

C01	Fabricate components with their own hands & make use of their skill to support the demand of hour.	3	2					1	2		3	3		2	1			
C02	Apply and Analyze knowledge of the dimensional accuracies and dimensional tolerances possible with different manufacturing processes.	3		1	1		1	1	3			2			1			
C03	Assemble different components, and develop small devices of their interest.	3				1	1			1		2		2				
C04	Compare between various basic manufacturing processes & choose the suitable one.	3	2							2		2		2				
Average		3.00	2.00	1.00	1.00	1.00	1.00	#DIV/0!	1.25	2.50	1.00	3.00	2.25	#DIV/0!	2.00	1.00	#DIV/0!	
CO	Subject Code: BS CH291 Subject Name: :Chemistry I Laboratory At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
C01	Instrumentation techniques like pH metry and Conductometry.	2	1		2		1	1		2	1		2	3				
C02	Determination of parameters like hardness, dissolve oxygen and chloride content in water.	1			1			1						2				
C03	Determination of physical properties like adsorption, surface tension viscosity and rate constant.	2	1	1			1	2	2	3	1	2	2	3				
C04	Determination of partition coefficient of organic acid in immiscible solvents.	1	2	1	2	1	1	1				2	1	2	3			
Average		1.50	1.33	1.00	1.67	1.00	1.00	1.25	2.00	2.50	1.33	1.50	2.00	2.75	#DIV/0!	#DIV/0!	#DIV/0!	
CO	Subject Code: BS M201 Subject Name: Mathematics IIA At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
C01	The students will have a thorough understanding of Probability and Statistics. They will identify a random variable as discrete and various discrete probability distributions, its mean and variance. They will be able to identify a random variable as continuous and various continuous probability distributions, its mean and variance.	3						1					3	3		3	1	
C02	Students will determine the joint probability distribution, its mean, variance and covariance.	3		2	2									2		2		
C03	Students will learn about Measures of Central tendency, Moments, Skewness and Kurtosis, Binomial, Poisson and Normal and evaluation of statistical parameters for these three distributions, Correlation and regression – Rank correlation.	3	3	3	2	3	2	1					3	3		1		
C04	The students will learn to fit a straight line, different types of curves by method of least squares. They will be able to small sample test for single mean, difference of means, tests for standard deviation.	3	3	3	2	3	2	1					2	2	2			
Average		3.00	3.00	2.67	2.00	3.00	2.00	1.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	2.67	2.50	2.00	2.00	1.00	
CO	Subject Code : ES CS201 Subject Name : Programming for Problem Solving At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
C01	Learn about basics of Computation & principles of Computer Programming.	3				1					1		3	1			1	
C02	impart the basic concepts of digital computers.	2	2		2		3					2		2				
C03	Impart the basic concepts of C programming language through C character set, expression, operators.							2		3				2				
C04	Fundamentals of C through Standard input and output Flow of Control and Program Structures.	3			3								3	2				
C05	Impart the basic knowledge on C array, function, pointers and file handling.											3		2				
C06	Impart the knowledge of real life projects on programming language.	2		3			2		2				3	3	2	2		
Average		2.50	2.00	3.00	2.50	1.00	2.50	2.00	2.00	3.00	2.00	2.00	3.00	2.00	2.00	2.00	1.00	
CO	Subject Code : HM HU201 Subject Name : English At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
C01	Acquire the concept of building vocabulary (root word, prefix, suffix) and a knowledge of synonyms, antonyms etc. in order to enhance their communication skills.		1		1								2		1		3	
C02	Acquire the importance of syntax for cultivating effective language skills.	1	2		1		1			2	3				1		1	
C03	Review of grammar – verbs and its different forms and application of the different forms of advanced grammar.									1	2				1		1	
C04	Imbibing the knowledge of effective writing skills like describing, defining, classifying and writing introduction and conclusion.	1	2	1	3		1	1		2	3	1	1		2	1	2	
C05	understand the basics of oral communication skills like pronunciation, intonation, stress etc. through listening comprehension, regular conversation practice, dialogue writing and interview sessions.				2		1			3	3	1			1	1	1	3
Average		1.00	1.67	1.00	1.75	#DIV/0!	1.00	1.00	#DIV/0!	2.00	2.60	1.00	1.00	1.00	1.20	1.00	2.00	
CO	Subject Code : BS CH201 Subject Name : Chemistry –I At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
C01	Analyze microscopic chemistry in terms of atomic and molecular orbitals and intermolecular forces.	2	3	1							2		2	3				
C02	Rationalize bulk properties and processes using thermodynamic and electrochemical considerations.	2	2	1	1			1			2		2	2				
C03	Distinguish the ranges of the electromagnetic spectrum used for exciting different molecular energy levels in various spectroscopic techniques.	3	1		2	3					1		1	3				

C04	Rationalize periodic properties such as ionization potential, electron affinity, oxidation states, electronegativity and concepts on acid bases.	2	2	1	1		2	1	1		1	1	2	3				
Average		2.25	2.00	1.00	1.33	3.00	2.00	1.00	1.00	#DIV/0!	1.50	1.00	1.75	2.75	#DIV/0!	#DIV/0!	#DIV/0!	
CO	Subject Code : ES ME291 Subject Name : Engineering Graphics & Design At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
C01	Understand the introduction to Engineering Drawing and its place in society and understand the types of line, dimensioning systems etc.	3		1			1						3	3	1		3	
C02	Have exposure to visual aspects of design and define the scale learn to draw geometric constructions and curves.	3	1		3		1		1		2	2	1	1				
C03	Apply the Engineering Graphic standards and basic concepts of projections including point, line lamina and solids.	2	2				1		1				1	1	2	1		
C04	Apply the basics of isometric projections, sectional views and computer graphics.	1	1	3		3	1	1	1	1	1	1	2	1	1			
Average		2.25	1.33	2.00	3.00	3.00	1.00	1.00	1.00	1.00	1.50	1.50	1.75	1.50	1.33	1.00	3.00	
CO	Subject Code : ES CS291 Subject Name : Programming for Problem Solving At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
C01	To formulate the algorithms for simple problems.	2	3	3	1	2	1					1	2	1	1	2		
C02	To translate given algorithms to a working and correct program.	2	3	3	2	3						1	1	2	2	3		
C03	To be able to correct syntax errors as reported by the compilers.	2	3	3	2	3	1					1		2	2	3		
C04	To be able to identify and correct logical errors encountered at run time.	2	3	2	3	2	2					1	2	2	2	2		
C05	To be able to write iterative as well as recursive programs and represent data in arrays, strings and structures and manipulate them through a program.	2	3	3	2	2	1							2	1	3		
C06	To be able to declare pointers of different types and use them in defining self referential structures and create, read and write.	2	1	1	1	1								2	1	2		
Average		2.00	2.67	2.50	1.83	2.17	1.25	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.00	1.67	1.83	1.50	2.50	#DIV/0!	
CO	Subject Code : HM HU291 Subject Name : Language Laboratory At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
C01	use of Language Laboratory helps the students to acquire, interpret and apply their listening, speaking, conversing, reading and writing skill.	2	2	1	2	1	1			3	3	2	1		1		3	
C02	The audio devices help the students to understand and master Linguistic/Paralinguistic features (Pronunciation/Phonetics/Grammar/Voice/Modulation/Stress/Intonation/Pitch & Accent).	1	1	1	1					2	3	1	1		1		1	
C03	It helps in instilling a high professionalism in students and also helps them be active individually as well as through teamwork in multidisciplinary areas.	2	2	1	1	1	2	2	2	3	2	3	2		1		1	
C04	To hone the speaking skill of students through various activities which require verbal English communication.	1	1	1	1	1	1			2	3	3	1		2	1	2	
C05	To hone their presentation skill and help them become more proficient and lose any inhibitions while speaking in public.	1	1	1	1	1				1	3	2	1	1	1	1	3	
C06	Personality development of students and grooming them for Personal Interview sessions along with helping them to critically analyse problems by using SWOT Analysis, Group Discussions, JAM Sessions etc.	1	2	1	1	1	1	1	1	3	3	2	2	2	0	1	2	
Average		1.33	1.50	1.00	1.17	1.00	1.25	1.50	1.50	2.33	2.83	2.17	1.33	1.50	1.00	1.00	2.00	
CO	Subject Code :ESC 301 Subject Name : Analog and Digital Electronics At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
C01	Realize the basic operations of different analog components.	3		3									3	1	2	1		
C02	Realize basic gate operations and laws Boolean algebra.	2	2	3	2								2	2	2	1		
C03	Understand basic structure of digital computer, stored program concept and different arithmetic and control unit operations.	3	3		3							2		2	2	1		
Average		3.00	2.50	3.00	2.50	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	2.00	2.50	1.67	2.00	1.00	#DIV/0!	
CO	Subject Code :PCC CS301 Subject Name : Data Structure & Algorithms At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
C01	To differentiate how the choices of Data Structure & Algorithm methods impact the performance of a program.	3	3	2				3	3	3	3	2		2	3			
C02	To solve problems based upon different data structure and also write programs.	3	2	2	2	2	3	1	1	1	2	1	2		3	3		
C03	Identify appropriate Data Structure and Algorithmic methods in solving programs.	3	2	3	3	3	3	3	2	3	2	3	3		3		2	
C04	Discuss the computational efficiency of the principle algorithms for Sorting, Searching and Hashing.	3	3	2					3	3	3	3	2		3		2	
C05	Compare and contrast the benefits of dynamic and static data structures implementations.	3	3	2					3	3	3	3	2		3		2	
Average		3.00	2.50	2.25	2.50	2.50	3.00	2.00	2.25	2.50	2.50	2.50	2.25	2.00	3.00	3.00	2.00	
CO	Subject Code : BSC 301 Subject Name : Mathematics III(Differential Calculus) At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	

C01	The students will be able to understand the basic of convergence of sequence and series. The use of Limit, continuity and partial derivatives in different courses. They will solve problems related to Gradient, Curl and Divergence.	3		3		2		1					2	3	2		1
C02	They will solve problems on double and triple integrals. They will know the various uses of Green, Gauss and Stokes Theorems.	3	2			2							2	2			3
C03	They will know the use of Bernoulli's equations in real life problems. They will solve problems on D operators method, method of variation of parameters, Cauchy Euler equation.	3				3							2	2			
C04	The students will carefully define the meaning of Euler and Hamiltonian graph and its properties. They will learn to use Kruskal and Prim's algorithm to find minimal spanning tree.			3	2									3	3		
Average		3.00	2.00	3.00	2.00	2.33	#DIV/0!	1.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	2.00	2.50	2.50	3.00	1.00
CO	Subject Code :PCCCS302 Subject Name : Computer Organization	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
At the End of the Semester students should be able to																	
C01	Understand basic structure of digital computer, stored program concept and different arithmetic and control unit operations.	3	3	2					2	1	1	2	3	2	3		
C02	Understand basic structure of different combinational circuits multiplexer, decoder, encoder etc.	3	2	2	3	1	3		3	3	2	3	2		3	3	2
C03	Perform different operations with sequential circuits.	3	2	3	3	2	3	3	2	3	2	3	3		3		2
C04	Understand memory and I/O operations.	3	3	3				2	2	2	3		2	2	3	3	2
Average		3.00	2.50	2.50	3.00	1.50	3.00	2.50	2.25	2.25	2.00	2.67	2.50	2.00	3.00	3.00	2.00
CO	Subject Code :HSMC 301 Subject Name :Economics for Engineers (Humanities II)	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
At the End of the Semester students should be able to																	
C01	Explicating the fundamentals of Economics, Accounting, Engineering costs & estimations to the students.	3	2			1	1						1	2	1		1
C02	Describing the concept of Break Even Point Analysis, Time Value of Money and its real time application considering inflation in multidisciplinary areas including the banking and financial sectors.	2		2		2	2	2			1	2			2	2	
C03	Demonstrating the reasons and the time of replacing the old technology with the help of Replacement Analysis.		2	2	2		1		1			2					
C04	Comparing the decision making activities under the conditions of Certainty and Uncertainty.	1				3		1		1	2	1				1	
C05	Evaluating alternative courses of action by applying different financial accounting tools and justifying the decision.			2		3						2				2	1
C06	Developing financial reports in techno economic environment and analyzing financial viability of the organisation and also designing a Project Report considering the actual information collected from Industries.		2	2	3	2	2	3	3	1	2	3	3			2	2
Average		2.00	2.00	2.00	2.50	2.20	1.50	2.00	2.00	1.00	1.67	2.00	2.00	2.00	1.50	1.75	1.33
CO	Subject Code : PCC CS393 IT Subject Name : Workshop (SciLab/MATLAB/Python/R)	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
At the End of the Semester students should be able to																	
C01	To master an understanding of scripting & the contributions of scripting languages	2	3	3	2								2	2	3	3	3
C02	Design real life problems and think creatively about solutions	3	3	3	3								1	1	2	3	3
C03	Apply a solution in a program using R/Matlab/Python.	3	3	3	3	1							2	1	2	3	2
C04	To be exposed to advanced applications of mathematics, engineering and natural sciences to program real life problems.	3	3	3	3								1	1	2	1	1
Average		2.75	3.00	3.00	2.75	1.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.50	1.25	2.25	2.50	2.25
CO	Subject Code :ESC 391 Subject Name : Analog and Digital Electronics	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
At the End of the Semester students should be able to																	
C01	Familiarity with the basic gates.	3	3		1	3				1	1		1	2	3	2	1
C02	Engineering knowledge about combinational and sequential circuits.	3	3		1	2				1	2	1	1	3	2	3	
C03	Concept building about how to design registers and counters.	3	3		2	2				2	2	2	3		2	2	
C04	Live long learning about how to design memory and processor.	3	3		3	2				3	3	3	3		3	2	
Average		3.00	3.00	#DIV/0!	1.75	2.25	#DIV/0!	#DIV/0!	#DIV/0!	1.75	2.00	2.00	2.00	2.50	2.50	2.25	1.00
CO	Subject Code :PCC CS391 Subject Name : Data Structure & Algorithms	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
At the End of the Semester students should be able to																	
C01	Implement various basic data structures and its operations.	2	2	2	3	2		2		3	1	1	2	2	3		
C02	Implement various sorting and searching algorithms.	3	2	2	3	3		2	2		1	1	2	2	3		
C03	Implement various tree operations.				3	3				2				2	3		
C04	Implement various graphs algorithms.	3				2							1	2	3		
C05	Develop simple applications using various data structures.		2	2	3	3		2	3		1	1	2	2	3		
C06	Develop algorithms using various searching and sorting techniques.	3			3	3		2	2	3	1	1	2	2	3		
Average		2.67	2.00	2.00	3.00	2.60	#DIV/0!	2.00	2.50	2.50	1.00	1.00	1.75	2.00	3.00	#DIV/0!	#DIV/0!
CO	Subject Code :PCC CS 392 Subject Name : Computer Organization Lab	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4

PROJ
CS8
81
Project
III
PEC
CS8
01B
PEC
CS8
01E

At the End of the Semester students should be able to																		
C01	Analyze the designing process of Basic IC and Combinational Circuits			2		3				2		2	2	2	3	2	3	
C02	Express arithmetic, logic and shift micro operations in symbolic form and their corresponding circuits at a register transfer LEVEL. Also apply it for the design and implementation of ALU.		2	2	2	2				2			2	2	3	2	3	2
C03	Designing Adder Circuits and their application		1	3	2	3							2	3	2	3	2	
C04	Identify ALU chip and their application.			3	2	3							3	3	3	2	3	
C05	Use of RAM chip and their implementation.			2	3	3							3	3	1	2	2	1
	Average	#DIV/0!	1.50	2.40	2.25	2.80	#DIV/0!	#DIV/0!	#DIV/0!	2.00	#DIV/0!	2.33	2.40	2.40	2.40	2.40	2.20	
CO	Subject Code :PCC CS401 Subject Name : Discrete Mathematics	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
At the End of the Semester students should be able to																		
C01	They will be able to classify its algebraic structure for a given a mathematical problem. They will learn to evaluate Boolean functions and simplify expressions using the properties of Boolean algebra.	3	2	1	2	1			1	1	1		2	2			1	
C02	The students will be able to solve many numerical problems on number theory. They will learn about many real life applications of prime numbers.	2	2	1		2	1			1			1	3	1			
C03	The students will be able to Express a logic sentence in terms of predicates, quantifiers, and logical connectives. Also to derive the solution for a given problem using deductive logic and prove the solution based on logical inference.	2	3	2	3	2	1	1	2		1	1	1	3	2	1	2	
C04	The students will be able to Develop the given problem as graph networks and solve with techniques of graph theory.	1	1	2	2		1			1			1	2	1			
	Average	2.00	2.00	1.50	2.33	1.67	1.00	1.00	1.50	1.00	1.00	1.00	1.25	2.50	1.33	1.00	1.50	
CO	Subject Code :PCC CS 402 Subject Name : Computer Architecture	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
At the End of the Semester students should be able to																		
C01	Learn pipelining concepts with a prior knowledge of stored program methods	3	3	2	2	3	2	1	1	2	1	3	2	3	2	3	1	
C02	Learn about memory hierarchy and mapping techniques	3	3	1	2	3	2	1	1	3	2	3	2	3	2	3		
C03	Study of parallel architecture and interconnection network	3	3	2	2	3	2	1	1	3	2	3	3	2	3	2		
	Average	3.00	3.00	1.67	2.00	3.00	2.00	1.00	1.00	2.67	1.67	3.00	2.33	2.67	2.33	2.67	1.00	
CO	Subject Code:PCC CS403 Subject Name : Formal Language & Automata Theory	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
At the End of the Semester students should be able to																		
C01	The student will be able to understand the basic properties of formal languages and grammars.	3	3	2	3			1					1	2	3	2		
C02	The student will be able to differentiate regular, context free and recursively enumerable languages.	3						2					2	2	1	3		
C03	The student will be able to make grammars to produce strings from a specific language.	3		3	2			1					2	3				
C04	The student will be able to acquire concepts relating to the theory of computation and computational models including decidability and intractability.	3	2	2	3	3	1	1					2	3	3	3		
	Average	3.00	2.50	2.33	2.67	3.00	1.00	1.25	#DIV/0!	#DIV/0!	#DIV/0!	1.00	2.00	2.50	2.33	2.67	#DIV/0!	
CO	Subject Code :PCC CS404 Subject Name : Design & Analysis of Algorithms	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
At the End of the Semester students should be able to																		
C01	Analyze worst case running times of algorithms based on asymptotic analysis and justify the correctness of algorithms.	2	3	1	1									1	2			
C02	Describe the Greedy paradigm and explain when an algorithm design situation calls for it. For a given problem develop Greedy Algorithm.	2	3	3	3	3							2	2	3	2		
C03	Describe Divide n-Conquer paradigm and explain when an algorithm design situation calls for it. Synthesize Divide n Conquer algorithms. Derive and solve Recurrence relations.	2	3	3	3	3							2	1	2	3		
C04	Describe the Dynamic Programming paradigm and explain when an algorithm design situation calls for it for a given problem.	2	3	3	3	3							2	1	2	2		
C05	Develop the Dynamic Programming algorithms and analyze to determine its computational complexity.	2	3	3	3	3							2	2	3	2		
	Average	2.00	3.00	2.60	2.60	3.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	2.00	1.40	2.40	2.25	#DIV/0!	
CO	Subject Code : BSC 401 Subject Name : Biology	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	
At the End of the Semester students should be able to																		
C01	Understanding the fundamental difference between Biology and Engineering	2	2	2			3	2					2	1		2	3	
C02	Develop knowledge on Taxonomy and Hierarchy of Life, using different model organism.		1		3	2			3				2	1		2	2	
C03	Applying the concept of Genetics and Molecular basis of coding and decoding genetic information and its application in Genetic Engineering.	1	2		3	3	2		2	3	2	2	3	2	2	3	3	
C04	Apply thermodynamics and enzymology principles to Biological system.	3	2		1	2			1	2			2	3		1	2	
C05	Identify and classify Microorganisms.	1	1		2	2		2		2			2	1		2		
	Average	1.75	1.60	2.00	2.25	2.25	2.50	2.00	2.00	2.25	2.00	2.00	2.20	1.60	2.00	2.00	2.50	
CO	Subject Code : MC 401 Subject Name : Environmental Sciences	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	

At the End of the Semester students should be able to																	
C01	Ability to understand the natural environment and its relationships with human activities	3					2	3					2	2	1	1	2
C02	Ability to apply the fundamental knowledge of science and engineering to assess environmental and health risk.	3	2	2	1	2	2	3					1	3	2	2	3
C03	Ability to understand environmental laws and regulations to develop guidelines and procedures for health and safety issues.	2					3	3	2		2		2	1	1		3
C04	Ability to solve scientific problem –solving related to air , water, noise and land pollution	2	3	3	2	2	1	2					2	3	2	3	1
Average		2.50	2.50	2.50	1.50	2.00	2.00	2.75	2.00	#DIV/0!	2.00	#DIV/0!	1.75	2.25	1.50	2.00	2.25
CO	Subject Code :PCC CS 492 Subject Name : Computer Architecture	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
At the End of the Semester students should be able to																	
C01	Able to design 8 bit adder, multiplier and divider.	3	3	2	2	3	2	1	1	2	1	3	2	3	2	3	
C02	Able to design 8 bit Register.	3	3	1	2	3	2	1	1	3	2	3	2	3	2	2	
C03	Able to design Memory unit and perform memory operations.	3	3	2	2	3	2	1	1	3	2	3	3	3	2	2	1
C04	Able to design 8 bit simple ALU and 8 bit simple CPU.	3	3	2	2	3	2	1	1	3	2	3	3	2	3	3	
Average		3.00	3.00	1.75	2.00	3.00	2.00	1.00	1.00	2.75	1.75	3.00	2.50	2.75	2.25	2.50	1.00
CO	Subject Code :PCC CS494 Subject Name : Design &Analysis of Algorithms	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
At the End of the Semester students should be able to																	
C01	Understand problem by applying appropriate algorithm	2	3	1	2		1		1		2	1	2	2	3	2	
C02	Analyze efficiency of various algorithms	2	2	1	1			1			2	2	2	3	3	1	
C03	Apply techniques of stack and queues solved problems	3	1	2	2	3					1		1	2	2	1	
C04	Solve a program of many ways using different techniques	2	2	1	1		2	1	1		1	1	2	3	3	3	
C05	Identify and evaluate complex problems using mathematics and engineering science	2	2	2	1		1		3	2		1	1	3	3	3	1
Average		2.20	2.00	1.25	1.40	3.00	1.33	1.00	1.67	2.00	1.50	1.00	1.60	2.60	2.80	2.00	1.00
CO	Subject Code :ESC501 Subject Name : Software Engineering	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
At the End of the Semester students should be able to																	
C01	Evaluate and analyze the SDLC and basic architecture SRS documents.	2	3	1							2		2	2	3	2	1
C02	Help to understand the software design and coding technique	2	2	1	1			1			2		2	2	2	1	
C03	Understand the software testing principles.	3	1		2	3					1		1	3	3	2	1
C04	Understand the concept project management.	2	2	1	1		2	1	1		1	1	2	3	3	3	2
C05	Identify various concepts of Advanced UML techniques.	2	2	2	1		1		3	2		1	1	3	3	3	2
Average		2.20	2.00	1.25	1.25	3.00	1.50	1.00	2.00	2.00	1.50	1.00	1.60	2.60	2.80	2.20	1.50
CO	Subject Code :PCC CSS01 Subject Name : Compiler Design	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
At the End of the Semester students should be able to																	
C01	To understand and list the different stages in the process of compilation.	2	3	3	1	2	1					1	2	2	3		
C02	To identify different methods of lexical analysis.	2	3	3	2	3						1	1	2	3	3	
C03	To design top down and bottom up parsers	2	3	3	2	3	1					1		3	2		
C04	To identify synthesized and inherited attributes	2	3	2	3	2	2					1	2	2	3	3	
C05	To develop syntax directed translation schemes	2	3	3	2	2	1							3	3		
C06	To develop algorithms to generate code for a target machine	2	1	1	1	1								3	3	2	1
Average		2.00	2.67	2.50	1.83	2.17	1.25	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.00	1.67	2.50	2.83	2.67	1.00
CO	Subject Code : MC CS501 Subject Name : Constitution of India	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
At the End of the Semester students should be able to																	
C01	Acclimatizing the students with the general concepts of Indian Constitution & Legal literacy.	1					1		2			1				3	3
C02	Understanding the concept of Fundamental Rights & Duties, Directive Principles, State and Central policies, Electoral Process, Powers and functions of Municipalities, Panchayats and Co operative Societies.			2			2	1	1		1	1		3	2		2
C03	Demonstrating the special provisions for SC, ST, Women, Children & Community of backward classes.			2			2							3			3
C04	Analysing the roles of Governor, Chief Minister, Prime Minister & President in the context of our constitution.		1				2							3		2	2
C05	Evaluating the legal and ethical importance of constitution for Engineers.	2			1		1	2	3	1		3	1		3		3
C06	Creating a solid base of Indian Constitution to take up competitive examinations.					1	2		2		1	2	2	3		3	2
Average		1.50	1.00	2.00	1.00	1.00	1.67	1.50	2.00	1.00	1.00	1.75	1.50	3.00	2.67	2.67	2.50
CO	Subject Code :PCC CS502 Subject Name : Operating System	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
At the End of the Semester students should be able to																	
C01	Create Processes and Threads	1	2	2	1	1			2	3			3	3	3		1
C02	Develop algorithms for process scheduling for a given specification of CPU utilization, Throughput, Turnaround Time, Waiting Time, Response Time.	3	3	2	2	2			3	2	2	2	3	3	3	3	

C03	For a given specification of memory organization develop the techniques for optimally allocating memory to processes by increasing memory utilization and for improving the access time. Design and implement file management system.	2	3	2	3	1			2	2		2	1	2	3	2	1
C04	For a given I/O devices and OS (specify) develop the I/O management functions in OS as part of a uniform device abstraction by performing operations for synchronization between CPU and I/O controllers.	2	3	1	2				1			1	2	2	3		
Average		2.00	2.75	1.75	2.00	1.33	#DIV/0!	#DIV/0!	2.33	2.00	2.00	1.67	2.25	2.50	3.00	2.50	1.00
CO	Subject Code :PCCCS503 Subject Name : Object Oriented Programming At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Understand basic structure of object oriented programming	3	2	2	2	2			1	2				2	3	2	2
C02	Understand basic structure of writing the program in object oriented programming language	3	2	2	2	2	2	2	2	3	2	2	3	2	3	2	
C03	Write the code using class and object concept by Java.	3	2	3			2		2	2	2	2	3	2	2		
C04	Understand utility of object oriented programming	3	3	2	3			1					3	3			1
Average		3.00	2.25	2.25	2.33	2.00	2.00	1.50	1.67	2.33	2.00	2.00	2.75	2.50	2.33	2.00	1.00
CO	Subject Code :HSMC 501 Subject Name : Introduction to Industrial Management(Humanities III) At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Defining the basic concepts of Management, Organization Structure, Culture & Important provisions of Factory Act and Labour Laws.	1		3			2	1	3	2	2	3	2	1		1	3
C02	Explaining material requirement planning, purchasing systems, Inventory control & store keeping procedure followed by Manufacturing Industry.	1	1	1	2			2	2		2	2	2			2	
C03	Apply the techniques of CPM & PERT & implementing the network diagram for a real life project containing different activities.		3	2		2	2			2			3		2		
C04	Analyse Scheduling, Critical ratio, Gantt Chart etc. in the context of Production, Planning & Control		2		2						1			2			1
C05	Evaluate the recent trends in Enterprise Resource Planning, Logistic & Supply Chain Management				2	3	2	3		2	2	2		1		2	
C06	Designing a Value Analysis Flow diagram and develop ways to reduce wastage.			2	1	2			2		3	2	1				2
Average		1.00	2.00	2.00	1.75	2.33	2.00	2.00	2.33	2.00	2.00	2.25	2.00	1.33	2.00	1.67	2.00
CO	Subject Code :PEC IT 501B Subject Name : Artificial Intelligence At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Identify the scope and limits of the artificial intelligence (AI) field	3	3	3	3									2		3	
C02	Assess the applicability, strengths, and weaknesses of the basic knowledge representation	2		2	2		2								2	3	
C03	Interpret the role of knowledge representation, problem solving, and learning	2		2	2		2							2		2	1
C04	Explain various search algorithms (uninformed, informed, and heuristic) for problem solving	2	2	2									2	3		2	
C05	Comprehend the fundamentals of Natural Language Processing		2	2	2		2						2		2	2	
Average		2.25	2.33	2.20	2.25	#DIV/0!	2.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	2.00	2.33	2.00	2.40	1.00
CO	Subject Code :ESC591 Subject Name : Software Engineering At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Understand the software engineering methodologies involved in the phases for project development.	2	2			1	1	1	1	2	2	1	1	3	3	2	
C02	Gain knowledge about open source tools used for implementing software engineering methods.	1	1	2	1	1	1	1		3	2		1	3		2	3
C03	Exercise developing product startups implementing software engineering.	3	2	2		2	1	1	1	2	2	2	1	3		2	3
C04	Prepare and analyze CPM and PERT for given activities	3	1	2	2	2		1	1	2	2	2	1		3	3	
C05	Learn simple optimization techni	2	2	3	2	3	1			2	1	2	3	3	2	3	
Average		2.20	1.60	2.25	1.67	1.80	1.00	1.00	1.00	2.20	1.80	1.75	1.40	3.00	2.67	2.40	3.00
CO	Subject Code :PCC CS592 Subject Name : Operating System At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Managing Unix/Linux Operating System using shell Script programing.	3	2	1	1	3				2			1	3			
C02	Implement and examine the Process	3	3	2	3	3				3			2		3	2	
C03	Implement and examine the Signal	2	3	2	3	3				3			2	3			
C04	Implement and examine the Semaphore	2	3	2	3	3				3			2	3	3		
C05	Implement and examine the POSIXThreads	2	3	2	3	3				3			2	3	3	2	
C06	Implement and examine the Inter processcommunication	2	3	2	3	3				3			2	3	3	2	1
Average		2.33	2.83	1.83	2.67	3.00	#DIV/0!	#DIV/0!	#DIV/0!	2.83	#DIV/0!	#DIV/0!	1.83	3.00	3.00	2.00	1.00
CO	Subject Code :PCC CS593 Subject Name : Object Oriented Programming At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Understand the methodologies involved in class, constructor, overloading, inheritance, overriding	2	2			1	1	1	1	2	2	1	1	1	3	3	
C02	Gain knowledge about wrapper class, arrays	1	1	2	1	1	1	1		3	2		1	2	2	3	

C03	Developing interfaces multiple inheritance, extending interfaces	3	2	2		2	1	1	1	2	2	2	1	1	3	2	
C04	Creating and accessing packages	3	1	2	2	2		1	1	2	2	2	1	2	3	3	
C05	Assignments on multithreaded programming	2	2	3	2	3	1			2	1	2	3	3	1	3	
C06	Learn applet programming	1	2	1	3	1		2	3	1	2		2		3	1	1
Average		2.00	1.67	2.00	2.00	1.67	1.00	1.20	1.50	2.00	1.83	1.75	1.50	1.80	2.50	2.50	1.00
CO	Subject Code :PCC CS601 Subject Name : Database Management Systems	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
	At the End of the Semester students should be able to																
C01	Understand a given query, write relational algebra expressions for that query, and optimize the developed expressions.	3	2	3		3			2	1				3	2	2	
C02	Understand a given specification of the requirement, and design the databases using E R method and normalization.	3	2	2	3	2			3			1		3	3	2	2
C03	Construct the SQL queries for Open source and Commercial DBMS MYSQL, ORACLE, and DB	2	3	3					2	3		3		3	3	3	2
C04	Understand a given query, and optimize its execution using Query optimization algorithms.	2	1	3		2								3	2		
C05	Analyze a given transaction processing system, determine the transaction atomicity, consistency, isolation, and durability.	2	2	1	1			2	3					3	2	3	2
C06	Implement the isolation property, including locking, time stamping based on concurrency control and Serializability of scheduling.	2	1	2	2									3	2		
Average		2.33	1.83	2.33	2.00	2.33	#DIV/0!	2.00	2.50	2.00	#DIV/0!	3.00	1.00	3.00	2.33	2.50	2.00
CO	Subject Code :PCC CS602 Subject Name : Computer Networks	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
	At the End of the Semester students should be able to																
C01	Describe the basic knowledge of various network protocol architectures	3	1	1	2	2				2		3	2	2	3		
C02	Identify different components required to build up the networks.	2	2	1	1	3				2		3	3	2	3	2	
C03	Choose the required functionality at each layer for given application.	2	2	2	2	3				3		3	2	2	3	2	
C04	Identify solution for each functionality for each layer.	2	2	2	2	3				3		3	3	3	3	2	2
C05	Trace the flow of information from one node to another node in the network.	2	2	1	3	3				3		3	3	3	2	2	2
C06	Design and develop client server network application.	2	2	2	3	3				3		3	2	3	3	2	3
Average		2.17	1.83	1.50	2.17	2.83	#DIV/0!	#DIV/0!	#DIV/0!	2.67	#DIV/0!	3.00	2.50	2.50	2.83	2.00	2.33
CO	Subject Code :PEC IT 601D Subject Name :Image Processing	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
	At the End of the Semester students should be able to																
C01	Understand the different aspects of Image Processing	2	2			1	1	1	1	2	2	1	1	2		3	1
C02	Explain Its component and mathematical knowledge	1	1	2	1	1	1	1	2	3	2	2	1		2	3	2
C03	Identify the technique for image enhancement ,restoration knowledge extraction.	3	2	2	2	2	1	1	1	2	2	2	1	2		2	3
C04	Analyze & Improve Image processing problems	3	1	2	2	2	1	1	1	2	2	2	1	3		2	2
C05	Implement Image processing projects	2	2	3	2	3	1			2	1	2	3		2	2	
Average		2.20	1.60	2.25	1.75	1.80	1.00	1.00	1.25	2.20	1.80	1.80	1.40	2.33	2.00	2.40	2.00
CO	Subject Code: Distributed DBMS Subject Name: PEC IT601B	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
	At the End of the Semester students should be able to																
C01	Understand theoretical and practical aspects of distributed database systems.	2		3		2	2		3		2	2	2	2	2		
C02	Study and identify various issues related to the development of distributed database system.	2	2	3				2			3		2	2	3	3	
C03	Understand the design aspects of object oriented database system and related development.	2		3				2	3	2			2	2		3	
C04	Understand Transaction Management & Compare various approaches to concurrency control in Distributed database		2				2					3	2	2	3		
C05	Understand the design aspects of object oriented database system and related development.	2	3	3	3		2			3			2		3	3	
Average		2.00	2.00	3.00	#DIV/0!	2.00	2.00	2.00	3.00	2.00	2.50	2.50	2.00	2.00	2.67	3.00	#DIV/0!
CO	Subject Code :PEC IT 602B Subject Name :Data Warehousing & Data Mining	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
	At the End of the Semester students should be able to																
C01	Understand the functionality of the various data mining and data warehousing component	3	3											2		2	
C02	Appreciate the strengths and limitations of various data mining and data warehousing models		2												3	2	
C03	Explain the analyzing techniques of various data			2	3									2	2		
C04	Describe different methodologies used in data mining and data warehousing.				3									2		3	
C05	Identifying the computing framework for Big Data	2	2												3		
Average		2.50	2.33	2.00	3.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	2.00	2.67	2.33	#DIV/0!
CO	Subject Code :OEC IT601A Subject Name :Numerical Methods	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
	At the End of the Semester students should be able to																

C01	Apply numerical methods to obtain approximate solutions to mathematical problems.	2	3	1							2		2	1	2	3	
C02	Understand and examine the accuracy of these methods	2	2	1	1			1			2		2		2	2	
C03	Demonstrate understanding of common numerical methods and how they are used to obtain approximate solutions to otherwise intractable mathematical problems.	3	1		2	3					1		1	2	2	3	1
C04	Derive numerical methods for various mathematical operations and tasks, such as interpolation, differentiation, integration, the solution of linear and nonlinear equations, and the solution of differential equations.	2	2	1	1		2	1	1		1	1	2	2	3	3	2
Average		2.25	2.00	1.00	1.33	3.00	2.00	1.00	1.00	#DIV/0!	1.50	1.00	1.75	1.67	2.25	2.75	1.50
CO	Subject Code :PROJCS601 Subject Name :Research Methodology At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Formulate the research problem.	2	3	3									3	3	3		3
C02	Analyze literature review and find research gaps to finalize research objectives.		2	3	2								2	2	2	2	
C03	Identify the need of ethics in research.		3		3							2		2	2		3
C04	Identify the need of IPR of research projects for economic growth and social benefits.	3	2		2	2							2	3			2
C05	Apply basic data analytics techniques: probability distribution, linear regression, ANOVA	2	3	2		2				2			3	2	3		3
C06	Gain experience with instrument development and data collection methods	3	2		2						3			3	2	2	2
Average		2.50	2.50	2.67	2.25	2.00	#DIV/0!	#DIV/0!	#DIV/0!	2.00	3.00	2.00	2.50	2.50	2.40	2.00	2.60
CO	Subject Code:Human Resource Development and Organizational Behaviour Subject Name: OEC IT601B At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Define and explain the basic concepts of organizational behaviour and motivation	2		3		2	2		3		2	2	2	2	2		2
C02	Explain the essential concepts of organizational conflicts, resolution of conflicts through negotiation, change management, and organizational development.	2	2	3				2			3		2	2	3	3	
C03	Familiarize the various aspects of HR, to deal effectively with people resourcing and talent management and HR functions in an organization.	2	3	3	3		2		3				2		3	3	2
C04	Understand the concepts of HRD, its role and importance in the success of organization	2		3				2	3	2			2	2		3	3
C05	Develop an understanding towards compensation management and industrial relations.		2				2					3	2	2	3		2
Average		2.00	2.33	3.00	3.00	2.00	2.00	2.00	3.00	2.50	2.50	2.50	2.00	2.00	2.75	3.00	2.25
CO	Subject Code :PCC CS691 Subject Name : Database Management Systems At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Students get practical knowledge on designing and creating relational database systems.	2	3	1	2		1		1		2	1	2	2	2	3	
C02	Understand various advanced queries execution such as relational constraints, joins, set operations, aggregate functions, trigger, views and embedded SQL.	2	2	1	1			1			2		2	2	2		
C03	Use of various software to design and build ER Diagrams, UML, Flow chart for related database systems.	3	1		2	3					1		1			2	
C04	Students will be able to design and implement database applications on their ow	2	2	1	1		2	1	1		1	1	2	3	3		
Average		2.25	2.00	1.00	1.50	3.00	1.50	1.00	1.00	#DIV/0!	1.50	1.00	1.75	2.33	2.33	2.50	#DIV/0!
CO	Subject Code :PCC CS692 Subject Name : Computer Networks At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	NIC Installation & Configuration (Windows/Linux)	3	1	1	2	3				3			1	3	2		1
C02	Understanding IP address, subnet etc.	2	2	1	1	3				2			2	3	2		
C03	Implement and examine the TCP/UDP Socket Programming.	2	2	2	2	3				2			3		3	2	
C04	Implementation of Datalink layer flow control, Error detection and Error control mechanism.	2	2	2	2	3				3			3	3	3	2	
C05	Implement and examine the Server Setup/Configuration (FTP, Telnet, NFS, DNS, Firewall)	2	2	1	3	3				3			3	3	3	2	
Average		2.20	1.80	1.40	2.00	3.00	#DIV/0!	#DIV/0!	#DIV/0!	2.60	#DIV/0!	#DIV/0!	2.40	3.00	2.60	2.00	1.00
CO	Subject Code :PEC CS701B Subject Name : Cloud Computing At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Understand the working and significance of the Cloud Computing	3											3			2	
C02	Discuss the architecture, operation, and benefits of Cloud solutions		3	3	2				2							2	
C03	Examine the different Deployment of Cloud Platforms				3			2				2	2		2		
C04	Explore the viability of different Cloud Platform					2			2	2	2		3			2	
C05	Build Cloud Computing applications using services provider's based toolkits	1	1		1	3	2	2	1	1	1	1	1			2	
Average		2.00	2.00	3.00	1.50	3.00	2.00	2.00	1.67	1.50	1.50	1.50	2.25	#DIV/0!	2.00	2.00	#DIV/0!

CO	Subject Code :PEC CS701E Subject Name : Machine learning At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Develop an appreciation for what is involved in learning from data	3	2	2			0					1	2	2	2	2	1
C02	Understand the wide variety of learning algorithms	3	2	2								1	1	2	2	3	
C03	Understand how to evaluate models generated from data	2	2	2								1		3	3	2	
C04	Apply the algorithms to real problem, optimize the models learned and report on the expected accuracy that can be achieved by applying the models	2	1	3		2						1	2	2	1	2	
C05	Learn algorithmic techniques of Machine Learning and Mathematically deep enough to introduce the required theory.	2	2	2							1			2	2	2	
C06	Illustrate and apply clustering algorithms and identify its applicability in real life problems	2	1	2						2				2	3	3	
Average		2.33	1.67	2.17	#DIV/0!	2.00	0.00	#DIV/0!	#DIV/0!	2.00	1.00	1.00	1.67	2.17	2.17	2.33	1.00
CO	Subject Code :PEC CS702B Subject Name : Soft Computing At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	The student will learn soft computing, various types of soft computing techniques, and applications of soft computing.	3	3	2	3			1				1	2	2			1
C02	The student will get introduced with the idea behind Neural Networks, architecture, functions and various algorithms involved.	3						2					2		2		
C03	The student will get introduced with the idea behind Fuzzy Logic, Various fuzzy systems and their functions.	3		3	2			1					2				3
C04	The student will get introduced with the idea behind Genetic algorithms, its applications and advances.	3	2	2	3	3	1	1					2		2		
Average		3.00	2.50	2.33	2.67	3.00	1.00	1.25	#DIV/0!	#DIV/0!	#DIV/0!	1.00	2.00	2.00	2.00	#DIV/0!	2.00
CO	Subject Code :OEC CS701B Subject Name : Multimedia Systems At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Understand the different aspects of Multimedia Technology	3	2	2	2	2			1	1			2	3	2		1
C02	Understand the components of Multimedia technology.	2	2	2	2				1	1			3	2	3	2	1
C03	Analyze and apply the Multimedia concept in visualization & animation		2	2	2								3	2	2		
C04	Analyze and apply the knowledge of Multimedia Technology for solutions to real world problem	3	2	2	3			1					3	3			
Average		2.67	2.00	2.00	2.25	2.00	#DIV/0!	1.00	1.00	1.00	#DIV/0!	#DIV/0!	2.75	2.50	2.33	2.00	1.00
CO	Subject Code :PROJ CS781 Subject Name: Project I At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Plan, analyze, design and implement a software project or gather knowledge over the field of research and design or plan about the proposed work.	3		3		2	2		3		2	2	2	2	3		2
C02	Demonstrate the ability to locate and use technical information from multiple sources.	3	3	3				2			3		3	2	3	3	
C03	Demonstrate the ability to communicate effectively in speech and writing	2	3	3	3		2			3			3		3	3	2
C04	Learn to work as a team and to focus on getting a working project done on time with each student being held accountable for their part of the project.	2		3				2	3	2			2	2		3	
C05	Learn about and go through the software development cycle with emphasis on different processes requirements, design, and implementation phases.		2				2					3	2	2	3		2
Average		2.50	2.67	3.00	3.00	2.00	2.00	2.00	3.00	2.50	2.50	2.50	2.40	2.00	3.00	3.00	2.00
CO	Subject Code :HSMC701 Subject Name : Project Management and Entrepreneurship At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Entrepreneurship and Innovation minors will be able to sell themselves and their ideas	2	2	2	1		1		3	2		1	1	3	2		2
C02	Key concepts underpinning entrepreneurship and its application in the recognition and exploitation of product/ service/ process	2	2	1	2				2	1		1	1	2	2	2	
C03	Analyze the learning and understand techniques for Project planning, scheduling and Execution Control.	2	2	2	2				2	1		1	1	2	2	2	2
C04	Understand project characteristics and various stages of a project.	3	3	2	2		1		1	2		1	1	3	2		2
C05	Understand the conceptual clarity about project organization and feasibility analysesMarket, Technical, Financial and Economic.	2	2		2		2						3	2	2	2	
C06	Understand the contract management, Project Procurement, Service level Agreements and productivity.	2	2		2									2	2		2
Average		2.17	2.17	1.75	1.83	2.00	1.33	#DIV/0!	2.00	1.50	#DIV/0!	1.00	1.40	2.33	2.00	2.00	2.00
CO	Subject Code :PEC CS702E Subject Name : Cyber Security At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4

C01	Understand the concept Cyber Security, Importance and challenges in Cyber Security	2	2			1	1	1	1	2	2		2	3	2		
C02	Cyber Crimes: Types of Hackers, Type of Cyber Attacks Worms, Trojans, Viruses, Backdoors	1	1	2	1	1	1	1	2	3	2		1	3	2		
C03	Ethical Hacking Concepts and Scopes. Types of Social Engineering, Insider Attack, Preventing Insider Threats, Targets and Defence Strategies	3	2	2	2	2	1	1	1	2	2				3	2	
C04	Cyber Forensics and Auditing	3	1	2	2	2	1	1	1	2	2		1	3	3	2	
C05	Knowledge on Cyber Laws, Certifying Authority and Controller, Offences under IT Act, and its penalty under IT Act 2000, Intellectual Property Rights in Cyberspace	2	2	3	2	3	1			2	1		3	3	3	2	3
Average		2.20	1.60	2.25	1.75	1.80	1.00	1.00	1.25	2.20	1.80	#DIV/0!	1.75	3.00	2.60	2.00	3.00
CO	Subject Code :OEC CS801C Subject Name : Mobile Computing At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Understand the working and significance of the Mobile Computing	2	2			1	1	1		1			1	2	3	1	
C02	Discuss the architecture, operation, and benefits of a Mobile solution	2	1	2	1	1	1	1		1	1	2	1		2		
C03	Examine the operation of Mobile Communication	3	2	1		1	3	2	2	2	1	1	1		2	2	
C04	Explore the relationship between different Mobile schemes	3	1	1	2	1	1	1	1	2	2	1	1	3	3	3	
C05	Identify how Mobile Communication changes over.	1	1		1	3	2	2	1	1	1	1	1		3	3	1
Average		2.20	1.40	1.33	1.33	1.40	1.60	1.40	1.33	1.40	1.25	1.25	1.00	2.50	2.60	2.25	1.00
CO	Subject Code :OEC CS802A Subject Name : E Commerce and ERP At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Understand the foundations and importance of E commerce	2	2	2	1		1		3	2		1	1	3	3		
C02	Demonstrate an understanding of retailing in E commerce by: analyzing branding and pricing strategies, using and determining the effectiveness of market research assessing the effects of disintermediation.	2	2	1	2				2	1		1	1		1	3	
C03	Analyze the impact of E commerce on business models and strategy	2	2	2	2				2	1		1	1	2	3		
C04	Understand Internet trading relationships including Business to Consumer, Business to Business, Intra organizational	3	3	2	2		1		1	2		1	1		2	2	
C05	Understand the infrastructure for E commerce.		2		2		2						3	1			
C06	Evaluate ERP and E business.		2		2		2						3	1			
Average		2.25	2.17	1.75	1.83	#DIV/0!	1.50	#DIV/0!	2.00	1.50	#DIV/0!	1.00	1.67	2.00	2.25	2.50	#DIV/0!
CO	Subject Code :PEC CS801B Subject Name : Cryptography and Network Security At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Understand Cryptography: Concepts & Techniques.	3	1	1	2	2				2		3	2	2	3		
C02	Understand Symmetric Key Algorithm Introduction.	2	2	1	1	3				2		3	3	2	3	2	
C03	Analyze Asymmetric Key Algorithm, Digital Signature Introduction.	2	2	2	2	3				3		3	2	2	3	2	
C04	Learn Internet Security Protocols User Authentication Basic.	2	2	2	2	3				3		3	3	3	3	2	
C05	Demonstrate Electronic Mail Security Basics.	2	2	2	2	3				3		3	3	3	3	2	
C06	Understand Introduction to Firewall.	2	2	1	3	3				3		3	3	3	2	2	
Average		2.17	1.83	1.50	2.00	2.83	#DIV/0!	#DIV/0!	#DIV/0!	2.67	#DIV/0!	3.00	2.67	2.50	2.83	2.00	#DIV/0!
CO	Subject Code : PEC CS801E Subject Name :Internet of Things(IoT) At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Interpret the impact and challenges posed by IoT networks leading to new architectural models.	2						2						1	2		
C02	Illustrate the smart objects and the technologies to connect them to network.		2	3	2			2						2	2	2	
C03	Compare different Application protocols for IoT.		2	2										1			
C04	Infer the role of Data Analytics and Security in IoT.	1	2	3				2						1	2	3	
C05	Identify sensor technologies for sensing real world entities and understand the role of IoT in various domains of Industry.			3										2			
Average		1.50	2.00	2.75	2.00	#DIV/0!	#DIV/0!	2.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.40	2.00	2.50	#DIV/0!
CO	Subject Code: OEC CS801B Subject Name :Cyber Law & Ethics At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Understand the importance of professional practice, Law, and Ethics in their personal lives and professional careers.	2			2									1	1		2
C02	Learn the rights and responsibilities as an employee, team member, and a global citizen	2		2	2		2							2			
C03	Explore The Legal And Policy Developments In Various Countries To Regulate Cyberspace			3		2									2		
C04	Develop The Understanding Of Relationship Between Commerce And Cyberspace	3			2		2							2			
C05	Upholding ethical standards in cyber laws and intellectual property issues			2													2
Average		2.33	#DIV/0!	2.33	2.00	2.00	2.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.67	1.50	#DIV/0!	2.00

CO	Subject Code :PROJ CS881 Subject Name: Project II At the End of the Semester students should be able to	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
C01	Understand programming language concepts, particularly Java or C# along with object oriented concepts as well as software engineering principles or go through the research work and gather knowledge over the field and develop an ability to apply them to software design of real life problems in an industry/ commercial environment or propose methodology in the field of research.	3		3		2	2		3		2	2	2	2	3		2
C02	Plan, analyze, design a software project and demonstrate the ability to communicate effectively in speech and writing.	3	3	3				2			3		3	2	3	3	
C03	Introduce with major software engineering topics and position them to lead medium sized software projects in industry or propose any new model over the selected field of research that will be useful for future activities.	2	3	3	3		2			3			3		3	3	2
C04	Learn about different software development process models and how to choose an appropriate one for a project.	2		3				2	3	2			2	2		3	
C05	Gain confidence at having conceptualized, designed, and implemented a working, medium sized project with their team		2				2					3	2	2	3		2
Average		2.50	2.67	3.00	3.00	2.00	2.00	2.00	3.00	2.50	2.50	2.50	2.40	2.00	3.00	3.00	2.00