a group of people	3
SL NO	SUBJECT	CO#	Students will be able to :	BTL
			COURSE OUTCOMES	
7	Computational Numbers Theory	CO1	Understand the algorithms of primality testing	2
		CO2	Understand the algorithms of primality testing	2
		CO3	Apply public key cryptographic algorithms	3
		CO4	Apply algebraic coding theory algorithms	3
		CO5	Develop algorithms for discrete logarithms	5
		CO6	Use symbolic software packages to perform number-theoretic computation	5

Course Outcomes - Academic Year 2019-20 8th Semester

SL NO	SUBJECT	CO#	Students will be able to :	BTL
1	E-Commerce & ERP	COURSE OUTCOMES		
		CO1	Define and differentiate various types of E-commerce.	1
		CO2	Describe Hardware and Software Technologies for E-commerce.	2
		CO3	Explain payment systems for E-commerce.	2
		CO4	Describe the process of Selling and Marketing on web.	2
		CO5	Define and Describe E-business and its Models.	1,2
		CO6	Discuss various E-business Strategies	2
2	Expert Systems	COURSE OUTCOMES		
		CO1	Explain the methodology to transfer human knowledge into an expert system	2
		CO2	Understand the knowledge representation	2
		CO3	Explain the knowledge base	2
		CO4	Understand the implementation of a rule-based expert system	2
		CO5	Understand the Expert System tools	2
		CO6	Understand CLIPS for the implementation of an expert system	2
3	Seminar	COURSE OUTCOMES		
		CO1	Represent the technical concepts and understanding of the subject	1
		CO2	Demonstrate effective communication	2
		CO3	Demonstrate the presentation ability in front of a group of experts	2
		CO4	Apply modern software and/or application tools for representing	3
		CO5	Analyse the modern and contemporary trends in the engineering field	3
		CO6	Show professional ethics on a stage	1
4	Major Project	COURSE OUTCOMES		
		CO1	Demonstrate fair knowledge of most concepts of Engineering	3
		CO2	Apply the multi-disciplinary knowledge through the project	3
		CO3	Show independent decision making capability	1
		CO4	Apply modern tools and softwares for developing products and/or services	3
		CO5	Explain clear objectives of any assignment	3
		CO6	Mentor/lead the team/a group of people	3