

Dr.VRK WOMEN'S ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CO Attainment

Accademic Year: 2022-2023
Year & Branch : IV Year CSE
Semester: I
Batch: 2019-2023
Subject Code: CS714PE
Subject: Cloud Computing
Faculty: Dr. E. SESHATHERI

Enter-1 for Absentees

Total no. of students registered for the course= 27

S.NO	HALL TICKET NUMBER	NAME OF THE STUDENT	MED I Examination				MED II Examination				% of Attainment					Univ. Exam Mark	Univ. Exam Mark	CRITERIA FOR CO ATTAINMENT (Internal Exams)		CRITERIA FOR CO ATTAINMENT (University Exams)									
			ASS	SUB	OBJ	Total	ASS	SUB	OBJ	Total	CO1	CO2	CO3	CO4	CO5			Criteria	Level	Criteria	Level								
1	18H81A0515	SANA BADUN	5	10	10	25	5	10	10	25	100	100	100	100	100	75	100	60 Percentage and above of appeared students Scoring >=50% of Total Marks for Each CO	J	60 Percentage and above of appeared students Scoring >=35% of Total Marks for Each CO	3								
2	19H81A0501	A. GAYATHRI	5	8	4	17	5	10	9	24	68	68	82	96	96	40	53												
3	19H81A0502	A. RAMYA	4	10	6	20	5	9	10	24	80	80	88	96	96	37	49												
4	19H81A0503	AYESHA JABEEN	4	5	8	17	5	9	10	24	68	68	82	96	96	15	20												
5	19H81A0504	B. ANJALI	4	10	5	19	5	9	10	24	76	76	86	96	96	56	75	40 to 59 Percentage and above of appeared students Scoring >=50% of Total Marks for Each CO	2	40 to 59 Percentage and above of appeared students Scoring >=35% of Total Marks for Each CO	2								
6	19H81A0505	FARJA ANJUM	3	6	9	18	5	9	10	24	72	72	84	96	96	59	79												
7	19H81A0506	FEEHA NAAZ	5	10	7	22	5	9	10	24	88	88	92	96	96	11	15												
8	19H81A0507	G. MOUNIKA	5	5	8	18	5	9	10	24	72	72	84	96	96	46	61												
9	19H81A0509	HUSNA BINTA AHMED WAHAIN	5	7	3	15	5	9	10	24	60	60	78	96	96	39	52	20 to 39 Percentage and above of appeared students Scoring >=50% of Total Marks for Each CO	1	20 to 39 Percentage and above of appeared students Scoring >=35% of Total Marks for Each CO	1								
10	19H81A0510	K. MADHAVI	4	7	7	18	5	9	10	24	72	72	84	96	96	49	65												
11	19H81A0511	K.L.V.N.D. PRATHYUSHA	5	9	8	22	5	9	10	24	88	88	92	96	96	44	59												
12	19H81A0512	M. SAI LAKSHMI	4	10	6	20	5	10	9	24	80	80	88	96	96	22	29												
13	19H81A0513	MAIMUNA TASNEEM FATIMA	4	10	5	19	5	10	9	24	76	76	86	96	96	60	80	Otherwise	0	Otherwise	0								
14	19H81A0514	QAOLA NASIR	5	5	4	14	5	10	9	24	56	56	76	96	96	59	79												
15	19H81A0515	R. INDU	5	9	9	23	5	10	9	24	92	92	94	96	96	39	52												
16	19H81A0516	RABIYA NOOREEN	5	10	5	20	5	10	9	24	80	80	88	96	96	27	36												
17	19H81A0517	RUHINA KHATOON	4	10	6	20	5	10	9	24	80	80	88	96	96	45	60	No of students crossed the threshold level in Internal Examination (>=50%)	26	26	26	27	27	20	No of students crossed the threshold level in				
18	19H81A0518	SAEMA FIRDOUSE	4	7	4	15	5	10	9	24	60	60	78	96	96	19	25												
19	19H81A0519	SAFA FATIMA	4	8	8	20	5	9	10	24	80	80	88	96	96	19	25												
20	19H81A0520	SHAIK NAGEENA ALMAS	5	9	6	20	5	9	10	24	80	80	88	96	96	51	68												
21	19H81A0521	SHAIMA MUSKAN	4	7	9	20	5	9	10	24	80	80	88	96	96	46	61												
22	19H81A0522	SHAMMAMA KAUSER	0	0	0	0	5	9	10	24	0	0	48	96	96	39	52												
23	19H81A0523	V INDU	5	10	3	18	5	9	10	24	72	72	84	96	96	49	65												
24	19H81A0524	V. P. SWETHA	5	7	8	20	5	9	10	24	80	80	88	96	96	14	19												
25	19H81A0525	ZUBIYA KHAN	5	10	7	22	5	9	10	24	88	88	92	96	96	42	56												
26	20H85A0501	GOSHIKA JAHNAVI	4	9	10	23	5	9	10	24	92	92	94	96	96	60	80												
27	20H85A0502	POTUNURI SAI RACHANA	4	10	8	22	5	9	10	24	88	88	92	96	96	19	25												
No of students crossed the threshold level in Internal Examination (>=50%)											26	26	26	27	27		20									No of students crossed the threshold level in			
No of Students Appeared for the Examination											27	27	27	27	27		27									No of Students Appeared for the Examination			
% of Students crossed the threshold level											96	96	96	100	100		74									% of Students crossed the threshold level			
COs attainment Level											3	3	3	3	3		2									COs attainment Level			
Average of COs attainment											3						2									Average of COs attainment			
Course Outcome attainment of the class											2.25																		



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Website : www.drvrkwomenscollege.com

CO-PO-PSO ATTAINMENT		
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING		
SUBJECT CODE	COURSE NAME	
	YEAR 1 - SEMESTER 1	Attainment
MA101BS	MATHEMATICS-1	2.25
CH102BS	CHEMISTRY	2.25
EE103ES	Basic Electrical Engineering	2.25
ME105ES	Engineering Workshop	2.25
EN105HS	English	2.25
CH106BS	Engineering Chemistry Lab	3
EN107HS	English Language and Communication Skills Lab	3
EE108ES	Basic Electrical Engineering Lab	3
	YEAR 1 - SEMESTER 2	
MA201BS	Mathematics - II	2.25
AP202BS	Applied Physics	2.25
CS203ES	Programming for Problem Solving	2.25
ME204ES	Engineering Graphics	2.25
AP205BS	Applied Physics Lab	3
CS206ES	Programming for Problem Solving Lab	3
MC209ES	Environmental Science	2.25
	YEAR 2 - SEMESTER 1	
CS301ES	Analog and Digital Electronics	2.25
CS302PC	Data Structures	2.25
MA303BS	Computer Oriented Statistical Methods	2.25
CS304PC	Computer Organization and Architecture	2.25
CS305PC	Object Oriented Programming using C++	2.25
CS306ES	Analog and Digital Electronics Lab	3
CS307PC	Data Structures Lab	3
CS308PC	IT WORKSHOP LAB	3
CS309PC	C++ Programming Lab	3
MC309	Gender Sensitization Lab	3



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YEAR 2 - SEMESTER 2		
CS401PC	Discrete Mathematics	2.25
SM402MS	Business Economics & Financial Analysis	2.25
CS403PC	Operating Systems	2.25
CS404PC	Database Management Systems	2.25
CS405PC	Java Programming	2.25
CS406PC	Operating Systems Lab	3
CS407PC	Database Management Systems Lab	3
CS408PC	Java Programming Lab	3
MC409	Constitution of India	3
YEAR 3 - SEMESTER 1		
CS501PC	Formal Languages & Automata Theory	2.25
CS502PC	Software Engineering	2.25
CS503PC	Computer Networks	2.25
CS504PC	Web Technologies	2.25
CS515PE	Principles of Programming Languages	2.25
CS524PE	Distributed Databases	2.25
CS505PC	Software Engineering Lab	3
CS506PC	Computer Networks & Web Technologies Lab	3
EN508HS	Advanced Communication Skills Lab	3
MC510	Intellectual Property Rights	3
YEAR 3 - SEMESTER 2		
CS601PC	Machine Learning	2.25
CS602PC	Compiler Design	2.25
CS603PC	Design and Analysis of Algorithms	2.25
CS615PE	Software Testing Methodologies	2.25
CS602OE	Cyber Law & Ethics	2.25
CS604PC	Machine Learning Lab	3
CS605PC	Compiler Design Lab	3
MC609	Environmental Science	3
YEAR 4 - SEMESTER I		



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CS701PC	Cryptography & Network Security	2.6
CS702PC	Data Mining	2.25
CS714PE	Cloud Computing	2.25
	Real Time Systems	2.25
MN700OE	Health & Safety in mines	2.25
CS703PC	Cryptography & Network Security Lab	3
CS704PC	Industrial Oriented Min Projects /Summer Internship	2.6
CS705PC	Seminar	2.6
CS706PC	Project Stage - I	3
	YEAR 4 - SEMESTER II	
SM801MS	Organizational Behaviour	2.25
CS815PE	Cyber Forensics	2.25
MT802OE	Total Quality Management	2.25
CS802PC	Major Project	3
	OVERALL ATTAINMENT	2.54307692
	80% OF ATTAINMENT	2.03446154

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PROGRAM OUTCOME'S (PO's): B.Tech

ACADEMIC YEAR: 2018-2019/2019-2020/2020-2021/2021-2022/2022-2023

I YEAR: I SEMESTER

COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
MA101BS, Mathematics - I		Write the matrix representation of a set of linear equations and to analyse the solution of the system of equations															
	CO1		2	3	3	2	3	2	0	0	1	1	1	2	3	3	1
	CO2	Find the Eigen values and Eigen vectors	2	3	3	2	2	2	0	0	2	1	2	3	3	2	1
	CO3	Reduce the quadratic form to canonical form using orthogonal transformations.	3	3	3	2	3	3	0	0	2	0	2	3	2	3	2
	CO4	Analyse the nature of sequence and series. Solve the applications on the mean value theorems.	3	3	3	3	3	3	0	0	2	0	2	3	3	3	3
	CO5	Evaluate the improper integrals using Beta and Gamma functions. Find the extreme values of functions of two variables with/ without constraints.	3	2	2	3	3	3	0	0	2	0	2	3	3	3	1
		AVERAGE	2.6	2.8	2.8	2.4	2.8	2.6	0	0	0	0.4	1.8	2.8	2.8	2.8	0
		AVERAGE WITH MARKS	1.95	2.1	2.1	1.8	2.1	2	0	0	0	0.3	1.4	2.1	2.1	2.1	0



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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CH102BS, Chemistry	CO1	The knowledge of atomic, molecular and electronic changes, band theory related to conductivity.	3	2	3	2	2	1	0	0	2	1	1	3	2	1	0
	CO2	The required principles and concepts of electrochemistry, corrosion and in understanding the problem of water and its treatments.	3	3	3	2	2	2	0	0	3	1	2	3	3	1	0
	CO3	The required skills to get clear concepts on basic spectroscopy and application to medical and other fields.	3	3	2	2	3	2	0	0	3	0	2	3	2	2	0
	CO4	The knowledge of configurational and conformational analysis of molecules and reaction mechanisms.	3	3	2	3	3	2	0	0	3	0	2	3	1	1	0
	CO5	The knowledge of Spectroscopic techniques and applications	3	3	3	2	3	3	0	0	3	1	2	3	1	2	0
		AVERAGE	3	2.8	2.6	2.2	2.6	2	0	0	0	0.6	1.8	3	1.8	1.4	0
		AVERAGE WITH MARKS	2.25	2.1	1.95	1.65	2	1.5	0	0	0	0.5	1.4	2.3	1.4	1.1	0

COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EE103ES, Basic Electrical Engineering	CO1	To analyze and solve electrical circuits using network laws and theorems.	3	2	2	2	3	3	0	0	3	0	2	3	1	2	0
	CO2	To understand and analyze basic Electric and Magnetic circuits	3	3	3	3	3	2	0	0	3	0	2	3	1	1	0
	CO3	To study the working principles of Electrical Machines	3	2	3	2	3	3	0	0	3	1	2	3	2	1	0
	CO4	To introduce components of Low Voltage Electrical Installations	3	2	2	2	2	3	0	0	3	1	2	3	1	1	0
	CO5	To understand the types of Batteries and Important Characteristics for Batteries.	3	2	3	2	3	2	0	0	3	0	2	3	1	0	0
		AVERAGE	3	2.2	2.6	2.2	2.8	2.6	0	0	0	0.4	2	3	1.2	1	0
		AVERAGE WITH MARKS	2.25	1.65	1.95	1.65	2.1	2	0	0	0	0.3	1.5	2.3	0.9	0.8	0



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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
ME105ES, Engineering Workshop	CO1	Study and practice on machine tools and their operations.	3	2	2	2	3	3	0	0	3	0	2	3	1	2	0
	CO2	Practice on manufacturing of components using workshop trades including plumbing, fitting, carpentry, foundry, house wiring and welding.	3	2	3	2	2	3	0	0	1	0	1	3	3	1	0
	CO3	Identify and apply suitable tools for different trades of Engineering processes including drilling, material removing, measuring, chiseling.	3	3	3	2	3	3	0	0	3	0	2	3	2	1	0
	CO4	Explains the construction, function, use and application of different working tools, equipment and machines.	3	3	3	3	3	2	0	0	3	1	3	3	1	1	0
	CO5	Apply basic electrical engineering knowledge for house wiring practice.	3	3	3	3	3	3	0	0	2	1	2	3	1	1	0
		AVERAGE	3	2.6	2.8	2.4	2.8	2.8	0	0	0	0.4	2	3	1.6	1.2	0
		AVERAGE WITH MARKS	2.25	1.95	2.1	1.8	2.1	2.1	0	0	0	0.3	1.5	2.3	1.2	0.9	0

COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EN105HS English	CO1	Use English Language effectively in spoken and written forms.	1	0	0	1	0	2	0	0	1	1	0	2	0	0	0
	CO2	Comprehend the given texts and respond appropriately.	2	0	0	1	0	1	0	0	1	1	0	2	0	2	0
	CO3	Communicate confidently in various contexts and different cultures.	3	3	1	2	0	2	0	0	2	1	1	2	2	2	0
	CO4	Acquire basic proficiency in English including reading and listening comprehension,	2	2	1	1	0	2	0	0	1	0	1	2	2	2	0
	CO5	Acquire basic proficiency in English for writing and speaking skills.	2	2	1	1	0	1	0	0	2	0	1	2	2	2	0
		AVERAGE	2	1.4	0.6	1.2	0	1.6	0	0	0	0.6	0.6	2	1.2	1.6	0
		AVERAGE WITH MARKS	1.5	1.05	0.45	0.9	0	1.2	0	0	0	0.5	0.5	1.5	0.9	1.2	0



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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CH106BS Engineering Chemistry Lab	CO1	Determination of parameters like hardness and chloride content in water.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	Estimation of rate constant of a reaction from concentration – time relationships.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	Determination of physical properties like adsorption and viscosity.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	Calculation of Rf values of some organic molecules by TLC technique.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	Understand the Spectroscopic techniques and applications for important organic compounds.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	0	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	0	3	3	3	3	3	3

COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EN107HS English Language and Communication Skills Lab	CO1	Better understanding of nuances of English language through audio- visual experience and group activities	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	Neutralization of accent for intelligibility	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	Speaking skills with clarity and confidence which in turn enhances their employability skills	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	Able to spoken English and neutralize their mother tongue influence	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	able to use language appropriately for public speaking and interviews	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3



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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EE108ES Basic Electrical Engineering Lab	CO1	Get an exposure to basic electrical laws.	3	2	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	Understand the response of different types of electrical circuits to different excitations.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	Understand the measurement, calculation and relation between the basic electrical parameters.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	Understand the basic characteristics of transformers and electrical machines.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	Understand No-Load Characteristics of a Three-phase Alternator	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	2.8	3	3	3	3	0	0	0	3	3	3	3	3	0
		AVERAGE WITH MARKS	3	2.8	3	3	3	3	0	0	0	3	3	3	3	3	0

IYEAR: II SEMESTER

COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
MA201BS Mathematics - II	CO1	Identify whether the given differential equation of first order is exact or not	3	3	2	2	2	2	0	0	1	1	1	3	1	2	2
	CO2	Solve higher differential equation and apply the concept of differential equation to real world problems.	2	2	2	2	2	2	0	0	2	1	2	3	1	2	2
	CO3	Evaluate the multiple integrals and apply the concept to find areas, volumes, centre of mass and	3	3	2	3	2	2	0	0	1	0	1	3	1	2	1
	CO4	Evaluate the line, surface and volume integrals and converting them from one to another.	2	3	3	3	2	2	0	0	2	0	2	3	1	3	2
	CO5	Knowledge in Vector Integration	3	2	3	2	3	3	0	0	3	0	2	3	2	2	2
		AVERAGE	2.6	2.6	2.4	2.4	2.2	2.2	0	0	0	0.4	1.6	3	1.2	2.2	0
		AVERAGE WITH MARKS	1.95	1.95	1.8	1.8	1.7	1.7	0	0	0	0.3	1.2	2.3	0.9	1.7	0



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COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
AP202BS Applied Physics	CO1	The student would be able to learn the fundamental concepts on Quantum behaviour of matter in its micro state.	3	2	1	2	2	2	0	0	2	0	1	3	1	2	3
	CO2	The knowledge of fundamentals of Semiconductor physics, Optoelectronics, Lasers and fibre Optoelectronics, Lasers and fibre Optics enable the students to apply to various systems like communications, solar cell, photo cells and so on.	3	2	1	2	2	1	0	0	2	1	1	3	1	2	2
	CO3	Knowledge in Optoelectronics	3	3	2	1	2	2	0	0	3	1	1	3	1	2	3
	CO4	Design, characterization and study of properties of material help the students to prepare new materials for various engineering applications.	3	2	1	2	2	1	0	0	3	0	1	3	2	2	2
	CO5	the students to be exposed to the phenomena of electromagnetism and also to have exposure on magnetic materials and dielectric materials	3	2	1	1	2	2	0	0	2	1	2	3	1	2	3
		AVERAGE	3	2.2	1.2	1.6	2	1.6	0	0	0	0.6	1.2	3	1.2	2	0
		AVERAGE WITH MARKS	2.25	1.65	0.9	1.2	1.5	1.2	0	0	0	0.5	0.9	2.3	0.9	1.5	0

COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS203ES Programming for Problem Solving	CO1	To write algorithms and to draw flowcharts for solving problems.	2	3	3	3	3	2	0	0	2	0	3	3	3	3	3
	CO2	To convert the algorithms/flowcharts to C programs.	2	3	3	3	2	2	0	0	3	0	3	3	3	3	3
	CO3	To code and test a given logic in C programming language.	2	2	3	3	3	2	0	0	3	1	3	3	3	3	3
	CO4	To decompose a problem into functions and to develop modular reusable code.	3	3	3	3	3	1	0	0	3	1	3	3	3	3	3
	CO5	To use arrays, pointers, strings and structures to write C programs. Searching and sorting problems.	2	3	3	3	2	1	0	0	3	0	3	3	3	3	3
		AVERAGE	2.2	2.8	3	3	2.6	1.6	0	0	0	0.4	3	3	3	3	0
		AVERAGE WITH MARKS	1.65	2.1	2.25	2.25	2	1.2	0	0	0	0.3	2.3	2.3	2.3	2.3	0



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COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
ME204ES Engineering Graphics	CO1	Preparing working drawings to communicate the ideas and information.	3	2		3	2	3	1	0	0	2	1	0	3	2	2
	CO2	Read, understand and interpret engineering drawings	2	2		2	3	3	2	0	0	3	0	1	3	2	2
	CO3	Development of Surfaces of Right Regular Solids, Prism, Cylinder, Pyramid and Cone,	3	1		3	2	3	1	0	0	3	0	0	3	2	2
	CO4	Understand the Principles of Isometric Projection.	3	2		3	2	3	2	0	0	3	1	0	3	2	2
	CO5	Knowledge to CAD Software Package Commands	3		3	3	3	3	2	0	0	3	0	2	3	2	2
		AVERAGE	2.8	1.75	3	2.8	2.4	3	0	0	0	2.8	0.4	0.6	3	2	0
		AVERAGE WITH MARKS	2.1	1.31	2.25	2.1	1.8	2.3	0	0	0	2.1	0.3	0.5	2.3	1.5	0

COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
AP205BS Applied Physics Lab	CO1	Understand the V-I Characteristics of solar cell	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	determine magnetic field along the axis of a current carrying coil.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	determine Hall co-efficient of a given semiconductor	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	determine the bending losses of Optical fibres.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	determine the Quality factor of LCR Circuit.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	0	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	0	3	3	3	3	3	3



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COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS206ES Programming for Problem Solving Lab	CO1	formulate the algorithms for simple problems	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	translate given algorithms to a working and correct program.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	correct syntax errors as reported by the compilers. Identify and correct logical errors encountered during execution.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	represent and manipulate data with arrays, strings and structures and use pointers of different types	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	create, read and write to and from simple text and binary files and modularize the code with functions so that they can be reused	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	0	3	3	3	3	3	0
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	0	3	3	3	3	3	0

COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
MC209ES Environmental Science	CO1	understand /evaluate / develop technologies on the basis of ecological principles and environmental regulations which in turn helps in sustainable development	0	1	1	1	0	1	0	0	2	0	0	3	0	0	1
	CO2	Classify Living and Non-Living resources	1	1	0	1	0	1	0	0	3	0	1	3	1	0	0
	CO3	Define Biodiversity and Biotic Resources	1	1	1	1	1	1	0	0	3	1	1	3	0	1	0
	CO4	Understand the Environmental Pollution and Control Technologies	1	1	1	1	1	1	0	0	2	1	1	3	1	1	1
	CO5	Understand Environmental Policy, Legislation & EIA	1	1	1	1	1	1	0	0	2	0	1	3	1	0	1
		AVERAGE	0.8	1	0.8	1	0.6	1	0	0	0	0.4	0.8	3	0.6	0.4	0
		AVERAGE WITH MARKS	0.6	0.75	0.6	0.75	0.5	0.8	0	0	0	0.3	0.6	2.3	0.5	0.3	0



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11 YEAR: I SEMESTER

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	CO1	Know the characteristics of various components.	2	2	1	2	3	2	0	0	1	0	1	3	1	2	2
	CO2	Understand the utilization of components.	2	3	2	3	2	2	0	0	2	0	2	3	2	1	2
	CO3	Design and analyze small signal amplifier circuits.	2	2	1	3	3	2	0	0	1	0	2	3	1	2	1
CS301ES Analog and Digital Electronics	CO4	Learn Postulates of Boolean algebra and to minimize combinational functions.	3	3	2	3	2	3	0	0	2	0	1	3	1	2	2
	CO5	Design and analyze combinational and sequential circuits. Know about the logic families and realization of logic gates	2	2	3	3	3	2	0	0	3	0	1	3	1	2	1
		AVERAGE	2.2	2.4	1.8	2.8	2.6	2.2	0	0	1.8	0	1.4	3	1.2	1.8	1.6
		AVERAGE WITH MARKS	1.65	1.8	1.35	2.1	2	1.7	0	0	1.4	0	1.1	2.3	0.9	1.4	1.2

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS302ES Data Structures	CO1	Ability to select the data structures that efficiently model the information in a problem.	2	3	3	3	2	1	0	0	2	1	2	3	3	3	3
	CO2	Ability to assess efficiency trade-offs among different data structure implementations or combinations.	2	3	3	3	3	2	0	0	3	1	2	3	3	3	3
	CO3	Implement and know the application of algorithms for sorting and pattern matching.	2	3	3	2	2	1	0	0	3	0	2	3	3	3	3
	CO4	Design programs using a variety of data structures, including hash tables, binary and general	2	2	3	3	3	2	0	0	3	1	3	3	3	3	3
	CO5	tree structures, search trees, tries, heaps, graphs, and AVL-trees. Understand the Pattern matching algorithms.	2	3	3	3	2	2	0	0	3	1	2	3	3	3	3
		AVERAGE	2	2.8	3	2.8	2.4	1.6	0	0	2.8	0.8	2.2	3	3	3	3
		AVERAGE WITH MARKS	1.5	2.1	2.25	2.1	1.8	1.2	0	0	2.1	0.6	1.7	2.3	2.3	2.3	2.25



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Computer Oriented Statistical Methods	CO1	Apply the concepts of probability and distributions to some case studies.	2	3	3	3	3	2	0	0	1	1	1	3	2	3	3
	CO2	Correlate the material of one unit to the material in other units.	2	3	2	3	2	3	0	0	2	1	2	3	2	2	3
	CO3	Resolve the potential misconceptions and hazards in each topic of study	2	3	3	2	3	3	0	0	3	0	2	3	2	3	3
	CO4	Understand the Estimation & Tests of Hypotheses.	2	2	3	2	3	2	0	0	1	1	1	3	2	2	3
	CO5	Understand the Stochastic Processes and Markov Chains	2	3	3	3	2	2	0	0	1	0	2	3	2	2	3
		AVERAGE	2	2.8	2.8	2.6	2.6	2.4	0	0	1.6	0.6	1.6	3	2	2.4	3
		AVERAGE WITH MARKS	1.5	2.1	2.1	1.95	2	1.8	0	0	1.2	0.5	1.2	2.3	1.5	1.8	2.25

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Computer Organization and Architecture	CO1	Understand the basics of instructions sets and their impact on processor design.	2	1	1	1	2	2	0	0	2	1	1	3	1	2	1
	CO2	Demonstrate an understanding of the design of the functional units of a digital computer system.	2	1	2	2	2	2	0	0	2	0	1	3	1	1	1
	CO3	Evaluate cost performance and design trade-offs in designing and constructing a computer processor including memory.	2	2	2	1	1	2	0	0	2	1	2	3	1	2	1
	CO4	Design a pipeline for consistent execution of instructions with minimum hazards.															
	CO5	Recognize and manipulate representations of numbers stored in digital computers	2	1	2	1	2	1	0	0	1	1	1	3	1	1	1
		AVERAGE	2	1.25	1.75	1.25	1.8	1.8	0	0	1.8	0.8	1.3	3	1	1.5	1
		AVERAGE WITH MARKS	1.5	0.94	1.31	0.94	1.3	1.3	0	0	1.3	0.6	0.9	2.3	0.8	1.1	0.75



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS305PC Object Oriented Programming using C++	CO1	Able to develop programs with reusability	2	3	3	3	2	1	0	0	3	1	2	3	3	3	3
	CO2	Develop programs for file handling	1	3	3	3	3	1	0	0	3	1	2	3	3	3	3
	CO3	Handle exceptions in programming	2	3	3	3	2	2	0	0	3	1	1	3	3	3	3
	CO4	Develop applications for a range of problems using object-oriented programming techniques	2	3	3	3	3	1	0	0	3	1	2	3	3	3	3
	CO5	Develop applications using Virtual Functions and Polymorphism	2	3	3	3	3	2	0	0	3	1	2	3	3	3	3
		AVERAGE	1.8	3	3	3	2.6	1.4	0	0	3	1	1.8	3	3	3	3
		AVERAGE WITH MARKS	1.35	2.25	2.25	2.25	2	1.1	0	0	2.3	0.8	1.4	2.3	2.3	2.3	2.25

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS306ES Analog and Digital Electronics Lab	CO1	Know the characteristics of various components.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	Understand the utilization of components.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	Design and analyze small signal amplifier circuits.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	Postulates of Boolean algebra and to minimize combinational functions.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	Design and analyze combinational and sequential circuits. Known about the logic families and realization of logic gates	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS307PC Data Structures Lab	CO1	to develop C programs for computing and real-life applications using basic elements like control statements, arrays, functions, pointers, strings.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	create data structures using stacks, queues and linked lists.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	Able to implement the tree traversal methods.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	Ability to Implement searching and sorting algorithms	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	Able to implement the graph traversal methods.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS308PC: IT WORKSHOP LAB	CO1	To know the components of PC Hardware,	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	To assemble the PC	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	install the software	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	able to work on Internet & World Wide Web	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	able to work on Productivity tools including Word, Excel, Power Point and Publisher.	1	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	2.6	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	2.6	3	3	3	3	3	0	0	3	3	3	3	3	3	3



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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS309PC C++ Programming Lab	CO1	Able to declare Struct. Initialize and display contents of member variables	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	Able to declare a class. Declare pointer to class. Initialize and display the contents of the class member	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	Able to illustrate the concepts of console I/O operations	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	Able to create multilevel inheritance	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	able to develop applications for a range of problems using object-oriented programming techniques.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
MC309 Gender Sensitization Lab	CO1	Able to better understanding of important issues related to gender in contemporary India.	0	1	0	1	0	0	0	0	3	1	0	3	1	0	1
	CO2	Able to sensitized to basic dimensions of the biological, sociological, psychological and	0	1	0	1	0	0	0	0	3	0	0	3	1	0	0
	CO3	legal aspects of gender. This will be achieved through discussion of materials derived from research, facts, everyday life, literature and film.	0	1	1	1	0	0	0	0	3	0	1	3	1	0	0
	CO4	Students will attain a finer grasp of how gender discrimination works in our society and how to counter it.	0	1	1	1	1	1	0	0	3	1	1	3	1	1	0
	CO5	Students will acquire insight into the gendered division of labour and its relation to politics and economics. Men and women students and professionals will be better equipped to work and live together as equals.	0	1	0	1	0	1	0	0	3	1	1	3	1	0	1
		AVERAGE	0	1	0.4	1	0.2	0.4	0	0	3	0.6	0.6	3	1	0.2	0.4
		AVERAGE WITH MARKS	0	1	0.4	1	0.2	0.4	0	0	3	0.6	0.6	3	1	0.2	0.4



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II YEAR: II SEMESTER

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Discrete Mathematics	CO1	Ability to understand and construct precise mathematical proofs	2	3	3	3	2	1	0	0	2	0	1	3	2	2	2
	CO2	Ability to use logic and set theory to formulate precise statements	2	3	2	3	1	1	0	0	2	0	1	3	2	2	2
	CO3	Ability to analyze and solve counting problems on finite and discrete structures	2	2	3	2	2	2	0	0	3	1	1	3	2	2	2
	CO4	Ability to describe and manipulate sequences	2	3	2	3	1	2	0	0	3	1	1	3	2	2	2
	CO5	Ability to apply graph theory in solving computing problems	2	2	3	3	1	1	0	0	3	0	1	3	2	2	2
		AVERAGE	2	2.6	2.6	2.8	1.4	1.4	0	0	2.6	0.4	1	3	2	2	2
		AVERAGE WITH MARKS	1.5	1.95	1.95	2.1	1.1	1.1	0	0	2	0.3	0.8	2.3	1.5	1.5	1.5

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
SM402MS Business Economics & Financial Analysis	CO1	understand the various Forms of Business and the impact of economic variables on the Business.	1	2	1	1	2	1	0	0	3	1	1	3	1	1	2
	CO2	Understand Demand and Supply Analysis.	1	2	2	1	2	1	0	0	3	1	2	3	1	1	2
	CO3	understand the Demand, Supply, Production, Cost, Market Structure, Pricing aspects are learnt.	1	2	2	2	1	1	0	0	3	0	1	3	1	1	1
	CO4	Understand Financial Accounting concepts and Conventions	1	1	1	2	2	1	0	0	3	0	2	3	1	1	2
	CO5	understand the firm's financial position by analysing the Financial Statements of a Company.	1	2	2	1	1	1	0	0	3	1	2	3	1	1	1
		AVERAGE	1	1.8	1.6	1.4	1.6	1	0	0	3	0.6	1.6	3	1	1	1.6
		AVERAGE WITH MARKS	0.75	1.35	1.2	1.05	1.2	0.8	0	0	2.3	0.5	1.2	2.3	0.8	0.8	1.2



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS403PC Operating Systems	CO1	Will be able to control access to a computer and the files that may be shared.	2	2	3	1	2	1	1	3	3	2	2	3	2	2	3
	CO2	Demonstrate the knowledge of the components of computer and their respective roles in computing.	2	3	2	2	2	2	1	3	3	3	2	3	2	2	2
	CO3	Ability to recognize and resolve user problems with standard operating environments.	2	2	2	1	3	1	2	2	3	3	1	3	3	2	3
	CO4	Gain practical knowledge of how programming languages, operating systems, and architectures interact and how to use each effectively.	2	2	3	2	3	2	1	2	3	2	2	3	2	2	2
	CO5	Understand File System Interface and Operations	2	2	2	1	3	2	2	3	3	3	2	3	2	2	2
		AVERAGE	2	2.2	2.4	1.4	2.6	1.6	1.4	2.6	3	2.6	1.8	3	2.2	2	2.4
		AVERAGE WITH MARKS	1.5	1.65	1.8	1.05	2	1.2	1.1	2	2.3	2	1.4	2.3	1.7	1.5	1.8

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS404PC Database Management Systems	CO1	Gain knowledge of fundamentals of DBMS, database design and normal forms.	2	3	3	2	3	2	0	0	3	0	2	3	3	3	2
	CO2	Understand the Relational Model:	2	3	3	3	3	3	0	0	3	1	2	3	3	3	3
	CO3	Master the basics of SQL for retrieval and management of data.	2	2	3	2	3	2	0	0	3	1	1	3	3	3	3
	CO4	Be acquainted with the basics of transaction processing and concurrency control.	2	3	3	3	2	3	0	0	3	0	2	3	3	3	2
	CO5	Familiarity with database storage structures and access techniques	2	3	3	3	3	3	0	0	3	1	1	3	3	3	3
		AVERAGE	2	2.8	3	2.6	2.8	2.6	0	0	3	0.6	1.6	3	3	3	2.6
		AVERAGE WITH MARKS	1.5	2.1	2.25	1.95	2.1	2	0	0	2.3	0.5	1.2	2.3	2.3	2.3	1.95



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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS405PC Java Programming	CO1	Able to solve real world problems using OOP techniques.	2	3	3	3	3	2	0	0	3	1	2	3	3	3	3
	CO2	Able to understand the use of abstract classes.	2	3	3	2	3	2	0	0	3	1	2	3	3	3	3
	CO3	Able to solve problems using java collection framework and I/O classes.	2	3	3	3	3	2	0	0	3	0	2	3	3	3	3
	CO4	Able to develop multithreaded applications with synchronization.	2	3	3	3	2	2	0	0	3	0	1	3	3	3	3
	CO5	Able to develop applets for web applications. Able to design GUI based applications	2	3	3	2	3	2	0	0	3	0	2	3	3	3	3
		AVERAGE	2	3	3	2.6	2.8	2	0	0	3	0.4	1.8	3	3	3	3
		AVERAGE WITH MARKS	1.5	2.25	2.25	1.95	2.1	1.5	0	0	2.3	0.3	1.4	2.3	2.3	2.3	2.25

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS406PC Operating Systems Lab	CO1	Simulate and implement operating system concepts of scheduling	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	Simulate and implement operating system concepts of deadlock management.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	Simulate and implement operating system concepts of file management and memory management.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	Simulate and implement operating system concepts of memory management.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	Able to implement C programs using Unix system calls	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3



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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS407PC Database Management Systems Lab	CO1	Design database schema for a given application and apply normalization	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	Acquire skills in using SQL commands for data definition and data manipulation.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	Develop solutions for database applications using procedures.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	Develop solutions for database applications using cursors.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	Develop solutions for database applications using triggers	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS408PC Java Programming Lab	CO1	Able to write programs for solving real world problems using java collection frame work.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	Able to write programs using abstract classes.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	Able to write multithreaded programs.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	Able to write GUI programs using swing controls in Java	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	Able to implement sorting algorithms.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3



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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
MC409 Constitution of India	CO1	Understand constitution law and constitutionalism	1	1	3	2	2	2	0	0	3	0	2	3	2	1	1
	CO2	Understand Scheme of the fundamental rights	1	2	3	2	2	3	0	0	3	0	2	3	2	2	1
	CO3	Understand the Directive Principles of State Policy – Its importance and implementation	1	2	2	2	2	3	0	0	3	1	2	3	2	1	1
	CO4	Understand Parliamentary Form of Government in India – The constitution powers and status of the President of India	1	1	2	2	3	2	0	0	3	1	2	3	1	1	1
	CO5	Understand The historical perspectives of the constitutional amendments in India	1	1	2	2	3	3	0	0	3	1	3	3	1	1	1
		AVERAGE	1	1.4	2.4	2	2.4	2.6	0	0	3	0.6	2.2	3	1.6	1.2	1
		AVERAGE WITH MARKS	0.75	1.05	1.8	1.5	1.8	2	0	0	2.3	0.5	1.7	2.3	1.2	0.9	0.75

III YEAR: I SEMESTER

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS501PC Formal Languages & Automata Theory	CO1	Able to understand the concept of abstract machines and their power to recognize the languages.	2	3	3	2	2	2	0	0	3	0	1	3	1	1	1
	CO2	Able to employ finite state machines for modeling and solving computing problems.	2	3	2	2	2	2	0	0	3	0	2	3	1	1	1
	CO3	Able to design context free grammars for formal languages.	2	3	2	2	3	2	0	0	3	1	1	3	1	1	1
	CO4	Able to distinguish between decidability and undecidability.	2	3	3	3	2	1	0	0	3	2	2	3	1	1	1
	CO5	Able to gain proficiency with mathematical tools and formal methods.	2	3	2	2	2	2	0	0	3	1	2	3	1	1	1
		AVERAGE	2	3	2.4	2.2	2.2	1.8	0	0	3	0.8	1.6	3	1	1	1
		AVERAGE WITH MARKS	1.5	2.25	1.8	1.65	1.7	1.4	0	0	2.3	0.6	1.2	2.3	0.8	0.8	0.75



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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS502PC Software Engineering	CO1	Ability to understand the software engineering process.	3	3	2	2	2	2	0	0	2	0	3	3	2	2	3
	CO2	Ability to translate end-user requirements into system and software requirements, using e.g. UML, and structure the requirements in a Software Requirements Document (SRD).	3	3	2	2	3	1	0	0	3	0	3	3	1	2	3
	CO3	Identify and apply appropriate software architectures and patterns to carry out high level design of a system and be able to critically compare alternative choices.	3	3	2	3	3	2	0	0	3	0	3	3	2	2	3
	CO4	Will have experience and/or awareness of testing problems and will be able to develop a simple testing report	3	3	2	3	3	2	0	0	3	1	3	3	2	2	3
	CO5	Ability to check the software quality.	3	3	2	2	3	2	0	0	3	1	3	3	2	2	2
		AVERAGE	3	3	2	2.4	2.8	1.8	0	0	2.8	0.4	3	3	1.8	2	2.8
		AVERAGE WITH MARKS	2.25	2.25	1.5	1.8	2.1	1.4	0	0	2.1	0.3	2.3	2.3	1.4	1.5	2.1



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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS503PC Computer Networks	CO1	Gain the knowledge of the basic computer network technology.	2	2	2	2	3	2	0	0	3	0	2	3	2	2	2
	CO2	Gain the knowledge of the functions of each layer in the OSI and TCP/IP reference model.	2	2	2	2	3	2	0	0	3	0	2	3	2	2	2
	CO3	Obtain the skills of subnetting and routing mechanisms.	2	2	2	2	3	1	0	0	3	1	2	3	2	2	2
	CO4	Familiarity with the essential protocols of computer networks, and how they can be applied in network design and implementation.	2	2	2	2	3	2	0	0	3	1	2	3	2	2	2
	CO5	Understand the communication between machines in a network and the protocols of the various layers.	2	2	2	2	3	2	0	0	3	0	1	3	2	2	2
		AVERAGE	2	2	2	2	3	1.8	0	0	3	0.4	1.8	3	2	2	2
		AVERAGE WITH MARKS	1.5	1.5	1.5	1.5	2.3	1.4	0	0	2.3	0.3	1.4	2.3	1.5	1.5	1.5

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS504PC Web Technologies	CO1	gain knowledge of client-side scripting, validation of forms and AJAX programming	2	2	3	3	3	2	0	0	3	1	1	3	2	2	3
	CO2	understand server-side scripting with PHP language	2	2	3	2	3	2	0	0	3	1	2	3	2	2	2
	CO3	understand what is XML and how to parse and use XML Data with Java	2	2	3	3	3	3	0	0	3	0	1	3	1	2	2
	CO4	To introduce Server-side programming with Java Servlets and JSP	2	2	3	2	3	3	0	0	3	0	2	3	2	2	3
	CO5	Able to write Client-side Scripting.	2	2	3	2	3	2	0	0	3	0	2	3	2	2	2
		AVERAGE	2	2	3	2.4	3	2.4	0	0	3	0.4	1.6	3	1.8	2	2.4
		AVERAGE WITH MARKS	1.5	1.5	2.25	1.8	2.3	1.8	0	0	2.3	0.3	1.2	2.3	1.4	1.5	1.8



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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS515PE Principles of Programming Languages	CO1	Acquire the skills for expressing syntax and semantics in formal notation	3	2	3	3	3	2	0	0	3	0	1	3	3	3	3
	CO2	Identify and apply a suitable programming paradigm for a given computing application	3	3	2	2	3	2	0	0	3	1	2	3	3	3	3
	CO3	Understand concurrency.	3	2	3	3	3	2	0	0	3	1	1	3	3	2	3
	CO4	Gain knowledge of and able to compare the features of various programming languages	3	2	3	2	3	2	0	0	3	0	2	3	2	2	3
	CO5	Understand Scripting Language	3	3	3	3	3	2	0	0	3	1	2	3	2	3	3
		AVERAGE	3	2.4	2.8	2.6	3	2	0	0	3	0.6	1.6	3	2.6	2.6	3
		AVERAGE WITH MARKS	2.25	1.8	2.1	1.95	2.3	1.5	0	0	2.3	0.5	1.2	2.3	2	2	2.25

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS524PE Distributed Databases	CO1	Understand theoretical and practical aspects of distributed database systems.	2	3	3	3	3	2	0	0	3	1	2	3	2	3	3
	CO2	Understand Query processing and decomposition	2	3	2	3	3	2	0	0	3	1	3	3	2	2	3
	CO3	understand basic principles and implementation techniques of distributed database systems.	2	3	3	2	3	2	0	0	3	0	2	3	2	3	3
	CO4	Study and identify various issues related to the development of distributed database system.	2	3	3	3	3	3	0	0	3	0	3	3	2	2	3
	CO5	Understand the design aspects of object-oriented database system and related development.	2	3	3	3	3	2	0	0	3	1	2	3	2	3	3
		AVERAGE	2	3	2.8	2.8	3	2.2	0	0	3	0.6	2.4	3	2	2.6	3
		AVERAGE WITH MARKS	1.5	2.25	2.1	2.1	2.3	1.7	0	0	2.3	0.5	1.8	2.3	1.5	2	2.25



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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS505PC Software Engineering Lab	CO1	Ability to translate end-user requirements into system and software requirements.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	Ability to generate a high-level design of the system from the software requirements.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	Ability to Develop test cases for unit testing and integration testing.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	Ability to Develop test cases for various white box and black box testing techniques.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	Will have experience and/or awareness of testing problems and will be able to develop a simple	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS506PC Computer Networks & Web Technologies Lab	CO1	Implement data link layer framing methods.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	Analyze error detection and error correction codes.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	Implement and analyze routing and congestion issues in network design.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	Implement Encoding and Decoding techniques used in presentation layer.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	To be able to work with different network tools.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EN508HS Advanced Communication Skills Lab	CO1	Able to improve the students' fluency in English, through a well-developed vocabulary	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	able to listen to English spoken at normal conversational speed by educated English speakers and respond appropriately in different socio-cultural and professional contexts.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	Able to transferring information from non-verbal to verbal texts and vice-versa.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	Able to write project/research reports/technical reports.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	Able to communicate their ideas relevantly and coherently in writing.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
MC510 Intellectual Property Rights	CO1	Able to understand the Intellectual property	1	1	2	1	1	2	0	0	3	0	0	3	1	0	1
	CO2	Understand the trade marks.	1	1	1	1	1	2	0	0	3	0	1	3	1	0	1
	CO3	Understand the law of copy rights.	1	2	2	2	1	2	0	0	3	1	2	3	1	1	0
	CO4	Understand the trade secrets.	1	2	2	2	1	2	0	0	3	1	1	3	1	1	1
	CO5	Able to develop new Intellectual property.	1	2	2	1	1	2	0	0	3	1	1	3	1	1	1
		AVERAGE	1	1.6	1.8	1.4	1	2	0	0	3	0.6	1	3	1	0.6	0.8
		AVERAGE WITH MARKS	0.75	1.2	1.35	1.05	0.8	1.5	0	0	2.3	0.5	0.8	2.3	0.8	0.5	0.6



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IIIYEAR: II SEMESTER

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS601PC Machine Learning	CO1	Understand the concepts of computational intelligence like machine learning.	2	2	3	3	3	2	0	0	3	0	1	3	2	3	3
	CO2	Ability to get the skill to apply machine learning techniques to address the real time problems in different areas.	2	3	2	2	3	2	0	0	3	0	2	3	2	2	3
	CO3	Understand the Neural Networks and its usage in machine learning.	2	2	3	3	3	3	0	0	3	1	3	3	2	3	3
	CO4	Understand Genetic Algorithms.	2	3	3	3	3	2	0	0	3	1	2	3	2	2	3
	CO5	Understand combining Inductive and Analytical Learning.	2	3	3	3	3	2	0	0	3	0	3	3	2	3	3
		AVERAGE	2	2.6	2.8	2.8	3	2.2	0	0	3	0.4	2.2	3	2	2.6	3
		AVERAGE WITH MARKS	1.5	1.95	2.1	2.1	2.3	1.7	0	0	2.3	0.3	1.7	2.3	1.5	2	2.25

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS602PC Compiler Design	CO1	Demonstrate the ability to design a compiler given a set of language features.	2	3	2	2	3	2	0	0	3	0	1	3	2	3	3
	CO2	Demonstrate the the knowledge of patterns, tokens & regular expressions for lexical analysis.	2	3	3	2	3	2	0	0	3	0	1	3	2	3	3
	CO3	Acquire skills in using lex tool & yacc tool for developing a scanner and parser.	2	2	2	2	3	2	0	0	3	0	2	3	2	3	3
	CO4	Design and implement LL and LR parsers.	2	2	3	3	3	3	0	0	3	1	1	3	3	3	3
	CO5	Design algorithms to do code optimization in order to improve the performance of a program in terms of space and time complexity. Design algorithms to generate machine code.	2	3	3	3	3	3	0	0	3	1	2	3	3	3	3
		AVERAGE	2	2.6	2.6	2.4	3	2.4	0	0	3	0.4	1.4	3	2.4	3	3
		AVERAGE WITH MARKS	1.5	1.95	1.95	1.8	2.3	1.8	0	0	2.3	0.3	1.1	2.3	1.8	2.3	2.25



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS603PC Design and Analysis of Algorithms	CO1	Ability to analyze the performance of algorithms.	2	3	3	3	3	2	0	0	3	0	2	3	3	3	3
	CO2	Ability to choose appropriate data structures and algorithm design methods for a specified Application.	2	3	3	3	3	2	0	0	3	0	2	3	3	3	3
	CO3	Ability to understand how the choice of data structures and the algorithm design methods impact the performance of programs	2	3	3	2	3	2	0	0	3	1	1	3	3	3	3
	CO4	Understand the Greedy method.	2	3	3	3	3	3	0	0	3	1	2	3	3	3	3
	CO5	Understand Branch and Bound.	2	3	3	3	3	2	0	0	3	0	2	3	3	3	3
		AVERAGE	2	3	3	2.8	3	2.2	0	0	3	0.4	1.8	3	3	3	3
		AVERAGE WITH MARKS	1.5	2.25	2.25	2.1	2.3	1.7	0	0	2.3	0.3	1.4	2.3	2.3	2.3	2.25

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS615PE Software Testing Methodologies	CO1	Understand the necessity of testing	3	3	3	3	3	2	0	0	3	0	3	3	2	3	3
	CO2	Understand Transaction Flow Testing	3	3	3	2	3	3	0	0	3	0	3	3	2	2	3
	CO3	Understand testing process, criteria, strategies, and methodologies	3	3	3	3	3	2	0	0	3	1	3	3	2	3	3
	CO4	Understand Logic Based Testing.	3	3	3	2	3	3	0	0	3	1	3	3	2	2	3
	CO5	Able to develop skills in software test automation and management using latest tools.	3	3	3	3	3	2	0	0	3	0	3	3	2	3	3
		AVERAGE	3	3	3	2.6	3	2.4	0	0	3	0.4	3	3	2	2.6	3
		AVERAGE WITH MARKS	2.25	2.25	2.25	1.95	2.3	1.8	0	0	2.3	0.3	2.3	2.3	1.5	2	2.25



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS602OE: CYBER LAWS AND ETHICS (Open Elective – I)	CO1	Understand the concepts of Computer Security	3	3	3	3	3	2	1	1	3	0	3	3	2	3	3
	CO2	Understand the concepts of security policy requirements	3	3	3	2	3	3	1	2	3	0	3	3	2	2	3
	CO3	understand different policies process management	3	3	3	3	3	2	1	1	3	1	3	3	2	3	3
	CO4	understand the importance of professional practice, Law and Ethics in their personal lives and professional careers.	3	3	3	2	3	3	1	2	3	1	3	3	2	2	3
	CO5	I learn the rights and responsibilities as an employee, team member and a global citizen	3	3	3	3	3	2	1	2	3	0	3	3	2	3	3
		AVERAGE	3	3	3	2.6	3	2.4	1	1.6	3	0.4	3	3	2	2.6	3
		AVERAGE WITH MARKS	2.25	2.25	2.25	1.95	2.3	1.8	0.8	1.2	2.3	0.3	2.3	2.3	1.5	2	2.25

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			3	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS604PC Machine Learning Lab	CO1	understand complexity of Machine Learning algorithms and their limitations.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	understand modern notions in data analysis-oriented computing.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	be capable of confidently applying common Machine Learning algorithms in practice and implementing their own.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	Be capable of performing experiments in Machine Learning using real-world data.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	Implement k-nearest neighbours classification using python.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS605PC Compiler Design Lab	CO1	Design and develop interactive and dynamic web applications using HTML, CSS, JavaScript and XML	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	Apply client-server principles to develop scalable and enterprise web applications.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	Ability to design, develop, and implement a compiler for any language.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	Able to use lex and yacc tools for developing a scanner and a parser.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	Able to design and implement LL and LR parsers.	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
MC609 Environmental Science	CO1	Able to understand Ecosystems	1	1	2	1	2	3	0	0	2	0	2	3	1	1	1
	CO2	Able to understand Classification of Resources	2	1	2	1	2	3	0	0	3	0	2	3	1	1	1
	CO3	Understand Environmental Pollution and Control Technologies	1	1	2	1	2	3	0	0	2	0	2	3	1	1	1
	CO4	Understand Environmental Policy, Legislation & EIA	2	1	1	1	2	3	0	0	3	1	1	3	1	1	1
	CO5	understand /evaluate / develop technologies on the basis of ecological principles and environmental regulations which in turn helps in sustainable development	1	2	2	1	2	3	0	0	3	1	2	3	1	1	1
		AVERAGE	1.4	1.2	1.8	1	2	3	0	0	2.6	0.4	1.8	3	1	1	1
		AVERAGE WITH MARKS	1.05	0.9	1.35	0.75	1.5	2.3	0	0	2	0.3	1.4	2.3	0.8	0.8	0.75



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IV YEAR: I SEMESTER

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS701PC Cryptography & Network Security	CO1	Understand cryptography concepts.	2	2	3	3	3	2	0	0	3	0	1	3	2	2	3
	CO2	Understand Wireless Network Security.	2	2	2	2	3	3	0	0	3	1	2	3	2	2	3
	CO3	understand basic cryptographic algorithms, message and web authentication and security issues.	1	2	3	3	3	2	0	0	3	1	2	3	2	2	3
	CO4	Ability to identify information system requirements for both of them such as client and server.	2	2	2	2	3	3	0	0	3	1	2	3	2	3	3
	CO5	Ability to understand the current legal issues towards informat	2	2	2	3	3	3	0	0	3	0	1	3	2	2	3
		AVERAGE	1.8	2	2.4	2.6	3	2.6	0	0	3	0.6	1.6	3	2	2.2	3
		AVERAGE WITH MARKS	1.35	1.5	1.8	1.95	2.3	2	0	0	2.3	0.5	1.2	2.3	1.5	1.7	2.25

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS702PC Data Mining	CO1	Ability to understand the types of the data to be mined and present a general classification of tasks and primitives to integrate a data mining system.	2	2	3	3	3	2	0	0	3	0	1	3	2	3	3
	CO2	Apply preprocessing methods for any given raw data. Extract interesting patterns from large amounts of data.	2	3	2	2	3	2	0	0	3	0	2	3	3	3	3
	CO3	Discover the role played by data mining in various fields.	2	2	3	3	3	2	0	0	3	0	1	3	2	3	3
	CO4	Choose and employ suitable data mining algorithms to build analytical applications	2	3	3	2	3	2	0	0	3	1	2	3	3	3	3
	CO5	Evaluate the accuracy of supervised and unsupervised models	2	3	2	3	3	2	0	0	3	1	2	3	3	2	3
		AVERAGE	2	2.6	2.6	2.6	3	2	0	0	3	0.4	1.6	3	2.6	2.8	3
		AVERAGE WITH MARKS	1.5	1.95	1.95	1.95	2.3	1.5	0	0	2.3	0.3	1.2	2.3	2	2.1	2.25



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS714PE Cloud Computing	CO1	Understand the concepts of cloud computing.	1	2	2	1	2	2	0	0	1	1	0	2	2	3	2
	CO2	Understand Network Connectivity in Cloud Computing	2	3	3	2	3	3	0	0	2	1	1	3	2	3	2
	CO3	Ability to understand various service delivery models of a cloud computing architecture.	2	3	3	2	3	2	0	0	3	1	2	3	2	2	3
	CO4	Ability to understand the ways in which the cloud can be programmed and deployed.	3	2	2	3	3	2	0	0	3	0	2	3	3	3	3
	CO5	Understanding cloud service providers	3	2	3	2	3	2	0	0	3	0	3	3	3	2	3
		AVERAGE	2.2	2.4	2.6	2	2.8	2.2	0	0	2.4	0.6	1.6	2.8	2.4	2.6	2.6
		AVERAGE WITH MARKS	1.65	1.8	1.95	1.5	2.1	1.7	0	0	1.8	0.5	1.2	2.1	1.8	2	1.95

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS722PE Real Time Systems	CO1	Able describe how a real-time operating system kernel is	3	2	2	1	2	1	0	0	2	0	1	3	2	2	2
	CO2	Able explain how tasks are managed.	3	3	3	2	3	2	0	0	2	0	2	3	1	3	3
	CO3	Explain how the real-time operating system implements time management.	3	3	3	2	2	2	0	0	3	1	3	3	2	3	3
	CO4	Discuss how tasks can communicate using semaphores, mailboxes, and queues.	3	2	3	3	3	3	0	0	3	1	3	3	3	2	3
	CO5	Be able to implement a real-time system on an embedded processor.	3	3	3	2	3	2	0	0	3	1	3	3	3	1	3
		AVERAGE	3	2.6	2.8	2	2.6	2	0	0	2.6	0.6	2.4	3	2.2	2.2	2.8
		AVERAGE WITH MARKS	2.25	1.95	2.1	1.5	2	1.5	0	0	2	0.5	1.8	2.3	1.7	1.7	2.1



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Subject Code	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	1	0
MN700OE Health & Safety in Mines (Open Elective-II)	CO1	understand the terminology of health and safety	1	1	1	1	2	1	0	0	2	0	1	3	1	1	0
	CO2	undertand the preventive measures of accidents	1	2	1	2	3	2	0	0	2	0	2	3	1	1	0
	CO3	System engineering approach to safety, techniques used in safety analysis	1	1	1	2	2	2	0	0	3	1	3	3	2	0	1
	CO4	Understand Risk management	1	2	2	3	3	3	0	0	3	1	3	3	1	1	0
	CO5	Development of safety consciousness, publicity and propaganda for safety	1	1	1	2	3	2	0	0	3	1	3	3	3	1	1
		AVERAGE	1	1.4	1.2	2	2.6	2	0	0	2.6	0.6	2.4	3	1.6	0.8	0.4
		AVERAGE WITH MARKS	0.75	1.05	0.9	1.5	2	1.5	0	0	2	0.5	1.8	2.3	1.2	0.6	0.3

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS703PC Cryptography & Network Security Lab	CO1	Able to perform encryption and decryption using Ceaser cipher, Substitution cipher and Hill Cipher	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO2	Able to implement the DES algorithm logic	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO3	Able to write the RC4 logic in Java Using Java cryptography	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO4	Able to Implement the Diffie-Hellman Key Exchange mechanism using HTML and JavaScript	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
	CO5	Able to calculate the message digest of a text using the MD5 al	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS704PC Industrial Oriented Mini Project/ Summer Internship	CO1	Students will be able to practice acquired knowledge within the chosen	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO2	Identify, discuss and justify the technical aspects of the chosen project with a comprehensive and systematic approach.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO3	Reproduce, improve and refine technical aspects for engineering projects.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO4	Work as an individual or in a team in development of technical projects.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO5	Communicate and report effectively project related activities and findings	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS705PC Seminar	CO1	Establish motivation for any topic of interest and develop a thought process for technical presentation.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO2	Organize a detailed literature survey and build a document with respect to technical publications.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO3	Analysis and comprehension of proof-of-concept and related data	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO4	Effective presentation and improve soft skills.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO5	Make use of new and recent technology (e.g. Latex) for creating technical reports	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS706PC Project Stage - I	CO1	Demonstrate a sound technical knowledge of their selected project topic.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO2	Undertake problem identification, formulation and solution.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO3	Design engineering solutions to complex problems utilising a systems approach	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO4	Conduct an engineering project	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO5	Communicate with engineers and the community at large in written and oral forms	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3

IV YEAR: II SEMESTER

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
SM801MS Organizational Behaviour	CO1	Understand the Organizational Behaviour.	1	0	0	0	2	2	0	0	3	1	0	3	0	1	1
	CO2	Understand conceptual framework and the theories underlying Organizational Behaviour.	1	1	0	1	2	1	0	0	3	1	1	3	0	1	1
	CO3	Understand strategies to improve the follow of communication	1	1	1	0	2	2	0	0	3	1	1	3	1	1	1
	CO4	Understand Job design and Goal setting for High performance	1	1	1	1	2	1	0	0	3	0	1	3	1	0	1
	CO5	Know the Activities and skills of Great leaders.	1	1	1	1	2	2	0	0	3	0	1	3	1	1	1
		AVERAGE	1	0.8	0.6	0.6	2	1.6	0	0	3	0.6	0.8	3	0.6	0.8	1
		AVERAGE WITH MARKS	0.75	0.6	0.45	0.45	1.5	1.2	0	0	2.3	0.5	0.6	2.3	0.5	0.6	0.75



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS815PE Cyber Forensics	CO1	Understand Cybercrime and Types	2	1	1	1	2	2	0	0	1	1	2	3	2	3	3
	CO2	Understand Forensic duplication and Forensic Duplication Tool Requirements	3	3	2	2	3	2	0	0	3	1	3	3	3	3	3
	CO3	understand the usage of computers in forensic	3	3	3	3	3	2	0	0	2	0	3	3	3	3	3
	CO4	Understand how to use various forensic tools for a wide variety of investigations.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO5	It gives an opportunity to students to continue their zeal in research in computer forensics	3	3	3	3	3	2	0	0	2	1	2	3	3	3	3
		AVERAGE	2.8	2.6	2.4	2.4	2.8	2.2	0	0	2.2	0.6	2.6	3	2.8	3	3
		AVERAGE WITH MARKS	2.1	1.95	1.8	1.8	2.1	1.7	0	0	1.7	0.5	2	2.3	2.1	2.3	2.25

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
MT8020E Total Quality Management	CO1	Understand the concepts of TQM	1	2	2	2	2	1	0	0	2	0	1	3	2	2	3
	CO2	Understand the role of marketting and sales.	2	3	3	3	3	2	0	0	3	1	2	3	3	2	3
	CO3	Organizing the TQM	3	3	3	2	3	2	0	0	3	1	2	3	2	2	2
	CO4	Measuarig the quality cost	2	2	2	3	3	1	0	0	2	0	2	3	2	3	3
	CO5	Know the ISO standard services	3	3	2	2	3	2	0	0	3	0	3	3	3	2	3
		AVERAGE	2.2	2.6	2.4	2.4	2.8	1.6	0	0	2.6	0.4	2	3	2.4	2.2	2.8
		AVERAGE WITH MARKS	1.65	1.95	1.8	1.8	2.1	1.2	0	0	2	0.3	1.5	2.3	1.8	1.7	2.1



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS802PC Project Stage - II	CO1	Demonstrate a sound technical knowledge of their selected project topic.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO2	Undertake problem identification, formulation and solution.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO3	Design engineering solutions to complex problems utilizing a systems approach.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO4	Communicate with engineers and the community at large in written and oral forms	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO5	Conduct an engineering project	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REGULATION :R18

BATCH: 2019 - 2023

B.Tech

CO-PO-PSO CONSOLIDATED MAPPING

YEAR/SEM: I / I

	PROGRAME OUTCOMES(PO'S)												ROGRAME SPECIFIC		
SUBJECT NAME	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
MATHEMATICS-1	1.95	2.1	2.1	1.8	2.1	2	0	0	0	0.3	1.4	2.1	2	2	0
CHEMISTRY	2.25	2.1	1.95	1.7	2	2	0	0	0	0.5	1.4	2.3	1	1	0
Basic Electrical Engineering	2.25	1.7	1.95	1.7	2.1	2	0	0	0	0.3	1.5	2.3	1	1	0
Engineering Workshop	2.25	2	2.1	1.8	2.1	2	0	0	0	0.3	1.5	2.3	1	1	0
English	1.5	1.1	0.45	0.9	0	1	0	0	0	0.5	0.5	1.5	1	1	0
Engineering Chemistry Lab	3	3	3	3	3	3	3	0	3	3	3	3	3	3	3
English Language and Communication Skills Lab	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
Basic Electrical Engineering Lab	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3

YEAR/SEM: I / II

Mathematics - II	2	2	2	2	2	2	0	0	0	0	1	2	1	2	0
Applied Physics	2	2	1	1	2	1	0	0	0	0	1	2	1	2	0
Programming for Problem Solving	2	2	2	2	2	1	0	0	0	0	2	2	2	2	0
Engineering Graphics	2	1	2	2	2	2	0	0	0	2	0	0	2	2	0
Applied Physics Lab	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
Programming for Problem Solving Lab	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
Environmental Science	1	1	1	1	0	1	0	0	0	0	1	2	0	0	0

YEAR/SEMESTER:II/I

Analog and Digital Electronics	1.7	1.8	1.4	2.1	2	2	0	0	1	0	1	2	1	1	1.2
Data Structures	1.5	2.1	2.3	2.1	2	1	0	0	2	1	2	2	2	2	2.3
Computer Oriented Statistical Methods	1.5	2.1	2.1	2	2	2	0	0	1	0	1	2	2	2	2.3
Computer Organization and Architecture	1.5	0.9	1.3	0.9	1	1	0	0	1	1	1	2	1	1	0.8
Object Oriented Programming using C++	1.4	2.3	2.3	2.3	2	1	0	0	2	1	1	2	2	2	2.3
Analog and Digital Electronics Lab	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
Data Structures Lab	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
IT WORKSHOP LAB	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
C++ Programming Lab	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
Gender Sensitization Lab	0	1	0.4	1	0	0	0	0	3	1	1	3	1	0	0.4

YEAR/SEMESTER:II / II

Discrete Mathematics	1.5	2	2	2.1	1	1	0	0	2	0	1	2	2	2	1.5
Business Economics & Financial Analysis	0.8	1.4	1.2	1.1	1	1	0	0	2	0	1	2	1	1	1.2
Operating Systems	1.5	1.7	1.8	1.1	2	1	1	2	2	2	1	2	2	2	1.8
Database Management Systems	1.5	2.1	2.3	2	2	2	0	0	2	0	1	2	2	2	2
Java Programming	1.5	2.3	2.3	2	2	2	0	0	2	0	1	2	2	2	2.3
Operating Systems Lab	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
Database Management Systems Lab	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
Java Programming Lab	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
Constitution of India	0.8	1.1	1.8	1.5	2	2	0	0	2	0	2	2	1	1	0.8

YEAR/SEMESTER:III / I

Formal Languages & Automata Theory	1.5	2.3	1.8	1.7	2	1	0	0	2	1	1	2	1	1	0.8
Software Engineering	2.3	2.3	1.5	1.8	2	1	0	0	2	0	2	2	1	2	2
Computer Networks	1.5	1.5	1.5	1.5	2	1	0	0	2	0	1	2	2	2	1.5
Web Technologies	1.5	1.5	2.3	1.8	2	2	0	0	2	0	1	2	1	2	1.8
Principles of Programming Languages	2.3	1.8	2.1	2	2	2	0	0	2	0	1	2	2	2	2.3
Distributed Databases	1.5	2.3	2.1	2.1	2	2	0	0	2	0	2	2	2	2	2.3
Software Engineering Lab	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
Computer Networks & Web Technologies Lab	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
Advanced Communication Skills Lab	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
Intellectual Property Rights	0.8	1.2	1.4	1.1	1	2	0	0	2	0	1	2	1	0	0.6

YEAR/SEMESTER:III / II

Machine Learning	1.5	2	2.1	2.1	2	2	0	0	2	0	2	2	2	2	2.3
Compiler Design	1.5	2	2	1.8	2	2	0	0	2	0	1	2	2	2	2.3
Design and Analysis of Algorithms	1.5	2.3	2.3	2.1	2	2	0	0	2	0	1	2	2	2	2.3
Software Testing Methodologies	2.3	2.3	2.3	2	2	2	0	0	2	0	2	2	2	2	2.3
Cyber Law & Ethics	2.3	2.3	2.3	2	2	2	1	1	2	0	2	2	2	2	2.3
Machine Learning Lab	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
Compiler Design Lab	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
Environmental Science	1.1	0.9	1.4	0.8	2	2	0	0	2	0	1	2	1	1	0.8

YEAR/SEMESTER: IV /**I**

Cryptography & Network Security	1.4	1.5	1.8	2	2	2	0	0	2	0	1	2	2	2	2.3
Data Mining	1.5	2	2	2	2	2	0	0	2	0	1	2	2	2	2.3
Cloud Computing	1.7	1.8	2	1.5	2	2	0	0	2	0	1	2	2	2	2
Real Time Systems	2.3	2	2.1	1.5	2	2	0	0	2	0	2	2	2	2	2.1
Health & Safety in mines (Open Elective - II)	0.8	1.1	0.9	1.5	2	2	0	0	2	0	2	2	1	1	0.3
Cryptography & Network Security Lab	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
Industrial Oriented Min Projects /Summer Internship	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
Seminar	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
Project Stage - I	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3

YEAR/SEMESTER:IV/II

Organizational Behaviour	0.8	0.6	0.5	0.5	2	1	0	0	2	0	1	2	0	1	0.8
Cyber Forensics	2.1	2	1.8	1.8	2.1	2	0	0	1.7	0.5	2	2.3	2	2	2.25
Total Quality Management	1.7	2	1.8	1.8	2.1	1	0	0	2	0.3	1.5	2.3	2	2	2.1
Major Project	3	3	3	3	3	3	0	0	3	3	3	3	3	3	3
OVERALL ATTAINMENT	2.07	2.18	2.18	2.12	2.19	2.08	0.08	0.05	2	1.15	1.86	2.34	2.02	2.06	1.89
80% OF ATTAINMENT	1.65	1.74	1.74	1.69	1.75	1.66	0.06	0.04	1.6	0.92	1.49	1.87	1.61	1.65	1.51



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

INDIRECT ASSESSMENT (B.Tech)

A.Y: 2019-2023

ALUMNI SURVEY

REGULATION : R18

Respondent Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
SANA BEGUM	3	3	2	1	3	2	1	3	3	3	2	3	3	2	3
B. ANJALI	3	2	3	2	1	2	3	2	2	3	2	1	3	2	1
K. MADHAVI	2	3	3	2	1	2	3	3	3	3	2	2	3	2	2
SAEMA FIRDOUSE	3	2	3	3	3	3	2	3	3	3	2	3	3	2	3
MOHD.SOHAIL	3	2	3	2	2	3	2	2	3	3	3	3	3	3	3
V INDU	2	3	3	3	2	3	1	3	3	2	3	3	2	3	3
ZUBIYA KHAN	3	2	3	3	2	1	3	3	3	3	2	2	3	2	2
Average	2.71	2.43	2.86	2.29	2	2.29	2.14	2.71	2.86	2.86	2.29	2.43	2.86	2.29	2.43

PARENT SURVEY

Respondent Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
SANA BEGUM	3	3	3	3	2	3	2	2	3	3	3	3	3	2	3
B. ANJALI	2	2	3	3	3	3	3	2	3	2	3	3	3	2	3
K. MADHAVI	3	3	3	3	2	3	2	2	2	3	2	3	3	3	2
SAEMA FIRDOUSE	3	3	3	2	3	2	2	2	2	3	3	2	3	3	3
MOHD.SOHAIL	3	3	2	3	2	3	3	3	2	2	3	3	3	2	3
V INDU	3	2	3	3	3	3	2	2	3	3	3	3	3	3	3
ZUBIYA KHAN	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3
Average	2.85	2.71	2.86	2.86	2.57	2.86	2.43	2.29	2.57	2.71	2.86	2.86	2.86	2.57	2.86

STUDENT SURVEY

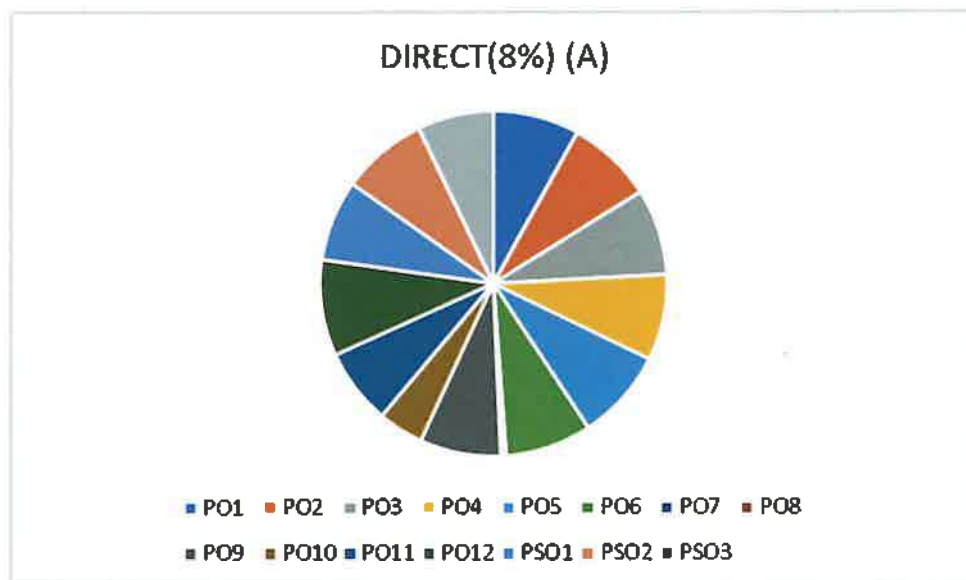
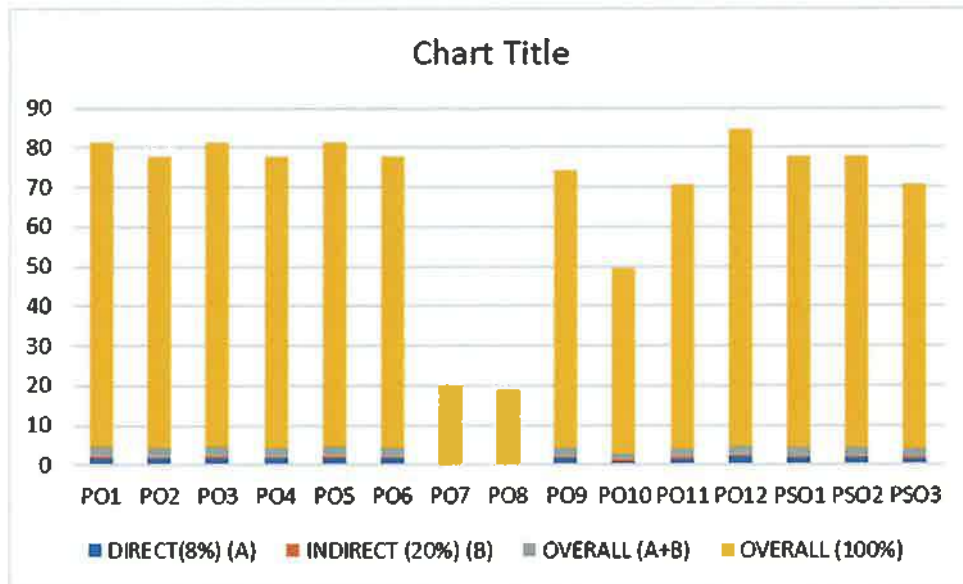
Respondent Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
SANA BEGUM	2	2	3	2	3	2	3	3	3	3	3	2	3	2	3
B. ANJALI	2	3	3	2	3	3	3	3	2	2	3	2	3	3	3
K. MADHAVI	3	3	3	2	3	2	3	3	3	2	3	2	3	3	3
SAEMA FIRDOUSE	3	3	3	2	3	3	3	3	3	3	3	3	3	2	3
MOHD.SOHAIL	3	3	3	3	3	2	3	2	3	3	3	3	2	3	3
V INDU	3	2	3	3	3	3	2	3	2	3	3	3	3	3	2
ZUBIYA KHAN	3	3	3	3	2	3	3	3	2	2	3	3	3	3	3
Average	2.71	2.71	3	2.42	2.85	2.57	2.86	2.85	2.57	2.57	3	2.57	2.85	2.71	2.85

AVERAGE OF INDIRECT ASSESSMENT

SURVEY	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
ALUMNI SURVEY	2.71	2.43	2.86	2.29	2	2.29	2.14	2.71	2.86	2.86	2.29	2.43	2.86	2.29	2.43
PARENT SURVEY	2.85	2.71	2.86	2.86	2.57	2.86	2.43	2.29	2.57	2.71	2.86	2.86	2.86	2.57	2.86
STUDENT SURVEY	2.71	2.71	3	2.42	2.85	2.57	2.8	2.85	2.57	2.57	3	2.57	2.85	2.71	2.85
AVERAGE OF INDIRECT ASSESSMENT	2.76	2.62	2.91	2.52	2.47	2.57	2.46	2.62	2.67	2.71	2.72	2.62	2.86	2.52	2.71
20% of Indirect Assessment.	0.55	0.52	0.58	0.50	0.49	0.51	0.49	0.52	0.53	0.54	0.54	0.52	0.57	0.50	0.54

FINAL POs / PSOs Attainment

SURVEY	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
DIRECT(80%) (A)	1.7	1.7	1.7	1.7	1.8	1.7	0.06	0.04	1.6	0.9	1.5	1.9	1.6	1.7	1.5
INDIRECT (20%) (B)	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5
OVERALL (A+B)	2.3	2.3	2.4	2.2	2.3	2.2	0.55	0.54	2.1	1.4	2.1	2.4	2.2	2.2	2
OVERALL (100%)	76.7	73.3	76.7	73.3	76.7	73.3	18.7	18	70	46.7	66.7	80	73.3	73.3	66.7



DR. V.R.K WOMEN'S COLLEGE OF ENGINEERING AND TECHNOLOGY

Department of Electronics and Communication Engineering

CO Attainment

ACADEMIC YEAR: 2021-2022
YEAR & BRANCH: III YEAR ECE
SEMESTER: II SEMESTER
BATCH: 2019-2023
SUBJECT CODE: EC603PC
SUBJECT: VLSI DESIGN
FACULTY: E.SHIREESHA

Enter -1 for Absentees

TOTAL NO. OF STUDENTS REGISTERED FOR THE COURSE=6

S.NO	HALL TICKET NUMBER	NAME OF THE STUDENT	MID I Examination				MID II Examination				% of Attainment					Univ. Exam Mark	Univ. Exam Mark	CRITERIA FOR CO ATTAINMENT (Internal Exams)		CRITERIA FOR CO ATTAINMENT (University Exams)			
			Ass	Obj	Sub	Total	Ass	Obj	Sub	Total	CO1	CO2	CO3	CO4	CO5			Criteria	Level	Criteria	Level		
			5	10	10	25	5	10	10	25	100	100	100	100	100			75	100				
1	19H81A0401	ADEEN FATIMA	5	6	7	18	5	5	6	16	72	72	68	64	64	58	75	60 Percentage and above of appeared students Scoring >=50% of Total Marks for Each CO	68	60 Percentage and above of appeared students Scoring >=35% of Total Marks	3		
	19H81A0402	SYEDA SUMMAIYA	5	7	7	19	5	6	6	17	76	76	72	68	68	66	84						
3	19H81A0403	TAYYABA TABASSUM	5	8	8	21	5	7	7	19	84	84	80	76	76	80	80						
4	19H81A0404	UZMA NAHID	5	6	6	17	5	6	6	17	68	68	68	72	68	24	58	40 to 59 Percentage and above of appeared students Scoring >=50% of Total Marks for Each CO	2	40 to 59 Percentage and above of appeared students Scoring >=35% of Total Marks	2		
5	18H81A0404	UMM-E-KULSUM AMEENA SULTANA	5	8	7	20	5	6	7	18	80	80	76	72	72	2	22						
6	20H85A0401	SAMA MANISHA	5	6	6	17	5	7	7	19	68	68	72	76	76	20	38						
No of students crossed the threshold level in Internal Examination (>=50%)			6					6					6					3		No of students crossed the threshold level in External Examination (>=50%)			
No of Students Appeared for the Examination			6					6					6					6		No of Students Appeared for the Examination			
% of Students crossed the threshold level			100					100					100					50		% of Students crossed the threshold level			
COs attainment Level			3					3					3					2		COs attainment Level			
Average of COs attainment			3					3					3					2		Average of COs attainment			
Course Outcome attainment of the class			2.25					2.25					2.25										



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R18 COURSE ATTAINMENT FOR ALL COURSES

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Year 1 - Semester 1		
Subject code	Course Name	ATTAINMENT
MA101BS	Mathematics-I	2
AP102BS	APPLIED PHYSICS	2.2
CS103ES	PROGRAMMING FOR PROBLEM SOLVING	2.25
ME104ES	ENGINEERING GRAPHICS	2.2
AP105BS	APPLIED PHYSICS LAB	3
CS106ES	PROGRAMMING FOR PROBLEM SOLVING LAB	2.25
MC109ES	ENVIRONMENTAL SCIENCE	3
Year 1 - Semester 2		
MA201BS	Mathematics-II	2.2
CH202BS	CHEMISTRY	2.5
subject code	BASIC ELECTRICAL ENGINEERING	2.25
ME205ES	ENGINEERING WORKSHOP	2.5
EN205HS	ENGLISH	2.5



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CH206BS	ENGINEERING CHEMISTRY LAB	2.5
EN207HS	ENGLISH LANGUAGE AND COMMUNICATION SKILLS LAB	3
EE208ES	BASIC ELECTRICAL ENGINEERING LAB	2.5
	Year 2 - Semester 1	
MA301PC	Electronic Devices And Circuits	2.5
EC302PC	Network Analysis And Transmission Lines	2.25
EC303PC	Digital System Design	3
EC304PC	Signals and Systems	2.5
EC305ES	Probability Theory And Stochastic Processes	2
EC306PC	Electronic devices and circuits lab	2.8
EC307PC	Digital System Design Lab	2.8
EC308ES	Basic Simulation Lab	2.5
MC309	Constitution of India	2.6
	Year 2 - Semester 2	
MA401BS	Laplace Transforms, Numerical Methods And Complex Variables	2.2
EC402PC	Electromagnetic Fields and Waves	2.5
EC403PC	Analog and Digital Communications	2.5
EC404PC	Linear IC Applications	3
EC405PC	Electronic Circuit Analysis	2.4
EC406PC	Analog and Digital Communications Lab	2.5
EC407PC	IC Applications Lab	2.6
EC408PC	Electronic Circuit Analysis Lab	2.2
MC409	Gender Sensitization Lab	2.5



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Year 3 – SEMESTER 1		
EC501PC	Microprocessors And Microcontrollers	2.2
EC502PC	Data Communications And Networks	2.5
EC503PC	Control Systems	2.5
SM504MS	Business Economics And Financial Analysis	2.4
EN508	Advanced Communication Skills Lab	2.5
EC513PE	Electronic Measurements and Instrumentation	2.1
EC505PC	Microprocessors And Microcontrollers Lab	2.5
EC506PC	Data Communications And Networks Lab	2.6
MC510	Intellectual Property Rights	2.4
Year 3 – SEMESTER 2		
MC609	Environmental Science	2.6
EC606PC	Scripting Languages Lab	2.8
EC601PC	Antennas and Wave Propagation	2.5
EC602 PC	Digital Signal Processing	2.4
EC603PC	Vlsi Design	2.25
EC613PE	Embedded System Design	2.5
EC604PC	Digital Signal Processing Lab	2.8
EC605PC	E-Cad Lab	2.8
Year 4 – SEMESTER 1		
EC701PC	Microwave And Optical Communications	2.6
EC712PE	Scripting Languages	2.6
EC723PE	Network Security and Cryptography	2.8
	Open Elective-2	2.6



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SM702MS	Professional Practice, Law & Ethics	2.6
EC703PC	Microwave And Optical Communications Lab	2.5
	Industrial Oriented Mini Project/ Summer	
EC704PC	Internship	2.8
EC706PC	Seminar	2.6
EC705PC	PROJECT STAGE - I	2.6
	Year 4 - SEMESTER 2	
EC811PE	Satellite Communications	2.6
EC821PE	System On Chip Architecture	2.8
	Total Quality Management	2.8
EC801PC	Project stage-2	2.6

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DEPARTMENT OF ELECTONICS AND COMMUNICATION ENGINEERING

CO-PO-PSO ATTAINMENT FOR 2019-2023 BATCH(R18)

I YEAR - I SEMESTER

Subject Code	Course Name	CO's	Outcomes	PROGRAM OUTCOMES (POs)												PSOs		
				1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
MA101BS	Mathematics - I	CO1	Write the matrix representation of a set of linear equations and to analyse the solution of the system of equations	3	2	1	2	2	3	3	2	2	2	2	2	2	2	0
		CO2	Find the Eigen values and Eigen vectors	3	2	2	2	2	2	2	2	2	1	2	1	2	2	0
		CO3	Reduce the quadratic form to canonical form using orthogonal transformations.	3	3	1	2	2	2	2	2	2	2	2	2	2	1	0
		CO4	Analyse the nature of sequence and series. Solve the applications on the mean value theorems.	3	3	2	1	2	2	2	1	2	1	2	2	2	1	0
		CO5	Evaluate the improper integrals using Beta and Gamma functions. Find the extreme	3	3	2	2	2	2	2	1	2	2	2	1	2	1	0



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			values of functions of two variables with/ without constraints.															
Average				3	2.6	2	1.8	2	2.2	2	1.6	2	2	2	2	2	1	0
Average with marks attainment				2	1.7	1	1.2	1	1.5	1	1.1	1.3	1	1.3	1	1.3	1	0
Subject Code	Course Name	CO's	Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
AP202BS	Applied Physics	CO1	The student would be able to learn the fundamental concepts on Quantum behaviour of matter in its micro state	3	2	2	2	3		1	2	3	2		3	3	2	
		CO2	The knowledge of fundamentals of Semiconductor physics, Optoelectronics, Lasers and fibre ,optics enable the students to apply to various system like communications solar cell, photo cells and so on	3		2	3	3	2	2	1	2	3		2	3	2	
		CO3	Knowledge in Optoelectronics	2			3	2		2		1	2		2	2	3	
		CO4	Design, characterization and study of properties of material help the students to prepare new materials for various engineering applications	3	1	2		2	1	2		2	1		2	3	2	



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		CO5	The course also helps the students to be exposed to the phenomena of electromagnetism and also to have exposure on magnetic materials and dielectric materials	1		1	1			1		1	1		2	2	2	
Average				2.4	1.5	2	2.3	3	1.5	2	1.5	1.8	2	0	2	2.6	2	0
Average marks with attainment				1.8	1.1	1	1.7	2	1.1	1	1.1	1.3	1	0	2	1.9	2	0
Subject Code	Course Name	CO's	Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS203ES	Programming for Problem Solving	CO1	To write algorithms and to draw flowcharts for solving problems.	3	3	2	3	2	2	2	2	2	2	2	2	2	1	2
		CO2	To convert the algorithms/flowcharts to C programs.	3	3	1	2	1	2	2	2	2	2	1	2	2	1	1
		CO3	To code and test a given logic in C programming language.	3	3	1	1	2	3	3	2	2	1	1	1	1	1	1
		CO4	To decompose a problem into functions and to develop modular reusable code.	3	2	2	2	2	2	3	2	1	2	1	2	1	2	1
		CO5	To use arrays, pointers, strings and structures to write C programs. Searching and sorting problems.	3	1		1	2	1	2	2	1	1	2	1	2	2	1



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Average				3	2.4	2	1.8	2	2	2	2	1.6	2	1.4	2	1.6	1	1.2
Average marks with attainment				2.3	1.8	1	1.4	1	1.5	2	1.5	1.2	1	1.1	1	1.2	1	0.9
Subject Code	Course Name	CO's	Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
ME204ES	Engineering Graphics	CO1	Preparing working drawings to communicate the ideas and information.	3	2	3	1	2	3	2	1	2	2	2	2	3	1	1
		CO2	Read, understand and interpret engineering drawings	2	2	3	1	3	2	2	2	2	2	2	2	2	3	2
		CO3	Development of Surfaces of Right Regular Solids, Prism, Cylinder, Pyramid and Cone,	1	1	3	1	2	1	1	2	2	1	2	1	1	2	0
		CO4	Understand the Principles of Isometric Projection.	2	3	2	2	2		2	2	2	1	2	2	3	1	0
		CO5	Knowledge to CAD Software Package Commands	1	2	2	2	2	2	3	2	1	2	2	1	1	2	0
Average				1.7	2	3	1.4	3	2	2	1.8	1.8	2	2	2	2.2	2	0
Average marks with attainment				1.2	1.5	2	1	2	1.5	1	1.3	1.3	1	1.5	1	1.6	1	0
Subject Code	Course Name	CO's	Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3



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AP205BS	Applied Physics Lab	CO1	Understand the V-I Characteristics of solar cell	3	2	2	2	1	1	2	2	2	2	1	1	3	2	0
		CO2	determine magnetic field along the axis of a current carrying coil.	3	2	2	2	1	1	2	0	1	2	1	1	3	1	0
		CO3	determine Hall co-efficient of a given semiconductor	3	2	2	2	1	1	2	2	1	2	1	1	3	2	0
		CO4	determine the bending losses of Optical fibres.	3	2	2	2	1	1	0	1	1	2	1	1	3	2	0
		CO5	determine the Quality factor of LCR Circuit.	3	2	2	2	1	1	1	1	1	2	1	1	3	1	0
Average				3	2	2	2	1	1	1	1.2	1.2	2	1	1	3	2	0
Average with marks attainment				3	2	2	2	1	1	1	1.2	1.2	2	1	1	3	2	0
Subject Code	Course Name	CO's	Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS206ES	Programming for Problem Solving Lab	CO1	formulate the algorithms for simple problems	3	3	2	2	2	2	2	2	2	2	2	2	3	2	2
		CO2	translate given algorithms to a working and correct program.	3	3	2	2	1	2	0	0	2	1	1	1	2	2	0
		CO3	correct syntax errors as reported by the compilers. Identify and correct logical errors encountered during execution.	3	3	2	2	1	1	2	0	2	2	0	0	3	2	0



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		CO4	represent and manipulate data with arrays, strings and structures and use pointers of different types	3	3	2	2	1	2	2	2	1	0	0	1	2	1	0
		CO5	create, read and write to and from simple text and binary files and modularize the code with functions so that they can be reused	3	3	2	2	1	1	0	1	1	1	1	0	0	1	0
Average				3	3	2	2	1	1.6	1	1	1.6	1	0.8	1	2	2	0.4
Average with marks attainment				2.3	2.3	2	1.5	1	1.2	1	0.8	1.2	1	0.6	1	1.5	1	0.3
Subject Code	Course Name	CO's	Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
MC209ES	Environmental Science	CO1	understand /evaluate / develop technologies on the basis of ecological principles and environmental regulations which inturn sustainable development	3	3	3	3	2	1	1	1	2	2	2	2	3	3	0
		CO2	Classify Living and Non-Living resources	3	3	3	3	2	1	-	-	2	1	2	2	2	2	0
		CO3	Define Biodiversity and Biotic Resources	3	3	3	3	2	2	1	-	1	2	2	2	3	3	0
		CO4	Understand the Environmental Pollution and Control Technologies	3	3	3	3	2	1	-	-	1	1	3	2	2	2	0



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		CO5	Understand Environmental Policy, Legislation & EIA	3	2	3	3	2	1	1	1	2	2	2	2	3	3	0
Average				3	2.8	3	3	2	1.2	1	1	1.6	1.6	2.2	2	2.6	2.6	0
Average with marks attainment				3	2.8	3	3	2	1.2	1	1	1.6	2	2.2	2	2.6	3	0

YEAR 1--SEMESTER 2

Subject Code	Course Name	CO's	Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
MA201BS	Mathematics - II	CO1	Identify whether the given differential equation of first order is exact or not	3	3	3	2	2	2	2	2	2	2	2	2	3	2	2
		CO2	Solve higher differential equation and apply the concept of differential equation to real world problems	3	3	3	3	2	1	2	2	2	2	1	1	2	2	2
		CO3	Evaluate the multiple integrals and apply the concept to find areas, volumes, centre of mass and Gravity for cubes, sphere and rectangular parallelepiped.	3	3	3	2	2	2	2	0	1	2	2	0	2	2	0



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		CO4	Evaluate the line, surface and volume integrals and converting them from one to another.	3	3	3	2	2	1	2	2	2	2	2	2	2	2	0
		CO5	Knowledge in Vector Integration	3	3	3	2	2	2	2	0	1	1	1	2	2	2	0
Average				3	3	3	2.2	2	1.6	2	1.2	1.6	2	1.5	1	2	2	0.8
Average with marks attainment				2.2	2.2	2	1.6	1	1.2	1	0.9	1.2	1	1.1	1	1.5	1	0.6
Subject Code	Course Name	CO's	Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CH102BS	Chemistry	CO1	The knowledge of atomic, molecular and electronic changes, band theory related to conductivity.	3	2	2	1	2	1	1	2	2	2	1	2	1	1	0
		CO2	The required principles and concepts of electrochemistry, corrosion and in understanding the problem of water and its treatments	2	2	1	2	2	2	1	2	2	1	1	0	1	1	0
		CO3	The required skills to get clear concepts on basic spectroscopy and application to medical and other fields	2	2	1	1	2	1	2	0	0	1	2	1	1	1	1
		CO4	The knowledge of configurational and conformational molecules and reaction mechanisms	2	2	1	2	2	2	2	0	1	2	0	1	0	0	0



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		CO5	The knowledge of Spectroscopic techniques and applications	2	2	1	1	2	2	2	1	1	1	0	0	0	0	0
Average				2.2	2	1	1.4	2	1.6	2	1	1.2	1	0.8	1	0.6	1	0.2
Average with marks attainment				1.8	1.7	1	1.2	2	1.3	1	0.8	1	1	0.7	1	0.5	1	0.2
Subject Code	Course Name	CO's	Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EE103ES	Basic Electrical Engineering	CO1	To analyze and solve electrical circuits using network laws and theorems.	3	3	3	2	3	2	2	2	2	2	2	2	3	2	1
		CO2	To understand and analyze basic Electric and Magnetic circuits	3	3	2	2	2	2	3	2	2	2	1	0	2	1	0
		CO3	To study the working principles of Electrical Machines	2	3	2	2	2	2	2	0	3	3	0	0	2	0	0
		CO4	To introduce components of Low Voltage Electrical Installations	2	2	2	2	2	2	1	0	3	1	1	2	0	0	0
		CO5	To understand the types of Batteries and Important Characteristics for Batteries.	2	2	2	3	2	2	1	1	1	1	1	2	0	2	0
Average				2.4	2.6	2	2.2	2	2	2	1	2.2	2	1	1	1.4	1	0.2
Average with marks attainment				2	2.2	2	1.8	2	1.7	2	0.8	1.8	2	0.8	1	1.2	1	0.2



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Subject Code	Course Name	CO's	Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
ME105ES	Engineering Workshop	CO1	Study and practice on machine tools and their operations.	2	3	2	2	2	2	2	2	1	3	2	2	3	2	2
		CO2	Practice on manufacturing of components using workshop trades including plumbing, fitting, carpentry, foundry,house wiring and welding	2	3	1	2	3	2	2	3	2	2	2	2	3	2	0
		CO3	Identify and apply suitable tools for different trades of Engineering processes including drilling,material removing, measuring,chiselling	1	2	2	2	3	2	2	1	2	3	1	2	3	2	1
		CO4	Explains the construction, function, use and application of different working tools, equipment and machines	2	2	2	1	3	2	1	1	2	1	1	2	2	1	0
		CO5	Apply basic electrical engineering knowledge for house wiring practice.	2	3	1	2	2	3	1	3	2	3	1	2	3	2	2
Average				1.8	2.6	2	1.8	3	2.2	2	2	1.8	2	1.4	2	2.8	2	1
Average with marks attainment				1.5	2.2	1	1.5	2	1.8	1	1.7	1.5	2	1.2	2	2.3	2	0.8
Subject Code	Course Name	CO's	Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3

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CH106BS	Engineering Chemistry Lab	CO3	Determination of physical properties like adsorption and viscosity.	2	2	2	2	1	2	2	1	2	2	1	2	2	1	0
		CO4	Calculation of Rf values of some organic molecules by TLC technique.	2	2	2	2	1	1	1	1	1	2	1	1	2	0	0
		CO5	Understand the Spectroscopic techniques and applications for important organic compounds.	2	2	2	2	1	1	1	1	1	2	1	1	2	0	0
Average				2	2	2	2	1	1.4	2	1.4	1.6	2	1.4	2	2	1	0.6
Average with marks attainment				1.7	1.7	2	1.7	1	1.2	1	1.2	1.3	2	1.2	1	1.7	1	0.5
Subject Code	Course Name	CO's	Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EN107HS	English Language and Communication Skills Lab	CO1	Better understanding of nuances of English language through audio- visual experience and group activities	3	2	2	2	2	3	2	2	2	3	2	3	3	2	2
		CO2	Neutralization of accent for intelligibility	2	2	3	2	1	2	2	2	3	3	2	3	3	1	0
		CO3	Speaking skills with clarity and confidence which in turn enhances their employability skills	2	2	2	2	1	3	2	1	2	3	2	3	3	2	0



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		CO4	Able to spoken English and neutralize their mother tongue influence	2	2	2	2	1	2	2	1	1	3	1	3	2	2	0	
		CO5	able to use language appropriately for public speaking and interviews	2	2	2	2	2	2	1	1	1	1	2	1	2	1	0	
Average				2.2	2	2	2	1	2.4	2	1.4	1.8	3	1.8	3	2.6	2	0.4	
Average with marks attainment				2.2	2	2	2	1	2.4	2	1.4	1.8	3	1.8	3	2.6	2	0.4	
Subject Code	Course Name	CO's	Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
EE108ES	Basic Electrical Engineering Lab	CO1	Get an exposure to basic electrical laws.	3	2	2	2	2	2	2	2	2	2	2	1	2	2	0	
		CO2	Understand the response of different types of electrical circuits to different excitations.	3	1	1	1	2	2	2	1	2	2	2	2	1	2	2	0
		CO3	Understand the measurement, calculation and relation between the basic electrical parameters.	3	3	2	2	2	2	2	2	1	1	2	2	2	2	1	0
		CO4	Understand the basic characteristics of transformers and electrical machines.	3	2	2	2	2	1	2	0	1	1	1	2	2	1	0	
		CO5	Understand No-Load Characteristics of a Three-phase Alternator	2	1	2	2	2	1	2	0	1	1	1	1	0	2	2	0
Average				2.8	1.8	2	1.8	2	1.6	2	2	1.4	1	1.6	1	2	2	0	



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Average with marks attainment	2.3	1.5	2	1.5	2	1.3	2	1.7	1.2	1	1.3	1	1.7	1	0
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YEAR 2--SEMESTER 1

			PROGRAM OUTCOMES (POs)												PSOs			
Subject Code	Course Name	CO 's	Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC301 PC	ELECTRONIC DEVICES AND CIRCUITS	C O1	Know the characteristics of various components.	3	3	3	2	1	1	3	3	3	2	2	1	-	-	3
		C O2	Understand the utilization of components.	3	2	3	2	1	3	2	1	3	2	2	1	-	-	3
		C O3	Understand the biasing techniques	3	3	3	3	1	1	1	2	3	2	3	1	1	-	1
		C O4	Design and analyze small signal amplifier circuits.	3	3	3	2	1	3	3	2	3	2	2	1		1	3
		C O5	To understand the concepts of simulation by using Spice tool	3	3	3	2	1	3	3	2	3	2	2	1	-	-	3
Average				3	2.8	3	2.2	1	2.2	2.4	2	3	2	2.2	1	1	1	2.6
Average with Marks Attainment				2.5	2.33	2.5	1.8	0.83	1.83	2	1.7	2.5	1.67	1.8	0.8	0.83	1	2.2



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Su bject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC302 PC	NETWOR K ANALYSI S AND TRANSMI SSION LINES	C O1	Gain the knowledge on basic RLC circuits behavior.	3	3	3	3	2	1	1		1	2	2	3	3	3	1
		C O2	Analyze the transmission line parameters and configurations.	3	3	3	2	1	2		1	1	1	2	2	3	2	1
		C O3	Know the characteristics of two port network parameters.	3	3	3	3	1	1			1	1	3	3	2	2	1
		C O4	Compare circuit matrices of linear graphs and describe magnetic circuits	3	3	3	3	2	1	1		1	1	3	3	2	3	1
		C O5	Analyze the transmission line parameters and configurations.	3	3	3	2	2	1		1	2	1	3	2	3	3	1
Average				3	3	3	2.6	1.6	1.2	1	1	1.2	1.2	2.6	2.6	2.6	3	1
Average with Marks Attainment				2.25	2.25	2.25	2	1.2	0.9	0.8	0.8	0.9	0.9	2	2	1.95	2	0.8



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Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC3 03PC	DIGITAL SYSTEM DESIGN	C O1	Understand the numerical information in different forms and Boolean Algebra	3	3	3	3	2	1		-	2	2	2	3	3	3	3
		C O2	Postulates of Boolean algebra and to minimize combinational functions	2	3	3	2	2	1	1	-	2	2	2	3	2	2	1
		C O3	Design and analyze combinational and sequential circuits	3	3	3	3	2	1		1	2	2	2	3	3	2	1
		C O4	Illustrate reduction of logical expressions	3	2	3	3	2	1		-	3	2	3	3	3	2	1
		C O5	Known about the logic families and realization of logic gates.	3	3	3	2	2	1		-	2	2	2	3	3	2	1
Average				2.8	2.8	3	2.6	2	1	1	1	2.2	2	2.2	3	2.8	2	1.4
Average with Marks Attainment				2.8	2.8	3	2.6	2	1	1	1	2.2	2	2.2	3	2.8	2	1.4
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
		C O1	Differentiate various signal functions.	3	2	2	3	2	1	1	-	-	1	2	2	1	2	1



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EC3 04PC	SIGNALS AND SYSTEMS	C O2	Represent any arbitrary signal in time and frequency domain.	3	3	3	3	2	1	-	-	1	1	2	2	2	1	
		C O3	Understand the characteristics of linear time invariant systems	2	3	3	2	1	1	-	1	1	2	2	1	1	1	
		C O4	Analyze the signals with different transform technique	2	3	3	2	2	1	1	-	2	2	2	2	1	1	
		C O5	Analyze discrete time signals and systems by using sppropriate	3	2	3	3	2	1	-	-	2	2	2	1	1	1	
Average				2 .6	2.6	2 .8	2 .6	1 .8	1	1	1	1	1 .4	1.8	2	1.4	1.4	1
Average with Marks Attainment				2.1 7	2.16 7	2.3 33	2. 17	1. 5	0. 83	0 .8	0. 83	0. 83	1.1 7	1.5	1.67	1.17	1.2	0.83
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC3 05ES	PROBABI LITY THEORY AND STOCHAS TIC	C O1	Understand the concepts of Random process and its characteristics	3	3	3	3	2	1			1	1	2	3	2	3	1
		C O2	Understand the response of linear time invariant system of random	3	3	3	3	1	1			1	1	2	3	3	3	1



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	PROCESS ES																	
		C O3	Determine the spectral and temporal characteristics of Random Signals.	3	3	2	3	1	2		1	1	2	2	3	3	2	1
		C O4	Understand the concepts of noise inCommunication systems.	3	3	3	3	1	1			1	1	1	3	3	3	-
		C O5	Create mathematical models for practical design problems and determine theoretical solutions to the created	3	3	3	3	2	1		1	1	1	1	3	2	3	1
Average				3	3	2.8	3	1.4	1.2		1	1	1.2	1.6	3	2.6	3	1
Average with Marks Attainment				2	2	1.87	2	0.93	0.8	0.7	0.7	0.7	0.8	1.1	2	1.73	2	0.7
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
		C O1	Understand the diode and transistor characteristics,Input and Output characteristics of BJT	3	2	3	3	2	1	1	1	1	2	2	3	3	3	1



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EC3 06ES	ELECTRO NIC DEVICES AND CIRCUITS LAB	C O2	Verify the rectifier circuits using diodes and implement them using hardware and software	3	2	3	2	1	2		1	1	1	2	2	3	2	1
		C O3	Design various amplifiers like CE, CC, common source amplifiers and implement them using hardware and also observe their frequency responses	2	3	3	3	1	1	2	1	1	1	3	3	2	2	1
		C O4	Remember the concepts of unipolar junction transistor and observe its characteristics	2	3	3	3	2	1	1	1	1	1	3	3	2	3	1
		C O5	Understand the construction, operation and characteristics of JFET and MOSFET	3	3	3	2	2	1	1	1	2	1	3	2	3	3	1
Average				2.6	2.6	3	2.6	1.6	1.2	1.2	1	1.2	1.2	2.6	2.6	2.6	3	1
Average with Marks Attainment				2.43	2.43	2.8	2.4	1.49	1.12	1.1	0.9	1.1	1.12	2.4	2.4	2.43	2	0.9
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
		CO 1	Knowledge and use of hardware description language (VHDL) for system modeling and	3	2	3	3	1	1	-	-	1	2	2	3	1	2	1



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EC3 07PC	DIGITAL SYSTEM DESIGN LAB		simulation. Describe and explain the operation of fundamental digital gates															
		CO 2	Student will be able to realize Boolean Expressions using Gates, logic gates using universal gates	3	3	3	3	2	1	-	1	-	2	2	3	2	1	1
		CO 3	Generation of clock using NAND / NOR	2	2	3	2	2	1	1	-	-	2	2	2	2	1	1
		CO 4	4 – bit Adder / Subtractor , 4 – bit gray to Binary and Binary to Gray converter	2	2	3	2	2	1	-	-	1	2	1	2	2	2	1
		CO 5	Student should able to Realize a sequence	3	2	3	3	2	1	-	-	-	1	2	3	2	2	1
Average				2.5	2.25	3	2.5	2	1	1	1	1	1.75	1.8	2.5	2	2	1
Average with Marks Attainment				2.33	2.1	2.8	2.33	1.87	0.93	0.9	0.9	0.9	1.63	1.7	2.3	1.87	1	0.9
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10 ¹	11	12	1	2	3
		C O1	Analyze various types basic operations on matrices,of signals and sequences such as addition	3	2	3	3	2	1				2	2	3	3	3	



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EC3 08ES	BASIC SIMULAT IO N LAB	C O2	Apply convolution and correlation operations on different signals. Auto Correlation and Cross Correlation for	3	2	3	3	2	1				2	2	3	2	3		
		C O3	Verification of Linearity and Time Invariance properties of given continuous /discrete system	1	3	3	2	2	1	1			3	2	3	3	1		
		C O4	Computation of Unit sample, Unit step and Sinusoidal responses of the given	3	2	3	3	2	1			1	2	2	3	3	3		
		C O5	Verify the Sampling theorem. Waveform synthesis using Laplace Transform	3	2	3	3	2	1		1		2	2	3	3	3		
Average				2.6	2.2	3	2.8	2	1	1	1	1	2.2	2	3	2.8	3		
Average with Marks Attainment				2.17	1.83	2.5	2.3	1.67	0.83	0.8	0.8	0.8	1.83	1.7	2.5	2.33	2	0	
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
		C O1	To realize the significance of constitution of India to students from all walks of life and help them to understand the basic concepts of India	3	3	3	3	2	1	3	2	2	2	1	3	-	-	2	



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MC3 09	CONSTITUTION OF INDIA	C O2	To identify the importance of fundamental rights as well as	2.5	2.5	2.5	3	1	1	3	2	2	2	2	3	-	-	1
		C O3	To understand the functioning of Union, State and Local Governments in Indian federal system.	3	3	3	3	2	2	3	2	2	2	1	3	1	1	2
		C O4	To learn procedure and effects of emergency, composition and activities of election commission and amendment	2	2	2	2	2	2	3	2	2	2	2	2	-	-	2
		C O5	To learn procedure and effects of emergency, composition and activities of election commission and amendment procedure	3	2	2	3	2	2	3	2	2	2	1	2	-	-	2
		Average			2.6	2.38	2.4	2.8	1.8	1.8	3	2	2	2	1.5	2.5	1	1
Average with Marks Attainment			2.25	2.06	2.08	2.4	1.56	1.56	2.6	1.7	1.7	1.73	1.3	2.2	0.87	1	1.5	
Year 2 – SEMESTER 2															PS O'S			
PROGRAM OUTCOMES (PO'S)																		
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3



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MA401 BS	LAPLACE TRANSFO R MS, NUMERIC AL METHOD S AND COMPLE X VARIABLES	C O1	Use the laplace transforms for solving ODE's	3	2	2	1	2	1	-	1	1	2	1	3	3	3	1
		C O2	Find the root of a given equation.	2	2	2	2	3	1	-	-	2	2	1	2	3	3	-
		C O3	Estimate the value for the given data using interpolation	2	2	2	3	3	1	-	1	3	2	1	2	3	2	1
		C O4	Find the numerical solutions for a given ODE's	3	2	1	3	1	1	1	1	3	1	1	3	3	3	1
		C O5	Analyze the complex functions with reference to their analyticity, integration using Cauchy's	3	2	2	2	2	1	-	1	2	2	-	3	3	3	1
Average				3	2	2	2	2	1	1	1	2	2	1	3	3	3	1
Average with Marks Attainment				2.2	1.47	1.47	1.5	1.47	0.73	0.7	0.7	1.5	1.47	0.7	2.2	2.2	2	0.7
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
		C O1	Get the knowledge of basic laws,Concepts and proofs related to Electrostatic Fields and Magnetostatic Fields	3	2	3	3	2	1	1	1	2	1	3	3	3	2	1
		C O2	Distinguish between the static and time- variant	3	2	3	3	1	1	1	2	1	1	3	3	3	2	1



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EC4 02ES	ELECTRO M AGNETIC FIELDS AND WAVES	C O3	Analyze the wave equations forconductors, good dielectrics	2	3	3	3	2	1	-	1	1	1	3	2	3	3	1
		C O4	To analyze completely the rectangular waveguides, their mode characteristics	2	3	3	2	2	1	1	1	1	1	3	2	3	3	1
		C O5	Apply Maxwell's equations to solutions of problems relating to transmission lines	3	3	3	2	2	1	1	1	1	1	3	3	3	3	1
		Average			2.6	2.6	3	2.6	1.8	1	1	1.2	1.2	1	3	2.6	3	3
Average with Marks Attainment				2.17	2.17	2.5	2.2	1.5	0.83	0.8	1	1	0.83	2.5	2.2	2.5	2	0.8
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
		C O1	continuous wave and angle modulation and demodulation techniques	3	2	3	3	2	2	1	2	3	3	2	3	-	-	2
		C O2	continuous wave and angle modulation techniques	3	2	2	2	2	2	1	2	3	2	2	3	-	-	3



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EC4 03PC	ANALOG AND DIGITAL COMMUN IC ATIONS	C O3	Attain the knowledge about AM , FM Transmitters and Receivers	3	2	3	2	1	1	1	2	2	2	2	3	1	-	3
		C O4	Analyze and design the various Pulse Modulation Techniques.	3	2	2	2	2	1	1	2	3	2	2	3	-	-	3
		C O5	Understand the concepts of Digital Modulation Techniques and Baseband transmission	3	3	2	2	1	1	1	2	3	2	2	3	-	1	3
		Average			3	2.2	2.4	2.2	1.6	1.4	1	2	2.8	2.2	2	3	1	1
Average with Marks Attainment				2.5	1.83	2	1.8	1.33	1.17	0.8	1.7	2.3	1.83	1.7	2.5	0.83	1	2.3
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
		C O1	A thorough understanding of operational amplifiers with linear integrated circuits.	3	3	3	3	2	1	1	-	2	-	2	3	2	2	1
		C O2	Attain the knowledge of functional diagrams and applications of IC 555 and	2	3	3	2	2	1	-	-	1	1	2	2	2	2	1



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EC4 04PC	LINEAR IC APPLICA TION S	C O3	Acquire the knowledge about the Data converters	3	2	3	2	2	1	1	-	1	1	2	3	3	2	1
		C O4	Classify various active filter configurations based on frequency	3	3	2	2	2	1		1	2	2	3	3	1	1	2
		C O5	Analyze and design non linear applications like multiplier, comparator	3	3	3	2	2	1	1	-	1	1	2	3	2	2	1
		Average			2.8	2.8	2.8	2.2	2	1	1	1	1.4	1.25	2.2	2.8	2	2
Average with Marks Attainment			2.8	2.8	2.8	2.2	2	1	1	1	1	1.4	1.25	2.2	2.8	2	2	1.2
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC40 5PC	ELECTRO NIC CIRCUIT ANALYSI S	C O1	To Design the multistage amplifiers	3	3	3	3	2	1	2		2	2	2	3	3	3	3
		C O2	To understand the concepts of HighFrequency Analysis of Transistors.	3	3	3	3	2	1	2		2	2	2	3	3	3	3
		C O3	feedback to improve the stability of amplifiers	2	3	3	2	2	1	1		2	2	2	3	2	2	1



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		C 04	Design and realize different classes of Power Amplifiers and tuned amplifiers	3	3	3	2	2	1	1	1	2	2	2	3	3	2	1
		C 05	Design Multivibrators and sweep circuits for various applications	3	2	3	2	2	1	1		3	2	3	3	3	2	1
Average				2.8	2.75	3	2.3	2	1	1.3	1	2.3	2	2.3	3	2.75	2	1.5
Average with Marks Attainment				2.24	2.2	2.4	1.8	1.6	0.8	1	0.8	1.8	1.6	1.8	2.4	2.2	2	1.2
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC4 06PC	ANALOG AND DIGITAL COMMUNICATIONS LAB	C 01	Demonstrate generation and detection of analog and digital modulation techniques.	3	3	3	3	2	1	2	-	2	2	2	3	3	3	3
		C 02	Explain sampling PCM, delta modulation, adaptive delta modulation and superheterodyne receiver.	2	3	3	2	2	1	1	-	2	2	2	3	2	2	1
		C 03	Demonstrate generation and detection of analog and digital modulation	3	3	3	2	2	1	1	1	2	2	2	3	3	2	1



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		C O4	Pulse Amplitude Modulation & Demodulation	3	2	3	2	2	1	1	-	3	2	3	3	3	2	1
		C O5	Pulse Width Modulation & Demodulation	3	3	3	2	2	1	1	-	2	2	2	3	3	2	1
Average				2.8	2.8	3	2.2	2	1	1.2	1	2.2	2	2.2	3	2.8	2	1.4
Average with Marks Attainment				2.33	2.33	2.5	1.8	1.67	0.83	1	0.8	1.8	1.67	1.8	2.5	2.33	2	1.2
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC40 7PC	IC APPLICA TIONS LAB	C O1	Design and analyse the various linear applications of op-am, Inverting and Non	3	3	3	3	2	1	1	1	2	1	3	2	3	2	1
		C O2	Design and analyse the various op-amp Integrator Circuit using IC 741.	3	3	3	2	2	1	1	1	1	1	3	3	2	3	1
		C O3	Design and analyse filter circuits using op-amp Active filter Applications-LPF,	3	3	2	3	2	1	1	1	1	2	3	3	3	3	1
		C O4	IC 741 waveform Generators- Sine, Square wave and Triangular Waves	3	2	3	3	2	1	1	1	1	1	2	3	2	3	1



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Average				3	2.6	2.8	2.8	2	1.2	1	1	1.2	1.2	2.8	2.8	2.6	3	1
Average with Marks Attainment				2.6	2.25	2.43	2.4	1.73	1.04	0.9	0.9	1	1.04	2.4	2.4	2.25	2	0.9
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC4 08PC	ELECTRONIC CIRCUIT ANALYSIS LAB	C01	Comprehend the fundamentals of multistage amplifiers, feedback, power	3	2	3	3	2	1	-	-	-	2	2	3	3	3	1
		C02	Analyze the circuit design process and simulate the common base, common	3	2	3	3	2	1	-	-	-	2	2	3	2	3	
		C03	Analyze the circuit design process and simulate the RC Phase shift Oscillator Circuit Hartley and Colpitt's Oscillators circuit	2	3	3	2	2	1	1	-	-	3	2	3	3	1	
		C04	Acquaint with the design and simulate the RC coupled and Cascade amplifier circuits	3	2	3	3	2	1	-	-	1	2	2	3	3	3	
		Average		2.8	2.2	3	2.8	2	1	1	1	1	2.2	2	3	2.8	3	1



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Average with marks attainment

Subject code	Course Name	C Os	Course Outcomes	Average with marks attainment														
				1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
MC4 09HS		C 02	To provide an integrated and interdisciplinary approach to understand the social and cultural construction of gender that shapes the experiences of women and men in society	3	2	3	3	2	1	-	-	-	2	2	3	3	3	2
		C 02	Students will be sensitized to basic dimensions of the biological, sociological, psychological and legal aspects of gender. This will be achieved through discussion of materials derived from research, facts, everyday life, literature, and film. Students will attain a finer grasp of how gender discrimination works in our society and how to counter it. Students will acquire insight into the gendered division of labour and its relation to politics and economics.	3	2	3	3	2	1	-	-	-	2	2	3	2	3	3
		C 03	Men and women students and professionals will be better equipped to work and live together as equals	2	3	3	2	2	1	1	-	-	3	2	3	3	1	
		C 04	Students will develop a sense of appreciation of women in all walks of life. Through providing accounts of	3	2	3	3	2	1	-	-	1	2	2	3	3	3	1
		C 05		3	2	3	3	2	1	-	1	-	2	2	3	3	3	



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			studies and movements as well as the new laws that provide protection and relief to women.															
Average				2.8	2.2	3	2.8	2	1	1	1	1	2.2	2	3	2.8	3	1.6
Average with Marks Attainment				2.33	1.83 3	2.5	2.33	1.6 67	0.83	0.8 8	0.83	0.8 3	1.83	1.7	2.5	2.33	2.2	1.33
Year 3 – SEMESTER 1				PROGRAM OUTCOMES (POs)												SOs		
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC501 PC	MICROPROCESSORS AND MICROCONTROLLERS	C O1	Understands the internal architecture, organization and assembly language	3	2	2	2	2	1	-	1	2	2	2	2	3	2	1
		C O2	Understands the internal architecture, organization and assembly language programming of 8051/controllers	3	2	3	2	2	1	1	1	1	1	2	3	3	1	1
		C O3	Understands the interfacing techniques to 8086 and 8051 based systems	3	2	2	2	2	1	1	1	1	2	2	2	3	2	1



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		C O4	Understands the internal architecture of ARM processors	2	2	2	2	3	1		1	-	2	2	2	2	2	1
		C O5	Design electrical circuitry to the Microprocessor I/O ports in order to interface the processor to external devices	2	2	3	2	1	1	1	1	1	2	2	1	3	2	1
			Average	2.6	2	2.4	2	2	1	1	1	1.3	1.8	2	2	2.8	2	1
Average with Marks Attainment				1.9	1.46	1.7	1.	1.	0.	0.	0.	1.3						
				1	7	6	47	7	73	7	3	92	2	1.5	1.47	2.05	1.3	0.73
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC5 02PC	DATA COMMUNICATIONS AND NETWORKS	C O1	Know the Categories and functions of various Data communication Networks	3	2	3	3	3	3	1	-	3	3	2	3	3	3	1
		C O2	Design and analyze various error detection techniques.	3	3	2	3	2	1	1	-	2	1	2	3	2	3	1



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		C O3	Demonstrate the mechanism of routing the data in network layer	3	3	3	3	2	1	1	-	2	1	2	3	3	3	1
		C O4	Know the significance of various Flow control and Congestion control Mechanisms	2	3	3	3	2	1	1	1	2	1	2	3	3	2	1
		C O5	Know the Functioning of various Application layer Protocols.	3	3	3	3	2	1	1	-	2	1	2	3	3	3	1
Average				2.8	2.8	2.8	3	2.2	1.4	1	1	2.2	1.4	2	3	2.8	3	1
Average with marks agttainment				2.3 3	2.33	2.3 3	2.5	1.83	1.17	0.8	0.8	1.1 8	1.1 7	1.7	2.5	2.33	2	0.8
Subj ect	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
		C O1	Understand the modeling of linear-time-invariant systems using transfer function and state space	3	3	3	2	3	1	1	-	2	2	1	3	3	2	1
		C O2	Understand the concept of stability and its assessment for linear-time invariant systems.	3	3	2	2	2	1	1	-	2	2	2	3	3	2	1



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EC5 03PC	CONTRO L SYSTEMS	C O3	Design simple feedback controllers.	2	3	3	3	1	3	1	1	2	1	1	2	3	3	2
		C O4	Employ time domain analysis to predict and diagnose transient performance parameters of the system for standard input functions.	3	3	3	2	2	1	1	-	2	2	2	3	3	2	1
		C O5	Formulate different types of analysis in frequency domain to explain the nature of stability of the system	3	3	3	2	2	1	1	-	2	2	2	3	3	2	1
		Average			2.8	3	2.8	2.2	2	1.4	1	1	2	1.8	1.6	2.8	3	2
Average with Marks Attainment				2.3 3	2.5	2.3 33	1.83	1.66 7	1.17	0.88	0.83	1.67	1.5	1.3	2.33	2.5	1.8	1
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
		C O1	The students will understand the various Forms of Business and the impact of economic variables economic variables on the Business	3	3	3	2	1	2	1	1	2	2	2	3	-	-	3



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SM504 MS	BUSINESS ECONOMICS AND FINANCIAL ANALYSIS	C O2	The Demand, Supply, Production, Cost, Market Structure, Pricing aspects are	3	2	3	2	1	2	2	1	2	2	2	3	-	-	3
		C O3	The Students can study the firm's financial position by analysing	3	3	3	3	1	1	1	1	2	2	2	3	1	-	1
		C O4	uncertain business climate	3	3	2	2	1	2	1	1	2	2	2	3	-	1	3
		C O5	accounting and relevance of accounting principles	3	2	2	2	1	2	1	1	2	2	2	3	-	-	3
Average				3	2.6	2.6	2.2	1	1.8	1.2	1	2	2	2	3	1	1	2.6
		Average with Marks Attainment				2.4	2.08	2.08	1.8	0.8	1.44	0.8	1.6	1.6	2.4	0.8	1	2.1
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
			Measure electrical parameters with	2	2	2	3	2	2	1	2	2	2	2	2	2	2	-



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EC5 13PE	ELECTRONIC MEASUREMENTS AND INSTRUMENTATION	C 01	different meters and understand the basic definition of measuring parameters																
		C 02	Use various types of signal generators, signal analyzers for generating	3	3	3	3	2	1		1	2	2	1	2	3	1	2	
		C 03	Operate an Oscilloscope to measure various signals.	2	2	2	3	2	-	-	1	1	1	-	2	-	-	-	
		C 04	Measure various physical parameters by appropriately selecting the transducers	2	3	3	3	2	1		1	2	1	1	2	-	2	-	
		C 05	Apply the complete knowledge of various electronics instruments	2	3	3	3	1	1	1	1	2	2	-1	2	-	1		
Average				2.2	2.6	2.6	3	1.8	1.25	1	1.2	1.8	1.6	0.8	2	2.5	1.5	2	
Average with marks attainment				1.54	1.82	1.82	2	1	0.26	0.88	0.7	0.84	1	1.12	0.5	1.4	1.75	1.1	1.4



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Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC5 05PC	MICROPR OC ESSORS AND MICROC ONT ROLLERS LAB	C O1	Identify relevant information to supplement to the Microprocessor and Microcontroller course. Arithmetic,	3	3	3	3	1	2	2	3	2	1	2	3	-	-	2
		C O2	Set up programming strategies and select proper mnemonics and run their program on the training boards.	3	3	3	2	1	2	1	3	2	2	2	3	-	-	3
		C O3	Practice different types of programming Assembly Language Programs to Perform Arithmetic (Both Signed and Unsigned) 16 Bit Data Operations, Logical Operations (Byte and Bit Level Operations), Rotate, Shift, Swap and Branch Instructions Time delay Generation Using Timers of 8051. Serial Communication from / to 8051 to / from I/O devices	3	3	3	2	1	2	1	3	2	2	2	3	1	-	3
		C O4	procedures on Program Using Interrupts to Generate Square Wave 10 KHZ	3	2	2	2	2	2	1	3	2	2	2	3	-	-	3



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		C O5	7 Segment Display to 8051. Matrix Keypad to 8051, Sequence Generator	3	3	3	2	1	2	1	3	2	2	2	3	-	1	3
Average				3	2.8	2.8	2. 2	1. 2	2	1 .2	3	2	1.8	2	3	1	1	2.8
Average with Marks Attainment				2.5	2.33 3	2.3 33	1. 83	1 1	1 67	2. 1	1. 5	1. 67	1.5	1.7	2.5	0.83	0.8	2.33
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC5 06PC	DATA COMMUN IC ATIONS AND NETWORKS LAB	C O1	Student will be able to understand network communication Student will be able to understand the	3	2	3	3	2	1	-	-	-	2	2	3	3	3	
		C O2	Student will be able to conduct experiments using Network Simulation software like NS-2, NSG-2.1 and Wire SHARK/equivalent	3	2	3	3	2	1	-	-	-	2	2	3	2	3	
		C O3	TCL Script to create two nodes and links between node transmit data between	2	3	3	2	2	1	1	-	-	1	2	3	3	1	



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		C O4	Student will understand the working principles of LAN and the concepts	3	2	3	3	2	1	-	-	1	2	2	3	3	3	
		C O5	Student shall understand Evaluate the performance of TCP, New Reno and	3	2	3	3	2	1	-	1	-	2	2	3	3	3	
Average				2.8	2.2	3	2.8	2	1	1	1	1	1.8	2	3	2.8	3	0
Average with Marks Attainment				2.4 3	1.90 7	2.6	2.73 43	1.0 3	0.87 9	0.8 7	0.87 9	1.5 6	1.7	2.6	2.43	2.3	0	
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EN508 HS	ADVANC ED COMMUN IC ATION SKILLS LAB	C O1	Acquire vocabulary and use it Contextually	3	3	3	3	2	1	-	-	-	2	2	3	3	3	
		C O2	Listen and speak effectively	3	2	3	3	2	1	-	-	-	2	2	3	2	3	
		C O3	Develop proficiency in academic reading and writing	3	3	3	2	2	1	1	-	-	1	2	3	3	1	



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		C O4	Increase possibilities of job prospects	3	2	3	3	2	1	-	-	1	2	2	3	3	3	
		C O5	Communicate confidently in formal and informal contexts	3	3	3	3	2	1	-	1	-	2	2	3	3	3	
Average				3	2.6	3	2.8	2	1	1	1	1	1.8	2	3	2.8	3	0
Average with Marks Attainment				2.5	2.167	2.5	2.33	1.667	0.83	0.8	0.83	0.83	1.5	1.7	2.5	2.33	2.2	0
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
MC5 10	Intellectual Property Rights-	C O1	Distinguish and Explain various forms of IPRs	3	3	2	3	2	1	1	-	2	2	2	3	1	2	1
		C O2	Identify criteria's to fit one's own intellectual work in particular form	3	3	3	3	2	1	-	-	2	1	2	3	2	2	
		C O3	Apply statutory provisions to protect particular form of IPRs.	2	3	3	2	2	2	1	-	1	2	2	3	1	2	2
		C O4	Identify procedure to protect different forms of IPRs national and international level	3	2	2	2	2	1	1	1	2	2	2	2	3	1	1

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		C O4	and traffic, diversity, techniques, frequency management	3	3	3	2	1	2			2	1	3	3	-	2	-
		C O5	Know the difference between cellular and Adhoc Networks	3	3	3	3	1	3			2	2	-1	2	-	1	
Average				2.8	3	3	2.8	1.8	1.8	1	1.3	2.2	1.8	1.3	2.6	2.5	2	2
Average with Marks Attainment				2.2 4	2.4	2.4	2.24	1.44	1.44	0.8	1.06	1.76	1.44	1	2.08	2	1.2	1.6
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC6 03PC	VLSI DESIGN	C O1	The students understand the significance of Management in their Profession	3	2	3	3	3	3	3	1	2	3	2	3	3	3	2
		C O2	Understand the management concepts	2	2	3	3	2	2	2	1	2	3	2	2	2	2	1
		C O3	Analyze the concepts of management	3	3	3	3	2	1	2	1	2	1	2	2	3	2	1
		C O4	Development of managerial skills for eng	3	3	3	3	2	2	1	1	2	3	2	1	3	2	1
		C O5	Applications of concepts in practical aspe	3	3	3	3	2	2	2	1	2	3	2	2	3	2	1
Average				3	3	3	3	2	2	2	1	2	3	2	2	3	2	1
Average with Marks Attainment				2.2 5	2.25	2.25	2.25	1.5	1.5	1.5	0.75	1.5	2.25	1.5	1.5	2.25	1.5	0.75



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Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC6 04PC	DIGITAL SIGNAL PROCESSING LAB	C O1	Develop and Implement DSP algorithms in software using a computer language	3	3	2	3	2	1	1	-	2	2	2	2	3	2	1
		C O2	Generation of Sinusoidal Waveform / Signal based on Recursive Difference Equations	3	3	3	3	2	1	-	-	2	1	2	2	2	3	2
		C O3	Obtain Fourier series coefficients by formula and using FET and compare for half sine wave	2	3	3	3	2	2	1	-	1	2	2	2	3	3	2
		C O4	Analyze and Observe Magnitude and phase characteristics	3	3	3	3	2	1	-	-	1	1	3	2	2	2	2
		C O5	Generation of Narrow Band Signal through filtering	3	2	2	3	2	1	1	1	2	2	2	2	3	1	1
Average				2.8	2.8	2.6	3	2	1.2	1	1	1.6	1.6	2.2	2	2.6	2	1.6
Average with Marks Attainment				2.6	2.61	2.4	2	86	1	0	9	1	1.4	2.1	1.87	2.43	2.1	1.49

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EC60 6PC	SCRIPTIN G LANGUA GES LAB	C O1	Able to understand difference between Scripting languages and programming languages	3	2	3	3	2	1	1	-	-	2	2	3	3	3	2
		C O2	Able to gain some fluency programming in Ruby, Perl, TCL able to Write a Ruby script	3	2	3	3	2	1	-	-	-	2	2	3	2	3	2
		C O3	Write a Ruby script to accept a filename from the user print the extension of that	3	3	3	2	2	1	1	-	-	3	2	3	3	1	2
		C O4	Write a TCL script that multiplies the numbers from 1 to 10	3	3	3	3	2	1	-	-	1	2	2	3	3	3	2
		C O5	Write a Ruby script to check two temperatures and return	3	3	3	3	2	1	-	1	-	2	2	3	3	3	2
		Average			3	2.6	3	2.8	2	1	1	1	1	2.2	2	3	2.8	3
Average with Marks Attainment			2.8	2.427	2.8	2.61	1.867	0.93	0.9	0.9	0.93	2.05	1.9	2.8	2.61	2.4	1.87	
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
		C O1	Based on this course, the Engineering graduate will understand /evaluate / develop technologies	3	3	3	3	2	1	1	1	2	2	2	2	3	3	2



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EC701 PC	MICROWAVE AND OPTICAL COMMUNICATIONS	C01	frequencies and derive the performance characteristics.	3	2	3	3	2	1	1	-	1	1	2	3	3	2	1
		C02	realize the need for solid state microwave sources and understand the principles of solid state devices	3	3	3	3	3	2	1	-	1	3	2	3	3	2	3
		C03	distinguish between the different types of waveguide and ferrite components, and select proper components for engineering applications	3	3	3	3	2	1	1	1	1	1	2	3	1	2	1
		C04	microwave component design and learn the measurement procedure of various	3	2	3	3	3	1	2	-	1	1	2	3	3	2	1
		C05	Understand the mechanism of light propagation through Optical Fibres.	3	3	3	2	3	1	1	-	1	1	2	3	3	2	1
		Average		2.8	3	3	3	2	1.2	1	1	2	1.2	2.2	2.6	1.2	1	1.2



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Average with Marks Attainment				2.4 3	2.6	2.6	2.6	1.73 3	1.04 9	0.87 7	0.87 7	1.73 9	1.04 4	1.9	2.25	1.04	0.9	1.04
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC723P E	Network Security and Cryptography	C O1	Understand the basic concept of cryptography and network security,their mathematical models	3	3	3	3	2	1	1	-	2	1	2	2	1	1	1
		C O2	Able to describe network security fundamental concepts and principles	3	3	3	3	2	2		-	2	1	2	3	2	1	2
		C O3	Students will be able to encrypt and decrypt messages using block ciphers and network security technology and protocols	3	3	3	3	2	1	1	1	2	2	3	3	1	1	1
		C O4	Students will analyze key agreement algorithms to identify their weaknesses	2	3	3	3	2	1		-	2	1	2	2	1	1	1
		C O5	Able to identify and assess different types of threats, malware, spyware, viruses, vulnerabilities	3	3	3	3	2	1	1	-	2	1	2	3	1	1	1
Average				2.8	3	3	3	2	1.2	1	1	2	1.2	2.2	2.6	1.2	1	1.2



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Average with Marks Attainment				2.6 1	2.8	2.8	2. 8	1. 86 7	1. 12	0 9	0. 9 3	1. 87	1.1 2	2.1	2.43	1.12	0.9	1.12
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC712P E	SCRIPTIN G LANGUAG E	C O1	Understands basics of linux and linux networking	3	2	3	3	2	1	1	-	2	2	3	3	3	3	1
		C O2	Able to use Linux environment and program for automation	3	3	3	3	1	1	1	1	2	2	2	2	3	2	1
		C O3	Understand the concepts of scripting language	3	3	3	2	1	-	1	1	2	2	2	3	3	3	1
		C O4	Able to differentiate scripting and non scripting languages	3	3	3	3	1	1	1	-	2	3	1	3	3	3	1
		C O5	Able to Create and run scripts using PERL/TCI/Python	3	2	2	1	2	1	1			1	2	2	2	2	1
Average				3	2.6	2.8	4	4	1	1	1	2	2	2	2.6	2.8	2.6	1
Average with Marks Attainment				2.3	1.99 3	2.1 47	1. 84	1. 07 3	0. 77	0 8	0. 7 7	1. 53	1.5 3	1.5	1.99	2.15	2	0.77
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3



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SM702 MS	PROFESSIONAL PRACTICE, LAW & ETHICS	C01	The students will understand the importance of professional practice,	3	3	3	3	2	1	1	-	1	2	2	3	1	1	1
		C02	Ethics in their personal lives and professional careers	3	3	3	3	2	1		-	1	1	2	3	1	1	1
		C03	Understanding basic purpose of profession, professional ethics and various moral and social issues.	3	3	3	3	2	3	1	1	1	1	3	2	1	2	3
		C04	Acquiring knowledge of various roles of Engineer In applying ethical principles at various professional levels	3	3	3	3	2	1	1	-	1	1	2	3	1	1	1
		C05	Able to understand law relating to intellectual property	2	2	2	2	2	1	1	2	1	1	2	2	2	1	1
Average				2.8	2.8	2.8	2.8	2	1.4	1	1.5	1	1.2	2.2	2.6	1.2	1.2	1.4
Average with Marks Attainment				2.4	2.42	2.4	2.43	2.73	1.21	1.09	1.03	0.87	1.04	1.9	2.25	1.04	1	1.21
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
		C01	Verify characteristics of Reflex Klystron	3	3	3	3	2	1	-	-	-	2	2	3	3	3	1



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		C O2	Estimate the power measurements of RFComponents such as directional Couplers.	3	3	3	3	2	1	-	-	-	2	2	3	2	3												
EC7 03PC	MICROWAVE AND OPTICAL COMMUNICATIONS LAB	C O3	Analyze various parameters of Waveguide components	3	3	3	3	2	1	1	-	-	3	2	3	3	1												
		C O4	Demonstrate characteristics of various optical sources	3	3	3	3	2	1	-	-	1	2	2	3	3	3												
		C O5	Measure data Rate, Numerical Aperture and Losses in Optical Link	3	2	3	3	2	1	-	1	-	2	2	3	3	3												
		Average															3		2.8	3	3	2	1	1	1	1	2.2	2	3
Average with Marks Attainment				2.5	2.33 3	2.5	2.5	1.66 7	0.83	0.8	0.8	0.83	1.8 3	1.7	2.5	2.33	2.2	1.5											
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3											
		C O1	Students will be able to practice	3	3	3	3	3	1	1	-	1	2	2	2	3	2	1											
		C O2	Identify, discuss and justify the technical aspects of the chosen project with a comprehensive and systematicapproach.	3	3	3	3	3	2	-	1	1	1	3	3	3	3	1											



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EC7 04PC	Industrial Oriented Mini Project/ Summer Internship	C O3	Reproduce, improve and refine technical aspects for engineering	3	3	3	3	2	1		-	1	1	2	3	3	2	1
		C O4	Work as an individual or in a team in development of technical projects	3	3	3	3	3	1	1	-	1	2	2	2	3	2	1
		C O5	Communicate and report effectively project related activities and findings	3	3	3	3	3	1		1	2	2	2	3	3	2	1
Average				3	3	3	3	2.8	1.2	1	1	1.2	1.6	1.8	2.6	3	2	1
Average with Marks Attainment				2.8	2.8	2.8	2.8	2.613	1.129	0.93	0.93	1.129	1.49	1.7	2.43	2.8	2.1	0.93
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
		C O1	Establish motivation for any topic of interest and develop a thought process for technical presentation.	3	3	3	2	3	1	1	-	-	2	2	3	2	2	1
		C O2	Organize a detailed literature survey and build a document	3	3	3	3	2	2	1	-	-	2	2	2	3	2	



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EC7 05PC	Seminar		with respect to technical publications															
		C 03	Analysis and comprehension of proof-of- concept and related data	3	3	3	3	2	1	1	-	-	2	2	2	3	3	3
		C 04	Effective presentation and improve soft s	2	3	3	2	2	1	1	-	1	2	2	2	2	2	1
		C 05	Make use of new and recent technology (e.g. Latex) for creating technical reports	3	3	3	3	2	1	1	1	-	2	2	2	3	2	1
Average				2.8	3	3	2.6	2.2	1.2	1	1	1	2	2	2.2	2.6	2	1.5
Average with Marks Attainment				2.43	2.6	2.6	2.25	1.907	1.049	0.87	0.87	1.73	1.7	1.91	2.25	1.9	1.3	
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
		C 01	Demonstrate a sound technical knowledge of their selected project topic.	3	3	3	3	3	1	1	-	1	2	2	3	2	2	1
		C 02	Undertake problem identification, formulation and solution.	3	3	3	3	2	2		-	1	2	2	3	3	2	1



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EC706 PC	Project Stage-I	C O3	Design engineering solutions to complex problems utilising a systems approach.	3	3	3	3	2	1		-	-	2	2	3	3	3	3	
		C O4	Conduct an engineering project	3	3	3	3	2	1	1	-	1	2	2	2	2	2	2	1
		C O5	Communicate with engineers and the community at large in written and oral forms	3	3	3	3	2	1		1	-	2	2	3	3	2	1	
		Average			3	3	3	3	2.2	1.2	1	1	1	2	2	2.8	2.6	2	1.4
Average with Marks Attainment				2.6	2.6	2.6	2.6	1.907	1.04	0.9	0.87	0.87	1.73	1.7	2.43	2.25	1.9	1.21	

YEAR 4 SEMESTER 2

Subject code	Course Name	C Os	Course Outcomes	PROGRAM OUTCOMES (POs)												PSOs		
				1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
EC811P E		C O1	Understand basic concepts and frequency allocations for satellite communication, orbital	3	3	3	3	1	1	1	-	-	2	2	3	2	2	1
		C O2	Envision the satellite sub systems and design satellite links for specified C/N.	3	3	3	2	2	2	1	-	-	2	2	2	3	2	1



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	SATELLITE COMMUNICATIONS	C03	Understand the various multiple access techniques for satellite communication	3	3	2	3	2	1	1	-	-	2	2	2	3	3	3
		C04	Define orbital mechanics and launch meth	3	3	3	2	1	1	1	-	1	2	2	2	2	2	1
		C05	Known the concepts of LEO, GEO															
			Stationary Satellite Systems and satellite navigation	3	3	3	3	2	1	1	1	-	2	2	2	3	2	1
Average				3	3	2.8	2.6	1.6	1.2	1	1	1	2	2	2.2	2.6	2	1.4
Average with Marks Attainment																		
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	TOTAL QUALITY	C01	Explain quality standards and need for standardization	3	3	3	2	2	3	2	2	2	2	2	2	2	2	2
		C02	Implement quality measurement systems in various applications	3	2	3	3	2	2	2	2	2	2	2	2	2	2	2
		C03	Prepare and use control charts for SQC	3	3	3	2	1	2	1		3	2		2	2	2	



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	MANAGEMENT																		
		C04	Implement six sigma approach for various industrial applications	3	3	3	2	2	2	1		1	1	2	2	2	2		
		C05	Explain standards for total quality management	3	2	3	2	3	1	1		2	1	1	2	2	2	2	
		Average		3	2.43	3	2.2	2	2	1.4	2	2	1.6	1.8	2	2	2	2	
Average with Marks Attainment				2.6	2.105	2.6	1.91	1.73	1.73	1.2	1.73	1.39	1.5	1.73	1.73	1.7	1.73		
Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
EC821PE	SYSTEM ON CHIP ARCHITECTURE	C01	Able to understand architectural features	3	3	2	2	2	2	2	2	2	2	2	3	3			
		C02	To acquire the knowledge on processor selection criteria and limitations	2	2	1		2	2	2					2	2	2	2	
		C03	To acquires the knowledge of memory architectures on SOC.	2	2	2	2		2				2	2		2	2	2	



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	C O4	Able to gain the knowledge of customization using case studies.	2	2	3			2		1	2		1	2	2	2	
	C O5	Understand the interconnection strategies and their customization on SOC	3	2	2	2	2	2	2	1		2	1				
Average			2.4	2.2	2	2	2	2	2	1.3	2	2	1.5	2.3	2.25	2	2
Average with Marks Attainment			2.2 4	2.05 3	1.8 67	1. 87	1. 86	1. 7	1. 87	1. 2	1. 4	1.8 87	1.4 7	2.18	2.1	1.9	1.87

Subject code	Course Name	C Os	Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CS80 2PC	PROJECT STAGE-2	C O1	Demonstrate a sound technical knowledge of their selected project topic.	3	3	3	3	3	1	1	-	-	2	2	3	2	2	1
		C O2	Undertake problem identification, formulation and solution.	3	3	3	3	3	2		-	-	2	2	3	3	2	1
		C O3	Design engineering solutions to complex problems utilizing a systems approach.	3	3	2	3	3	1	1	-	-	2	2	3	3	3	3
		C O4	Conduct an engineering project	2	3	2	2	3	1	1	-	1	2	2	2	2	2	1



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		C 05	Communicate with engineers and the community at large in written and oral forms	3	3	3	3	3	1	1	1	-	2	2	3	3	2	1
Average				2.8	3	2.6	2.8	3	1.2	1	1	1	2	2	2.8	2.6	2	1.4
Average with Marks Attainment				2.4 3	2.6	2.2 53	2. 43	2. 6	1. 04	. 9	0. 8 7	0. 87	1.7 3	1.7	2.43	2.25	1.9	1.21



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MATHEMATICS-II	2.2	2.2	2.2	1.6	1.5	1.2	1.5	0.88	1.17	1.3	1.1	1.03	1.5	1.47	0.587
CHEMISTRY	1.83	1.667	1	1.2	1.7	1.3	1.3	0.83	1	1.2	0.7	0.67	0.5	0.5	0.167
BASIC ELECTRICAL ENGINEERING	2	2.167	1.8	1.8	1.8	1.7	1.5	0.83	1.83	1.5	0.8	1	1.2	0.83	0.167
ENGINEERING WORKSHOP	1.5	2.167	1.3	1.5	2.2	1.8	1.3	1.67	1.5	2	1.2	1.67	2.3	1.5	0.833
ENGLISH	1.67	1.667	1.8	1.7	1.3	2.3	1.3	1.17	1.83	2.2	1.2	2.5	2.5	1.33	0.667
ENGINEERING CHEMISTRY LAB	1.67	1.667	1.7	1.7	1.2	1.2	1.3	1.17	1.33	1.7	1.2	1.33	1.7	0.83	0.5
ENGLISH LANGUAGE AND COMMUNICATIONS SKILLS LAB	2.2	2	2.2	2	1.4	2.4	1.8	1.4	1.8	2.6	1.8	2.6	2.6	1.6	0.4
BEE LAB	2.33	1.5	1.5	1.5	1.7	1.3	1.7	1.67	1.17	1.2	1.3	1	1.7	1.33	0

YEAR/SEMESTER:II/I

Electronic Devices And Circuits	2.5	2.333	2.5	1.8	0.8	1.8	2	1.67	2.5	1.7	1.8	0.83	0.8	0.83	2.167
Network analysis and transmission lines	2.25	2.25	2.3	2	1.2	0.9	0.8	0.75	0.9	0.9	2	1.95	2	1.95	0.75



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Digital System Design	2.8	2.8	3	2.6	2	1	1	1	2.2	2	2.2	3	2.8	2.2	1.4
Signals and Systems	2.17	2.17	2.3	2.2	1.5	0.8	0.8	0.83	0.83	1.2	1.5	1.67	1.2	1.17	0.833
Probability Theory And Stochastic process	2	2	1.9	2	0.9	0.8	0.7	0.67	0.67	0.8	1.1	2	1.7	1.87	0.667
Electronic Devices and circuits lab	2.43	2.427	2.8	2.4	1.5	1.1	1.1	0.93	1.12	1.1	2.4	2.43	2.4	2.43	0.933
Digital System Design Lab	2.26	2.265	2.6	2.3	1.4	1	1	0.87	1.05	1	2.3	2.26	2.3	2.26	0.871
Basic Simulation Lab	2.18	1.8	2.5	2.3	1.2	0.9	0.9	0.8	0.87	1.8	1.7	2.5	2.3	2.2	0
Constitution of India	2.2	2.1	2.1	2.4	###	1.6	2.6	1.73	1.73	1.7	1.3	2.17	0.9	0.87	1.5

YEAR/SEMESTER:II/II

Laplace Transforms, Numer	2.2	1.467	1.5	1.5	1.5	0.7	0.7	0.73	1.47	1.5	0.7	2.2	2.2	2.2	0.733
Electromagnetic Fields and	2.2	2.2	2.5	2.2	###	0.8	0.8	1	1	0.8	2.5	2.17	2.5	2.17	0.833
Analog and Digital Commu	2.5	1.833	2	1.8	1.3	1.2	0.8	1.67	2.33	1.8	1.7	2.5	0.8	0.83	2.333
Linear IC Applications	2.8	2.8	2.8	2.2	2	1	1	1	1.4	1.3	2.2	2.8	2	1.8	1.2



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Electronic Circuit Analysis	2.24	2.2	2.4	1.8	1.6	0.8	1	0.8	1.8	1.6	1.8	2.4	2.2	1.84	1.2
Analog and Digital Commu	2.33	2.333	2.5	1.8	1.7	0.8	1	0.83	1.83	1.7	1.8	2.5	2.3	1.83	1.167
IC Applications Lab	2.6	2.253	2.4	2.4	1.7	1	0.9	0.87	1.04	1	2.4	2.43	2.3	2.43	0.867
Electronic Circuit Analysis Lab	2.05	1.613	2.2	2.1	1.5	0.7	0.7	0.73	0.73	1.6	1.5	2.2	2.1	1.91	0.733
Gender Sensitization Lab	2.33	1.833	2.5	2.3	1.7	0.8	0.8	0.83	0.83	1.8	1.7	2.5	2.3	2.17	1.333

YEAR/SEMESTER:III/I

Microprocessors And Micro	1.91	1.467	1.8	1.5	1.5	0.7	0.7	0.73	0.92	1.3	1.5	1.47	2.1	1.32	0.733
Data Communications And	2.33	2.333	2.3	2.5	1.8	1.2	0.8	0.83	1.83	1.2	1.7	2.5	2.3	2.33	0.833
Control Systems	2.33	2.5	2.3	1.8	1.7	1.2	0.8	0.83	1.67	1.5	1.3	2.33	2.5	1.83	1
Business Economics And Financial Analysis	2.4	2.08	2.1	1.8	0.8	1.4	1	0.8	1.6	1.6	1.6	2.4	0.8	0.8	2.08



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Advanced Communication Skills	2.5	2.167	2.5	2.3	1.7	0.8	0.8	0.83	0.83	1.5	1.7	2.5	2.3	2.17	0
Electronic measurements and instrumentation	1.54	1.82	1.8	2.1	1.3	0.9	0.7	0.84	1.26	1.1	0.5	1.4	1.8	1.05	1.4
Microprocessors And Micro	2.5	2.333	2.3	1.8	1	1.7	1	2.5	1.67	1.5	1.7	2.5	0.8	0.83	2.333
Data Communications And Networks Lab	2.43	1.907	2.6	2.4	1.7	0.9	0.9	0.87	0.87	1.6	1.7	2.6	2.4	2.25	0
Intellectual Property Rights	2.08	2.08	1.9	1.9	1.6	1	0.8	0.8	1.44	1.3	1.6	2.08	1.4	1.28	1

YEAR/SEMESTER:III/II

Environmental Science	2.6	2.427	2.6	2.6	1.7	1	0.9	0.87	1.39	1.4	1.9	1.73	2.3	2.25	1.733
Scripting Languages Lab	2.8	2.427	2.8	2.6	1.9	0.9	0.9	0.93	0.93	2.1	1.9	2.8	2.6	2.43	1.867
Antennas and Wave Propag	2.5	2	2.33	1.67	2	0.83	0.83	0	1.5	1.67	1.67	1.67	2.17	2	1.042
Digital Signal Processing	2.24	2.4	2.4	2.24	1.44	1.44	0.8	1.06	1.76	1.44	1.04	2.08	2	1.2	1.6



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Embedded system Design	2.2	2	2.3	2.1	2	1	1.2	1.4	1.2	2.4	2.2	2.6	2.2	2.8	2
Vlsi Design	2.25	2.25	2.25	2.25	1.5	1.5	1.5	0.75	1.5	2.25	1.5	1.5	2.25	1.5	0.75
Digital Signal Processing L	2.61	2.6133	2.43	2.8	1.87	1.12	0.933	0.933	1.493	1.49	2.05	1.87	2.43	2.053	1.4933
E-Cad Lab	2.43	2.427	2.4	2.2	1.7	0.93	0.933	0	1.633	1.9	1.68	2.43	2.2	2.24	0.933

YEAR/SEMESTER:IV/I

Microwave And Optical Co	2.43	2.6	2.6	2.6	1.73	1.04	0.87	0.87	1.73	1.04	1.91	2.25	1.04	0.867	1.04
Scripting Language	2.3	1.9933	2.15	1.84	1.07	0.77	0.767	0.767	1.53	1.53	1.53	1.993	2.15	1.993	0.7667
Network security and Cryptography	2.61	2.8	2.8	2.8	1.87	1.12	0.93	0.93	1.87	1.12	2.05	2.43	1.12	0.933	1.12
Professional Practice, Law&	2.43	2.4267	2.43	2.43	1.73	1.21	0.87	1.3	0.87	1.04	1.91	2.25	1.04	1.04	1.213
Microwave And Optical Co	2.5	2.3333	2.5	2.5	1.67	0.83	0.83	0.83	0.83	1.83	1.67	2.5	2.33	2.167	1.5
Industrial Oriented Mini Pro	2.8	2.8	2.8	2.8	2.61	1.12	0.933	0.933	1.12	1.49	1.68	2.43	2.8	2.053	0.933
Seminar	2.43	2.6	2.6	2.25	1.91	1.04	0.87	0.867	0.867	1.73	1.73	1.91	2.25	1.907	1.3



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PROJECT STAGE-I	2.6	2.6	2.6	2.6	1.91	1.04	0.87	0.87	0.87	1.73	1.73	2.43	2.25	1.907	1.213
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YEAR/SEMESTER:IV/II

Satellite Communications	2.6	2.1048	2.6	1.91	1.73	1.73	1.21	1.73	1.73	1.39	1.52	1.73	1.73	1.733	1.733
System On Chip Architecture	2.24	2.0533	1.87	1.87	1.87	1.87	1.87	1.24	1.87	1.87	1.4	2.18	2.1	1.867	1.867
Total Quality Management	2.6	2.1048	2.6	1.91	1.73	1.73	1.21	1.73	1.73	1.39	1.52	1.73	1.73	1.733	1.733
Project stage-2	2.48	2.6	2.25	2.427	2.6	1.04	0.867	0.87	0.87	1.73	1.73	2.43	2.253	1.9067	1.213
OVERALL ATTAINMENT	2.3	2.1469	2.21	2.06	1.6	1.18	1.09	1.02	1.36	1.5	1.56	1.99	1.93	1.662	0.975
80% OF ATTAINMENT	1.84	1.7175	1.77	1.64	1.28	0.94	0.87	0.82	1.09	1.2	1.25	1.6	1.54	1.329	0.78



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INDIRECT ASSESSMENT

CO-PO-PSO MAPPING(R18)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

A) EXIT SURVEY

Respondent Name	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
ADEEN FATIMA	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
SYEDA SUMMAIYA	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
TAYYABA TABASSUM	3	3	3	3	3	3	2	3	3	3	2	2	3	3	3
UZMA NAHID	3	3	3	2	3	3	2	3	3	3	2	3	3	3	3
UMM-E-KULSUM AMEENA SULTANA	3	3	3	2	3	3	2	3	3	3	2	3	3	3	3
SAMA MANISHA	3	3	3	2	3	3	2	3	3	3	2	3	3	3	3
Average	3	3	3	2.5	3	3	2.3	3	3	3	2.3	2.8	3	3	3

B) ALUMNI SURVEY



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Respondent Name	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
ADEEN FATIMA	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3
SYEDA SUMMAIYA	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
TAYYABA TABASSUM	3	3	3	3	3	3	3	3	3	3	3	2	3	3	2
UZMA NAHID	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
UMM-E-KULSUM AMEENA SULTANA	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
SAMA MANISHA	3	3	3	3	3	3	2	3	3	3	2	3	3	3	3
Average	3	2.8	3	3	3	3	2.8	3	3	3	2.6	2.8	3	3	2.8

C) PARENT SURVEY

[illegible]



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Average	3	3	3	2.5	3	2.8	2.5	3	2.8	3	2.2	2.8	3	3	3
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AVERAGE OF INDIRECT ASSESSMENT

SURVEY	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
EXIT SURVEY	3	3	3	2.5	3	3	2.3	3	3	3	2.3	2.8	3	3	3
ALUMNI SURVEY	3	2.8	3	3	3	3	2.8	3	3	3	2.6	2.8	3	3	2.8
PARENT SURVEY	3	3	3	2.5	3	2.8	2.5	3	2.8	3	2.2	2.8	3	3	3
AVERAGE OF INDIRECT ASSESSMENT	3	2.9	3	2.7	3	2.9	2.5	3	2.9	3	2.4	2.8	3	3	2.9
20% of Indirect ASSESSMENT	0.6	0.58	0.6	0.54	0.6	0.58	0.5	0.6	0.58	0.6	0.48	0.56	0.6	0.6	0.58

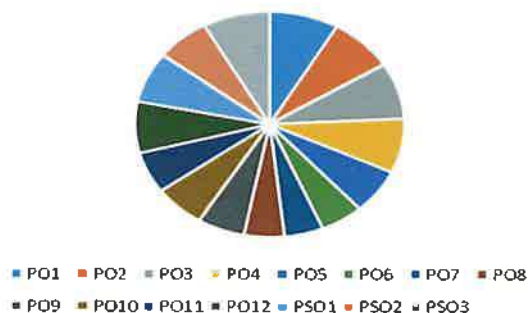


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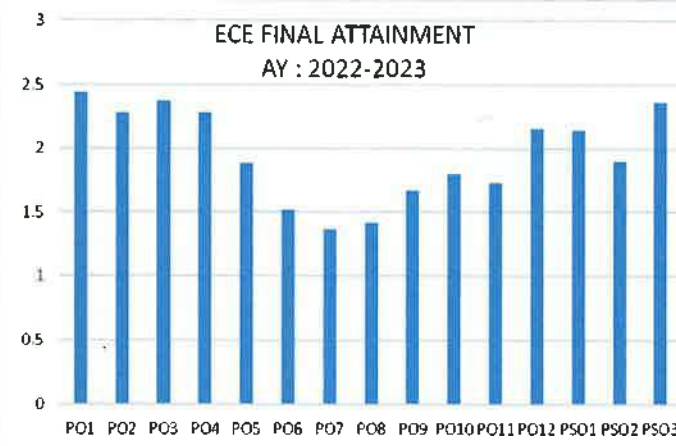
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FINAL Pos /PSOs Attainment													BATCH:2018-2022			REGULATION:R18		
ATTAINMENT	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3			
DIRECT (80%)(A)	1.84	1.7	1.77	1.64	1.28	0.94	0.87	0.82	1.09	1.2	1.25	1.6	1.54	1.3	1.78			
INDIRECT (20%)(B)	0.6	0.58	0.6	0.54	0.6	0.58	0.5	0.6	0.58	0.6	0.48	0.56	0.6	0.6	0.58			
OVER ALL (A+B)	2.44	2.28	2.37	2.18	1.88	1.52	1.37	1.42	1.67	1.8	1.73	2.16	2.14	1.9	2.36			
OVER ALL(100 %)	81.3333333	76	79	72.6667	62.6667	50.6667	45.6667	47.3333	55.6667	60	57.6667	72	71.3333	63.3333	78.6667			

ECE DEPARTMENT FINAL ATTAINMENT
AY : 2022-2023



ECE FINAL ATTAINMENT
AY : 2022-2023



Dr.V.R.K WOMEN'S COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

CO Attainment

Accademic Year: 2021-2022
Year & Branch : III Year EEE
Semester: I
Batch: 2019-2023
Subject Code: EC303PC
Subject: HVE
Faculty: Mr. Syed Riyaz Ahmed

Enter-1 for Absentees

Total no. of students registered for the course= 03

S.NO	HALL TICKET NUMBER	NAME OF THE STUDENT	ASD I Examination				ASD II Examination				% of Attainment					Univ. Exam	Univ. Exam	CRITERIA FOR CO ATTAINMENT		CRITERIA FOR CO ATTAINMENT	
			ASS	SUB	OBJ	Total	ASS	SUB	OBJ	Total	CO1	CO2	CO3	CO4	CO5	Mark	Mark	Criteria	Level	Criteria	Level
			5	10	10	25	5	10	10	25	100	100	100	100	100	75	100				
1	20H85A0201	DASTAPURE SHRUTHI	5	6	5	16	5	10	9	24	64	64	80	96	96	42	56	60 Percentage and above of appeared students Scoring >=50% of Total	3	60 Percentage and above of appeared students Scoring >=35% of Total	3
2	20H85A0202	MOHAMMAD MUSKAN FALAK	5	7	5	17	5	10	10	25	68	68	84	100	100	38	51				
3	20H85A0203	UTTUNUR BHAVANI	5	10	8	23	5	9	10	24	92	92	94	96	96	35	47				
No of students crossed the threshold level in Internal Examination (>=50%)											3	3	3	3	3		3				
No of Students Appered for the Examination											3	3	3	3	3		3	No of Students Appered for			
% of Students crossed the threshold level											100	100	100	100	100		100	% of Students crossed the			
COs attainment Level											3	3	3	3	3		3	COs attainment Level			
Average of COs attainment											3						3	Average of COs attainment			
Course Outcome attainment of the class											3										



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CO-PO-PSO ATTAINMENT		
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING		
SUBJECT CODE	COURSE NAME	Attainment
YEAR 2 - SEMESTER 1		
EE301ES	Engineering Mechanics	2.25
EE302PC	Electrical Circuit Analysis	2.5
EE303PC	Analog Electronics	2.5
EE304PC	Electrical Machines - I	2.3
EE305PC	Electro Magnetic Fields	2.3
EE306PC	Electrical Machines Lab - I	3
EE307PC	Analog Electronics Lab	3
EE308PC	Electrical Circuit Lab	3
*MC309	Gender Sensitization Lab	3
YEAR 2 - SEMESTER 2		
MA401BS	Laplace transforms, Numerical methods & Complex variables	2
EE402PC	Electrical Machines -II	2.2
EE403PC	Digital Electronics	2.5
EE404PC	Control Systems	2.5
EE405PC	Power Systems -I	2.6
EE406PC	Digital Electronics Lab	3
EE407PC	Electrical Machines Lab -II	3
EE408PC	Control Systems Lab	3
*MC409	Constitution of India	3
YEAR 3 - SEMESTER 1		
EE501PE	Power Electronics	2.8
EE502PE	Power Systems -II	2.6
EE503PE	Measurements and Instrumentation	2.3
EE512PE	High Voltage Engineering	2.5
SM504MS	Business Economics and Financial Analysis	2.5
EE505PC	Power System Simulation Lab	3
EE506PC	Power Electronics Lab	3
EE507PC	Measurements and Instrumentation Lab	3
EN508HS	Advanced English Communication Skills Lab	3
*MC510	Intellectual Property Rights	3
YEAR 3 - SEMESTER 2		
ME800OE	Non- Conventional Sources of Energy	3
EE613PE	Wind And Solar Energy Systems	2.8
EE601PC	Signals and Systems	2.5



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EE602PC	Microprocessors and Microcontrollers	2.2
EE603PC	Power System Protection	2.8
EE604PC	Power System Operation and Control	2.4
EE605PC	Power System Lab	3
EE606PC	Microprocessors and Microcontrollers Lab	3
EE607PC	Signals and Systems Lab	3
*MC609	Cyber Security	3
YEAR 4 - SEMESTER I		
SM701MS	Fundamentals of Management for Engineers	3
EE711PE	Electrical and Hybrid Vehicles	2.6
EE721PE	HVDC Transmission	2.6
MN700OE	Health and Safety in Mines	2.8
EE701PC	Electrical and Electronics Design Lab	3
EE702PC	Industrial Oriented Mini Project/Summer Internship	3
EE703PC	Seminar	3
EE704PC	Project Stage - I	3
YEAR 4 - SEMESTER II		
EE811PE	Power Quality and FACTS	2.5
EE822PE	Electrical Distribution Systems	2.4
MT802OE	Total Quality Management	2.8
EE801PC	Project Stage - ii	3

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ELECTRICAL & ELECTRONICS ENGINEERING
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

CO-PO-PSO ATTAINMENT FOR 2019-2023 BATCH(R18)

II YEAR – I SEMESTER

Subject Code & Course Name	COs	Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
EE301ES Engineering Mechanics	CO 1	Students are able to determine resultant of forces acting on a body and analyse equilibrium of a body subjected to a system of forces.	3	2	3	2	2	2			1	2	1	2	1	3	2
	CO 2	Students can solve the problem of bodies subjected to friction.	3	2	3	2	1	2	1	1	2	2	2	2	3	3	2
	CO 3	Students are able to find the location of centroid and calculate moment of inertia of a given section	2	2	3	2	2	1		1	2	3	2	3	2	3	1
	CO 4	Students are able to Understand the kinetics and kinematics of a body undergoing rectilinear, curvilinear, rotatory motion and rigid body motion.	3	3	2	2	1	1			1	1	1	1	1	1	1
	CO 5	To solve problems using work energy equations for translation, fixed axis rotation and plane motion and solve problems of vibration.	3	2	2	1	1	1	1	1	1	1	1	1	1	2	1
	AVERAGE		3	2	3	2	1	1	1	1	1	2	1	2	2	2	1
Average with Marks		2.1	1.65	1.95	1.35	1.05	1.05	0.75	0.75	1.05	1.35	1.05	1.35	1.2	1.8	1.05	



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Subject Code	COs		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Code		Outcomes															
Course Name																	
EE302PC Electrical Circuit Analysis	CO1	Apply network theorems for the analysis of electrical circuits.	2	3	2	3	2	3	1		2	1	1	2	3	2	1
	CO2	Obtain the transient and steady-state response of electrical circuits	3	3	2	3	2	2		1	2	1	1	2	2	2	1
	CO3	Analyze circuits in the sinusoidal steady-state (single-phase and three phase)	3	3	2	3	2	3	1		1	1	2	2	3	1	1
	CO4	Analyze the Laplace transform to circuits	3	3	3	3	2	2		1	1	1	1	2	2	2	2
	CO5	Analyze two port circuit behaviour.	3	3	1	3	2	1		1	1	1	1	2	1	1	2
		AVERAGE	3	3	2	3	2	2	1	1	1	1	1	2	2	2	1
		Average with Marks	2.3333	2.5	1.667	2.5	1.667	1.833	0.8333	0.833	1.167	0.8333	1	1.6667	1.83333	1.33333	1.1667



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Subject Code	COs		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Code		Outcomes															
Course Name																	
EE303PC	CO1	Know the characteristics, utilization of various components.	3	2	3	3	2	1	1	2	2	2	2	2	3	3	2
	CO2	Understand the biasing techniques	3	2	3	2	1	2		1	2	2	2	2	3	2	2
	CO3	Design and analyze various rectifiers, small signal amplifier circuits	3	3	3	3	1	2	1		2	3	3	2	2	2	2
Analog Electronics	CO4	Design sinusoidal and non-sinusoidal oscillators.	3	3	3	3	2	3	1		2	3	3	2	2	3	2
	CO5	A thorough understanding, functioning of OP-AMP, design OP-AMP based circuits with linear	3	3	3	2	2	2		1	2	2	3	2	3	3	2
	AVERAGE		3	3	3	3	2	2	1	1	2	2	3	2	3	3	2
	Average with marks		2.5	2.167	2.5	2.167	1.3333	1.667	0.833	1.1111	1.667	2	2.1667	1.6667	2.16667	2.1667	1.66667



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Subject Code & Course Name	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
EE304PC Electrical machines - I	CO1	Students are able to identify different parts of a DC machine & understand its operation	3	2	3	2	2	3	1	1	3	2	2	3	3	2	2
	CO2	Students can carry out different testing methods to predetermine the efficiency of DC machines	2	3	2	3	3	3		1	1	1	2	3	2	2	2
	CO3	Students understand different excitation and starting methods of DC machines.	3	2	3	2	2	3	1		2	2	2	2	3	2	2
	CO4	Students are able to understand and control the voltage and speed of a DC machines	3	2	3	3	3	1		1	2	1	2	2	2	3	2
	CO5	Analyze single phase and three phase transformers circuits	3	2	3	3	2	2	1		2	2	2	2	2	3	
	AVERAGE		3	2	3	3	2	2	1	1	2	2	2	2	2	2	2
	Average with Marks		2.1467	1.6867	2.1467	1.9933	1.84	1.84	0.7667	0.7667	1.5333	1.2267	1.5333	1.84	1.84	1.84	1.5333



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Subject Code	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Course Name EE305PC Electromagnetic Fields	CO1	Understand the basic mathematical concepts related to electromagnetic vector fields. .	3	3	2	3	3	1		1	2	2	2	2	3	2	3
	CO2	Apply the principles of electrostatics to the solutions of problems relating to electric field and electric potential, boundary conditions and electric energy density	3	2	3	2	2	2	1		1	2	1	1	2	3	2
	CO3	Apply the principles of magneto statics to the solutions of problems relating to magnetic field and magnetic potential, boundary conditions and magnetic energy density.	2	3	3	2	3	3	3	1	1	2	2	2	2	2	2
	CO4	Understand the concepts related to Faraday's law, induced emf and Maxwell's equations.	2	2	3	3	2	2		1	1	2	2	1	3	3	2
	CO5	Apply Maxwell's equations to solutions of problems relating to transmission lines and uniform plane wave propagation	2	3	3	2	3	2	1		2	1	2	2	3	2	2
		AVERAGE	2	3	3	2	3	2	2	1	1	2	2	2	3	2	2
		Average With Marks	1.84	1.9933	2.147	1.84	1.993	1.5333	1.278	0.767	1.0733	1.38	1.38	1.22667	1.99333	1.84	1.68667



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Subject Code Course Name	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
EE306PC Electrical Machines Lab -I	CO1	Acquire knowledge about the working of DC machines as generators and motors and start and control the Different DC Machines.	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO2	Assess the performance of different machines using different testing methods	3	3	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO3	Identify different conditions required to be satisfied for self-excitation of DC Generators	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
	CO4	Separate iron losses of DC machines into different components	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO5	Analyze single phase and three phase transformer circuits	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
		AVERAGE	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
		Average with Marks	2.8	2.4	3	2.8	2.8	3	3	3	3	3	3	3	2.8	3	2.8



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EE308PC Electrical Circuits Lab	CO1	Student should be able to analyze complex DC and AC linear circuits	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO2	Student should be able to Evaluate response in a given network by using theorems	3	2	3	3	3	3	3	3	3	3	3	3	3	3	2
	CO3	Apply concepts of electrical circuits across engineering	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
	CO4	Student should be able to measure active and reactive powers for star and delta connected balanced loads	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO5	Student should be able to express given Electrical Circuit in terms of A, B, C, D and Z, Y Parameter Model and Calculate the circuits	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
		AVERAGE	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
		Average with Marks	2.8	2.2	3	2.8	3	3	3	3	3	3	3	3	2.8	3	2.8



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MC309 Gender Sensitization Lab	CO1	Students will have developed a better understanding of important issues related to gender in contemporary India.	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO2	Students will be sensitized to basic dimensions of the biological, sociological, psychological and legal aspects of gender. This will be achieved through discussion of materials derived from research, facts, everyday life, literature	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO3	Students will attain a finer grasp of how gender discrimination works in our society and how to counter it	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
	CO4	Students will acquire insight into the gendered division of labour and its relation to politics and economics.	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO5	Men and women students and professionals will be better equipped to work and live together as Year 2 equals.	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
		AVERAGE	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
		Average with marks	2.8	2.2	3	2.8	2.8	3	3	3	3	3	3	3	2.8	3	2.8



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II YEAR – II SEMESTER

Subject Code Course Name	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS1	PS2	PS3
MA401BS Laplace Transforms, Numerical Methods and Complex Variables	CO1	Analyze the Laplace transforms techniques for solving ODE's	3	3	2	2	3	3	1	1	1	1	2	1	3	2	2
	CO2	Evaluate the root of a given equation. Estimate the value for the given data using interpolation.	2	3	3	2	2	2		1	1	2	2	1	3	3	2
	CO3	Students are able to find the numerical solutions for a given ODE'	2	3	2	2	3	2	1		1	1	1	1	3	2	3
	CO4	Analyze the complex function with reference to their analyticity, integration using Cauchy's Integral and residue	3	3	2	3	2	3	1	1	1	1	2	1	3	2	2
	CO5	Students are able to understand Taylor's and Laurent's series expansions of complex Function	2	3	2	2	3	2	1		2	2	1	1	3	2	2
		AVERAGE	2	3	2	2	3	2	1	1	1	1	2	1	3	2	2
		Average with marks	2	2	1	1	2	2	1	1	1	1	1	1	2	1	1



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Subject Code Course Name	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS1	PS2	PS3
EE403PC DIGITAL ELECTRONICS	CO1	Understand working of logic families and logic gates.	3	2	3	3	2	2	1	1	3	2	2	2	3	2	2
	CO2	Design and implement Combinational and Sequential logic circuits	3	2	3	2	2	2	1	1	3	3	2	2	3	2	3
	CO3	Understand the process of Analog to Digital conversion and Digital to Analog conversion	2	2	3	3	3	2		1	2	2	2	2	2	3	2
	CO4	Students will be able to use PLDs to implement the given logical problem	2	3	2	2	3	3	1		2	2	3	3	2	2	2
	CO5	To implement synchronous state machines using flip-flops	3	2	2	2	2	2	1	1	2	2	2	2	3	2	2
		AVERAGE	3	2	3	2	2	2	1	1	2	2	2	2	3	2	2
		AVERAGE WITH MARKS	2.167	1.833	2.167	2	2	1.833	0.833	0.833	2	1.8333	1.8333	1.8333	2.167	1.833	1.833



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Subject Code Course Name	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS1	PS2	PS3
EE404PC Control Systems	CO1	Categorize different types of system and identify a set of algebraic equations to represent and model a complicated system into a more simplified form.	3	3	3	3	3	2	1		2	2	2	2	2	2	2
	CO2	Characterize any system in Laplace domain to illustrate different specification of the system using transfer function concept.	2	3	3	2	3	3	3	1	1	3	2	3	3	2	2
	CO3	Interpret different physical and mechanical systems in terms of electrical system to construct equivalent electrical models for analysis.	3	2	3	2	3	2	1		2	3	3	3	3	2	3
	CO4	Employ time domain analysis to predict and diagnose transient performance parameters of the system for standard input functions.	3	3	2	2	3	2	1	1		2	3	3	3	2	2
	CO5	Formulate different types of analysis in frequency domain to explain the nature of stability of the system.	3	3	3	2	3	2		1	3	3	3	2	2	3	2
		AVERAGE	3	3	3	2	3	2	2	1	2	3	3	3	3	2	2
		AVERAGE WITH MARKS	2.333	2.333	2.333	1.833	2.5	1.833	1.25	0.833	1.667	2.1667	2.1667	2.1667	2.167	1.833	1.833



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Subject Code Course Name EE404PC	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS1	PS2	PS3
Power Systems - I	CO1	Understand the concepts of power systems.	3	3	2	3	2	3	1	1	1	1	3	2	3	2	2
	CO2	Understand the operation of conventional generating stations and renewable sources of electrical power	3	2	2	3	2	3		1	1	1	2	3	3	2	
	CO3	Evaluate the power tariff methods.	3	2	2	2	3	3	1	1	1	1	2	2	2	2	2
	CO4	Determine the electrical circuit parameters of transmission lines	3	3	3	2	2	2	1		1	1	2	3	2	3	2
	CO5	Understand the layout of substation and underground cables and corona.	3	2	3	3	3	2	1	1	1	1	2	2	2	2	3
		AVERAGE	3	2	2	3	2	3	1	1	1	1	2	2	2	2	2
		Average with marks	3	2	2	2	2	2	1	1	1	1	2	2	2	2	2



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Subject Code	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS1	PS2	PS3
Course Name																	
EE406PC																	
Digital	CO1	Understand working of logic families and logic gates.	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
Electronics Lab	CO2	Design and implement Combinational and Sequential logic circuits.	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
	CO3	Understand the process of Analog to Digital conversion and Digital to Analog conversion	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO4	Be able to use PLDs to implement the given logical problem	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO5	To implement synchronous state machines using flip flops.	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
		AVERAGE	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
		AVERAGE WITH MARKS	3	2	3	2.6	2.4	3	3	3	3	3	3	3	2.6	3	2.4



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Subject Code Course Name EE408PC	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Control Systems Lab	CO1	To improve the system performance by selecting a suitable controller and/or a compensator for a specific application	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO2	Apply various time domain and frequency domain techniques to assess the system performance	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO3	Apply various control strategies to different applications(example: Power systems, electrical drives etc)	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
	CO4	Test system controllability and observability using state space representation and applications of state space representation to various systems	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO5	To design various controllers and compensators to improve system performance.	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
		AVERAGE	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	2	3	2.6	2.6	3	3	3	3	3	3	3	2.6	3	2.6



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Subject Code Course Name MC409	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Constitution of India	CO1	To realize the significance of constitution of India to students from all walks of life and help them to understand the basic concepts of Indian constitution	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO2	To identify the importance of fundamental rights as well as fundamental duties	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
	CO3	To understand the functioning of Union, State and Local Governments in Indian federal system	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO4	To learn procedure and effects of emergency, composition and activities of election commission and amendment procedure	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO5	To learn procedure and effects of emergency, composition and activities of election commission and amendment procedure.	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
		AVERAGE	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
		AVERAGE WITH MARKS	3	2	3	2.6	2.4	3	3	3	3	3	3	3	2.6	3	2.4



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III YEAR – I SEMESTER

Subject Code	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Course Name EE501PE Power Electronics	CO1	Students ability to Understand the differences between signal level and power level devices and types of components & its characteristics	3	2	3	2	1		1	2	1	2	2	2	3	2	2
	CO2	Analyze the controlled rectifier circuits of single phase and three phase for different loads.	3	2	3	2	1	1	1		1	2	2	2	3	2	2
	CO3	Analyze the operation of DC-DC choppers and its types	2	2	3	2	2	1	1	1	2	2	1	1	2	2	2
	CO4	Analyze the operation of voltage source inverters of single phase and three phase for different loads	2	3	2	3	2	1		1	3	3	2	2	3	2	2
	CO5	Analyze the AC-AC controlled circuits of single phase and three phase for different loads and principle of cyclo converter.	3	2	2	2	3	1	1		2	2	2	3	3	2	2
		AVERAGE	3	2	3	2	2	1	1	1	2	2	2	2	3	2	2
		AVERAGE WITH MARKS	2.4267	2.0533	2.4267	2.0533	1.68	0.9333	0.9333	1.2444	1.68	2.0533	1.68	1.8667	2.6133	1.8667	1.8667



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Subject Code Course Name	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
	CO1	Analyze transmission line performance.	3	2	3	3	2	1	1	1	2	2	2	3	3	3	2
	CO2	Apply load compensation techniques to control reactive power	3	2	3	2	1	2	1	1	2	2	2	2	3	2	2
EE502PE	CO3	Understand the application of per unit quantities.	2	3	3	3	1	2	1	1	2	2	3	3	2	2	2
Power System - II	CO4	Design over voltage protection and insulation coordination	2	3	3	3	2	1	1		2	2	3	3	2	3	2
	CO5	Determine the fault currents for symmetrical and unbalanced faults	3	3	3	2	2	1		1	2	2	3	2	3	3	2
		AVERAGE	3	3	3	3	2	1	1	1	2	2	3	3	3	3	2
		AVERAGE WITH MARKS	2.2533	2.2533	2.6	2.2533	1.3867	1.2133	0.8667	0.8667	1.7333	1.7333	2.2533	2.2533	2.2533	2.2533	1.7333



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Subject Code Course Name	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
EE503PE Measurement and Instrumentation	CO1	Identify various types of electronic instrument suitable for specific measurement and Classify various errors present in measuring instruments	3	3	3	2	3	2		1	2	2	2	2	3	2	2
	CO2	Understand construction, working principle and types of oscilloscopes.	3	3	3	3	2	2	1		2	2	1	1	3	3	2
	CO3	Comprehend different types of signal generators and analyzers, their construction and operation	3	2	3	3	2	3	1	1	2	2	2	3	3	3	2
	CO4	Describe the working principle, selection criteria and applications of various transducers used in measurement	3	2	3	2	2	2	1	1	3	2	2	2	3	2	2
	CO5	Identify various types of electronic instrument suitable for specific measurement. And Classify various errors present in measuring instruments	2	3	3	3	3	2	1		2	3	3	3	2	2	2
		AVERAGE	3	3	3	3	2	2	1	1	2	2	2	2	3	2	2
		AVERAGE WITH MARKS	2.147	1.993	2.3	1.993	1.84	1.687	0.767	0.767	1.687	1.6867	1.5333	1.6867	2.1467	1.84	1.5333



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Subject Code Course Name EE512PE	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
High Voltage Engineering	CO1	Understand the basic physics related to various breakdown processes in solid, liquid and gaseous insulating materials	3	2	3	3	2	1	1		2	2	2	3	3	3	2
	CO2	Knowledge of generation and measurement of DC	3	2	3	2	1	2	1	1	1	2	2	2	3	2	3
	CO3	Knowledge of tests on HVEquipment and on insulating materials	2	3	3	3	1	2	1	1	2	2	3	3	2	2	2
	CO4	Knowledge of how over-voltages arise in a power system	2	3	3	3	2	1	1	1	2	2	3	3	2	3	2
	CO5	Understanding high voltage testing methods	3	3	3	2	2	1			2	2	3	2	3	3	2
		AVERAGE	3	3	3	3	2	1	1	1	2	2	3	3	3	3	2
		AVERAGE WITH MARKS	2.167	2.167	2.5	2.167	1.333	1.167	0.833	0.833	1.5	1.6667	2.1667	2.1667	2.1667	2.1667	1.8333



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Subject Code Course Name SM504MS	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Business Economics and Financial Analysis	CO1	The students will understand the various Forms of Business and the impact of economic variables on the Business.	3	2	3	3	2	2	3	2	2	2	2	3	3	3	3
	CO2	The Demand, Supply, Production, Cost, Market Structure, Pricing aspects are learnt	3	2	3	2	2	2	2	3	2	2	2	2	3	2	3
	CO3	To Acquire knowledge on pricing strategies for the products	2	3	3	3	2	2	3	2	2	2	3	3	2	1	2
	CO4	The Students can study the firm's financial position by analysing the Financial Statements of a Company	2	3	3	3	2	2	2	3	2	2	3	3	2	3	2
	CO5	Familiarize with Finical Analysis through ratios.	3	3	3	2	2	2	2	2	2	2	3	2	3	3	2
		AVERAGE	3	3	3	3	2	2	2	2	2	2	3	3	3	2	2
		AVERAGE WITH MARKS	2.1667	2.1667	2.5	2.1667	1.6667	1.6667	2	2	1.6667	1.6667	2.1667	2.1667	2.1667	2	2

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Course Code & Course Name EN508HS Advanced Communication Skills Lab	C01	Acquire vocabulary and use it contextually	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
	C02	Listen and speak effectively, confidently in formal and informal contexts	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	C03	Develop proficiency in academic reading and writing	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
	C04	Increase possibilities of job prospects	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	C05	Communicate confidently in formal and informal contexts.	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
		AVERAGE	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	2.8	2.2	3	2.8	2.8	3	3	3	3	3	3	2.9	2.9	2.9	2.8



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Subject Code Course Name	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
	CO1	Distinguish and Explain various forms of IPRs	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO2	Identify criteria's to fit one's own intellectual work in particular form of IPRs	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
MC510	CO3	Apply statutory provisions to protect particular form of IPRs.	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
Intellectual Property Rights	CO4	Identify procedure to protect different forms of IPRs national and international level	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO5	Develop skill of making search using modern tools and techniques.	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
		AVERAGE	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	2.8	2.2	3	2.8	2.8	3	3	3	3	3	3	3	2.8	3	2.8



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III YEAR – II SEMESTER

Subject Code Course Name	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
ME8000E Non Conventional sources of energy	CO1	Identify renewable energy sources and their utilization.	3	2	3	2	3	3		1	2	2	2	2	3	3	2
	CO2	Understand the basic concepts of solar radiation and analyze the	3	2	2	2	2	2		1	2	2	2	2	3	2	2
	CO3	Understand principles of energy conversion from alternate sources including wind, geothermal, ocean, biomass, biogas and	2	3	3	3	2	2	1		2	2	3	3	2	2	2
	CO4	Understand the concepts and applications of fuel cells.	3	2	2	2	2	2		1	3	2	2	2	3	2	2
	CO5	Identify methods of energy storage for specific applications	3	2	3	2	2	2	1		2	2	2	2	3	2	2
		AVERAGE	3	2	3	2	2	2	1	1	2	2	2	2	3	2	2
		average with marks	2.8	2.2	2.6	2.2	2.2	2.2	1	1	2.2	2	2.2	2.2	2.8	2.2	2



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Subject Code Course Name	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
EE613PE WIND AND SOLAR ENERGY SYSTEMS	CO1	To study the physics of wind power and energy	3	2	3	3	2	3	1	2	1	2	2	3	3	3	2
	CO2	To understand the principle of operation of wind generators	3	2	3	2	3	2	2	1	1	2	2	2	3	2	2
	CO3	To know the solar power resources	3	2	3	2	2	2	2	1	1	2	2	2	3	2	2
	CO4	To analyze the solar photo-voltaic cell	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	CO5	To discuss the solar thermal power gen	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		AVERAGE	3	2	3	2	2	2	2	2	1	2	2	2	3	2	2
		AVERAGE WITH MARKS	2	2	2	2	2	2	2	1	1	2	2	2	2	2	2



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Subject Code	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Course Name EE601PC Signals and Systems	CO1	Differentiate various signal functions.	2	3	3	3	2	2	1	1	2	2	3	3	2	2	2
	CO2	Represent any arbitrary signal in time and frequency domain.	3	2	3	2	2	2		1	2	2	2	2	3	2	2
	CO3	Understand the characteristics of linear time invariant systems.	2	2	3	3	3	2	1	1	2	3	3	3	2	2	3
	CO4	Analyze the signals with different transform technique	3	2	3	2	2	2	2	2		2	2	2	2	2	2
	CO5	Analyze discrete time signals and systems by using appropriate mathematical tools	3	3	2	2	2	2		1	2	2	2	2	2	2	2
		AVERAGE	3	2	3	2	2	2	1	1	2	2	2	2	2	2	2
		AVERAGE WITH MARKS	2.1667	2	2.3333	2	1.833	1.667	1.1111	1	1.667	1.8333	2	2	1.8333	1.6667	1.8333



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	CO1	Understands the internal architecture, organization and assembly language programming of 8086	3	2	3	3	2	3	1		2	2	2	3	3	3	2
EE602PC	CO2	Understands the internal architecture, organization and assembly language programming of 8051 microcontrollers	3	2	3	2	2	2	1	1	2	2	2	2	3	2	2
Microprocessors and Microcontrollers	CO3	Understands the interfacing techniques to 8086 and 8051 based systems	2	3	3	3	3	2	1	1	2	2	3	3	2	2	2
	CO4	Understands the internal architecture of ARM processors and basic concepts of advanced ARM Processors.	2	2	3	2	2	2	1		2	2	2	2	2	2	2
	CO5	Design electrical circuitry to the Microprocessor I/O ports in order to interface the processor to external devices	2	3	2	2	2	2		2	2	2	2	2	2	2	2
		AVERAGE	2	2	3	2	2	2	1	1	2	2	2	2	2	2	2
		AVERAGE WITH MARKS	1.76	1.76	2.053	1.76	1.613	1.613	0.733	0.978	1.467	1.4667	1.6133	1.76	1.76	1.6133	1.4667



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Course Name EE603PC Power System Protection	CO1	Compare and contrast electromagnetic, static and microprocessor-based relays	2	2	3	2	2	2	1		2	2	2	2	2	2	2
	CO2	Apply technology to protect power system components.	3	3	2	2	2	2		1	2	2	2	2	2	2	2
	CO3	Select relay settings of over current and distance relays.	2	2	3	2	2	2	1		2	2	2	2	2	2	2
	CO4	Analyze quenching mechanisms used in air, oil and vacuum circuit breakers	3	3	2	2	2	2		1	2	2	2	2	2	2	2
	CO5	To understand the phenomenon of over voltages and its characteristics and neutral grounding for overall protection	2	3	3	3	2	2	1	1	2	1	3	3	2	2	3
		AVERAGE	2	3	3	2	2	2	1	1	2	2	2	2	2	2	2
		AVERAGE WITH MARKS	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2



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Subject Code	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
EE605PC Power System Lab	CO1	Perform various load flow techniques	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO2	Understand Different protection method	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
	CO3	Analyze the experimental data and draw the conclusions.	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO4	Perform various load flow techniques	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO5	Students will be able to find sequence impedance of three phase synchronous machine and transformer.	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
		AVERAGE	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
		AVERAGE WITH MARKS	3	2	3	2.6	2.4	3	3	3	3	3	3	3	2.6	3	2.4
Subject Code	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
EE604PC Power System Operation and Control	CO1	To know the importance of frequency control	2	3	3	3	1	2	1	1	2	1	3	3	2	2	2
	CO2	Understand operation and control of power systems.	3	2	3	2	1	2		1	1	2	2	2	3	2	1
	CO3	Analyze various functions of Energy Management System (EMS) functions.	2	3	3	3	1	2	1	1	2	1	3	3	2	2	1
	CO4	Analyze whether the machine is in stable or unstable position.	2	2	3	2	2	2	1		2	2	2	2	2	2	2
	CO5	Understand power system deregulation and restructuring	2	3	2	2	2	2		1	2	2	2	2	2	2	2
		AVERAGE	2	3	3	2	1	2	1	1	2	2	2	2	2	2	2
		AVERAGE WITH MARKS	1.76	2.08	2.24	1.92	1.12	1.6	0.8	0.8	1.44	1.28	1.92	1.92	1.76	1.6	1.28



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EE606PC Microprocessors and Microcontrollers Lab	CO1	Identify relevant information to supplement to the Microprocessor and Microcontroller course. Arithmetic, Logical, String Operations on 16 Bit and 32-Bit Data Bit level Logical Operations, Rotate, Shift, Swap and Branch Operations	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO2	Set up programming strategies and select proper mnemonics and run their program on the training boards.	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
	CO3	Practice different types of programming Assembly Language Programs to Perform Arithmetic (Both Signed and Unsigned) 16 Bit Data Operations, Logical Operations (Byte and Bit Level Operations), Rotate, Shift, Swap and Branch Instructions Time delay Generation using Timers of 8051. Serial Communication from/to 8051 to/from I/O	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO4	Develop testing and experimental procedures on Program Using Interrupts to Generate Square Wave 10 KHZ Frequency on P2.1 Using Timer 0 8051 in 8 bit Auto reload Mode and Connect a 1 HZ Pulse to INT1 pin and Display on Port 0. Assume	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO5	Prepare Interfacing I/O Devices to 8051, 7 Segment Display to 8051. Matrix Keypad to 8051, Sequence Generator Using Serial Interface in 8051. 8 bit ADC Interface to 8051. Triangular Wave Generator through DAC interfaces to 8051.	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
		AVERAGE	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
		AVERAGE WITH MARKS	3	2	3	2.6	2.4	3	3	3	3	3	3	3	2.6	3	2.4



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EE607PC Signals and Systems lab	CO1	Understand the concepts of continuous time and discrete time systems	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO2	Analyze systems in complex frequency domain	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
	CO3	Understand sampling theorem and its implications	3	2	3	3		2	3	3	3	3	3	3	3	3	2
	CO4	Understand the concepts of continuous time and discrete time systems	3	2	3	3	2	3	3	3	3	3	3	3	3	3	2
	CO5	To analyze sampling principles and various transform techniques.	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
		AVERAGE	3	2	3	3	3	3	3	3	3	3	3	3	3	3	2
		AVERAGE WITH MARKS	3	2	3	2.6	2.5	2.8	3	3	3	3	3	3	2.6	3	2.4



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CYBER SECURITY	CO1	To familiarize various types of cyber-attacks and cyber-crimes	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3
	CO2	To give an overview of the cyber laws	3	2	3	3	3	3	3	3	1	3	3	3	2	2	3
	CO3	To study the defensive techniques against these attacks	3	3	3	3	3	3	2	3	3	3	3	2	3	3	3
	CO4	To study cybersecurity challenges and implications.	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3
	CO5	To know about Cyber Security.	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
		AVERAGE WITH MARKS	3	2.8	3	3	3	3	2.8	2.8	2.6	3	3	2.6	2.8	2.8	3



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IV YEAR – I SEMESTER

Subject Code Course Name	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
SM701MS Fundamentals of Management for Engineers	CO1	The students understand the significance of Management in their Profession. The various Management Functions like Planning, Organizing, Staffing, Leading, Motivation and Control aspects are learnt in this course. The students can explore the Management Practices in their domain area.	3	2	3	3	2	1	2	2	1	2	2	3	3	3	2
	CO2	Understand the management concepts	3	2	3	2	3	2	2	1	1	2	2	2	3	2	2
	CO3	Analyze the concepts of management	2	3	3	3	2	2	1	2	2	1	3	3	2	2	1
	CO4	Development of managerial skills for engineers	2	3	3	3	2	1	2	1	2	1	3	3	2	3	2
	CO5	Applications of concepts in practical aspects	3	3	3	2	2	1	1	1	2	1	3	2	3	3	2
		AVERAGE	3	3	3	3	2	1	2	1	2	1	3	3	3	3	2
		AVERAGE WITH MARKS	3	3	3	3	2	1	2	1	2	1	3	3	3	3	2



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EE711PE Electrical and Hybrid Vehicles	CO1	Understand the models to describe hybrid vehicles and their performance.	3	2	3	3	2	2	1		1	2	2	3	3	3	2
	CO2	Understand the different possible ways of energy storage.	3	2	3	2	2	2		1	2	2	2	2	3	2	2
	CO3	Understand the different strategies related to energy storage systems.	2	3	3	3	3	2	1	1	2	1	3	3	2	2	3
	CO4	To understand the fundamentals concepts, principles, analysis and design of hybrid and electric vehicles.	2	3	3	3	2	2	1	1		2	2	3	2	3	3
	CO5	Students will be able to know the various aspects of hybrid and electric drive train.	3	3	3	2	2	2	2		1	2	1	3	3	3	2
		AVERAGE	3	3	3	3	2	2	1	1	2	2	2	3	3	3	2
		AVERAGE WITH MARKS	2	2	3	2	2	2	1	1	1	2	2	2	2	2	2



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EE721PC HVDC TRANSMISSION	C01	Compare EHV AC and HVDC system and to describe various types of DC links	3	2	3	2	1	2	2	1	1	2	2	2	3	2	1
	C02	Analyze Graetz circuit for rectifier and inverter mode of operation	2	3	3	3	1	2	1	1	2	1	3	3	2	2	1
	C03	Describe various methods for the control of HVDC systems and to perform power flow analysis	3	2	3	3	2	1	1	2	1	2	2	3	3	3	2
	C04	To study AC/DC systems	3	2	3	2	1	2	2	1	1	2	2	1	2	2	2
	C05	Describe various protection methods for HVDC systems and classify Harmonics and design	2	3	3	3	1	2	1	1	1	2	1	3	2	2	2
		AVERAGE	3	2	3	3	1	2	1	1	1	2	2	2	2	2	2
		AVERAGE WIT MARKS	2.253	2.08	2.6	2.253	1.04	1.56	1.213	1.04	1.04	1.56	1.7333	2.08	2.08	1.9067	1.3867



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Subject Code Course Name MN700OE HEALTH AND SAFETY IN MINES	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	P11	PO12	PSO1	PSO2	PSO3
	C01	Students are able to understand the basics of health and safety in mines	3	2	2	3	2	3	1		3	2	2	3	3	3	2
	C02	Evaluate the concept of health and safety in underground and opencast mines	3	2	2	2	2	2			2	2	2	2	3	2	2
	C03	Understand the techniques, system engineering approach and the generic approach to safety in mining operations.	2	3	3	3	2	2	1	1	2	2	3	3	2	2	2
	C04	Understand the concept of safety	3	2	2	2	3	2	1		3	2	2	2	3	2	3
	C05	Gain the knowledge and be able to understand the importance of health and safety including the role of safety risk assessment in the	2	3	3	3	2	2		1	2	3	3	3	2	2	2
		AVERAGE	3	2	3	3	2	2	1	1	2	2	2	3	3	2	2
		AVERAGE WITH MARKS	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2



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Subject Code Course Name	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO2
EE702PC Industrial Oriented Mini Project / Summer Internship	CO1	Students will be able to practice acquired knowledge within the chosen area of technology for project development.	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3
	CO2	Identify, discuss and justify the technical aspects of the chosen project with a comprehensive and systematic approach	3	2	3	3	3	3	3	3	3	3	3	3	2	2	3
	CO3	Reproduce, improve and refine technical aspects for engineering projects.	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3
	CO4	Work as an individual or in a team in development of technical projects.	3	3	3	2	2	2	2	2	2	2	2	3	3	3	3
	CO5	Communicate and report effectively project related activities and findings	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3
		AVERAGE	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3
		AVERAGE WITH MARKS	3	2.8	2.8	3	3	3	3	3	3	3	3	2	3	3	3



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IV YEAR – II SEMESTER

Subject Code Course Name	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
EE811PE Power Quality and FACTS	CO1	The student will be able to Know the severity of power quality problems in distribution system and Understand the concept of voltage sag transformation from up-stream (higher voltages) to down-stream	3	2	3	3	2	1	1	2	2	2	3	3	3	3	2
	CO2	knowledge of FACTS Concept and general system considerations and Series/shunt reactive compensation at mid point & its comparison.	3	2	3	2	3	2	1	1	2	2	2	2	3	2	2
	CO3	Understand the control circuits of Shunt Controllers SVC & STATCOM for various functions viz. Transient stability Enhancement, voltage instability prevention and power	3	3	3	3	3	2	1	1	2	2	3	3	2	2	2
	CO4	Understand the Power and control circuits of Series Controllers GCSC, TSSC and TCSC	3	2	3	2	2	2			2	2	2	2	3	2	3
	CO5	Knowledge of the Unified Power Flow Controller including its circuit arrangement, Operation and control	3	3	3	3	2	2		1	2	3	3	3	2	2	3
		AVERAGE	3	2	3	3	2	2	1	1	2	2	3	3	3	2	2
		AVERAGE WITH MARKS	2.5	2	2.5	2.167	2	1.5	0.833	1.042	1.667	1.8333	2.1667	2.1667	2.1667	1.8333	2



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Subject Code Course Name	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
EE822PE Electrical Distribution Systems	CO1	To distinguish between transmission and distribution systems and feeder analysis.	3	2	3	2	3	2			2	2	2	2	3	2	3
	CO2	To understand Substation installation and to analyze the power loss in Substation and Voltage drop	3	2	3	3	2	2	1	1	2	2	2	3	3	3	2
	CO3	Design protection of distribution systems. Coordination of Protective devices.	3	2	3	2	3	2			2	2	2	2	3	2	2
	CO4	To understand the importance of compensation and pf improvement	3	3	3	2	3	2	1	1	3	2	2	2	3	2	2
	CO5	To understand the importance of protection of voltage control and pf improvement	3	3	3	3	2	2	3			2	3	1	3	3	2
		AVERAGE	3	2	3	2	3	2	2	1	2	2	2	2	3	2	2
		AVERAGE WITH MARKS	2.4	1.92	2.4	1.92	2.08	1.6	1.333	0.8	1.8	1.6	1.76	1.6	2.4	1.92	1.76



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Subject Code Course Name	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
	CO1	Identify renewable energy sources and their utilization.	3	2	3	3	2	2	1	1	2	2	2	3	3	3	2
	CO2	Understand the basic concepts of solar radiation and analyze the working of solar and thermal systems.	3	2	3	2	3	2	1	1	3	2	2	2	3	2	2
MT802OE	CO3	Understand principles of energy conversion from alternate sources including wind, geothermal, ocean, biomass, biogas and hydrogen	3	2	3	2	2	2	2	1	2	2	2	2	3	2	3
TOTAL QUALITY MANAGEMENT	CO4	Understand the concepts and applications of fuel cells, thermoelectric convertor and MHD generator	2	3	3	3	2	2	1	1	2	2	3	3	2	2	3
	CO5	Identify methods of energy storage for specific applications	3	2	3	2	2	2	1	2	2	2	3	2	3	3	3
		AVERAGE	3	2	3	2	2	2	1	1	2	2	2	2	3	2	3
		AVERAGE WITH MARKS	3	2	3	2	2	2	1	1	2	2	2	2	3	2	3



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Subject Code Course Name EE704PC	COs	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Project Stage - II	CO1	Demonstrate a sound technical knowledge of their selected project topic.	3	3	3	3	2	1	1	2	3	2	3	3	3	2	1
	CO2	Undertake problem identification, formulation and solution.	3	3	3	3	2	2	1	2	3	2	3	3	3	2	2
	CO3	Design engineering solutions to complex problems utilizing a systems approach.	3	3	3	3	2	1	1	2	3	2	3	3	3	2	2
	CO4	Communicate with engineers and the community at large in written and oral forms	3	3	3	3	2	2	1	2	3	2	3	3	3	2	3
	CO5	Conduct an engineering project	3	3	3	3	2	3	1	2	3	2	3	3	3	2	3
		AVERAGE	3	3	3	3	2	2	1	2	3	2	3	3	3	2	2
		AVERAGE WITH MARKS	3	3	3	3	2	1.8	1	2	3	2	3	3	3	2	2.2



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R18 CO-PO-PSO MAPPING CONSOLIDATION

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

		PROGRAM OUTCOMES (Pos)												PSOs		
Course Code	Course Name	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
YEAR 2 - SEMESTER 1																
EE301 ES	Engineering Mechanics	2.1	1.65	1.95	1.35	1.05	1.05	0.75	0.75	1.05	1.35	1.05	1.35	1.2	1.8	1.05
EE302P C	Electrical Circuit Analysis	2.33 333 3	2.5	1.66 666 7	2.5	1.66 666 7	1.83 333 3	0.83 333 3	0.83 333 3	1.16 6667 333 3	0.83 333 3	1	1.66 666 7	1.83 333 3	1.33 333 3	1.16 666 7
EE303P C	Analog Electronics	2.5	2.16 666 7	2.5	2.16 666 7	1.33 333 3	1.66 666 7	0.83 333 3	1.11 1111 3	1.66 6667 3	2	2.16 666 7	1.66 666 7	2.16 666 7	2.16 666 7	1.66 666 7
EE304P C	Electrical Machines - I	2.14 666 7	1.68 666 7	2.14 666 7	1.99 333 3	1.84	1.84	0.76 666 7	0.76 666 7	1.53 3333 3	1.22 666 7	1.53 333 3	1.84	1.84	1.84	1.53 333 3
EE305P C	Electro Magnetic Fields	1.84	1.99 333 3	2.14 666 7	1.84	1.99 333 3	1.53 333 3	1.27 777 8	0.76 666 7	1.07 3333 3	1.38	1.38	1.22 666 7	1.99 333 3	1.84	1.68 666 7
EE306P C	Electrical Machines Lab - I	2.8	2.4	3	2.8	2.8	3	3	3	3	3	3	3	2.8	3	2.8



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EE501P E	Power Electronics	2.42 666 7	2.05 333 3	2.42 666 7	2.05 333 3	1.68	0.93 333 3	0.93 333 3	1.24 444 4	1.68	2.05 333 3	1.68	1.86 666 7	2.61 333 3	1.86 666 7	1.86 666 7
EE502P E	Power Systems -II	2.25 333 3	2.25 333 3	2.6	2.25 333 3	1.38 666 7	1.21 333 3	0.86 666 7	0.86 666 7	1.73 3333 3	1.73 333 3	2.25 333 3	2.25 333 3	2.25 333 3	2.25 333 3	1.73 333 3
EE503P E	Measurements and Instrumentation	2.14 666 7	1.99 333 3	2.3	1.99 333 3	1.84	1.68 666 7	0.76 666 7	0.76 666 7	1.68 6667 7	1.68 666 7	1.53 333 3	1.68 666 7	2.14 666 7	1.84	1.53 333 3
EE512P E	High Voltage Engineering	2.16 666 7	2.16 666 7	2.5	2.16 666 7	1.33 333 3	1.16 666 7	0.83 333 3	0.83 333 3	1.5	1.66 666 7	2.16 666 7	2.16 666 7	2.16 666 7	2.16 666 7	1.83 333 3
SM504 MS	Business Economics and Financial Analysis	2.16 666 7	2.16 666 7	2.5	2.16 666 7	1.66 666 7	1.66 666 7	2	2	1.66 6667 7	1.66 666 7	2.16 666 7	2.16 666 7	2.16 666 7	2	2
EE505P C	Power System Simulation Lab	3	2	3	2	3	3	3	3	3	3	3	3	2	3	3
EE506P C	Power Electronics Lab	3	2	3	3	3	3	3	3	33	3	3	3	3	3	3
EE507P C	Measurements and Instrumentation Lab	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3
EN508 HS	Advanced English Communication Skills Lab	2.8	2.2	3	2.8	2.8	3	3	3	3	3	3	2.9	2.9	2.9	2.8



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*MC510	Intellectual Property Rights	2.8	2.2	3	2.8	2.8	3	3	3	3	3	3	3	2.8	3	2.8
YEAR 3 - SEMESTER 2																
ME800 OE	Non- Conventional Sources of Energy	2.8	2.2	2.6	2.2	2.2	2.2	1	1	2.2	2	2.2	2.2	2.2	2.8	2.2
EE613PE	Wind And Solar Energy Systems	2.16	2	2.3	2	1.83	1.667	1.11	1	1.667	1.83	2	2	1.83	1.6	1.83
EE601PC	Signals and Systems	1.76	1.76	2.053	1.76	1.61333	1.61333	0.73333	0.97778	1.46667	1.46667	1.61333	1.76	1.76	1.61333	1.46667
EE602PC	Microprocessors and Microcontrollers	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2
EE603PC	Power System Protection	1.76	2.08	2.24	1.92	1.12	1.6	0.8	0.8	1.44	1.28	1.92	1.92	1.76	1.6	1.28
EE604PC	Power System Operation and Control	3	2	3	2.6	2.4	3	3	3	3	3	3	3	2.6	3	2.4
EE605PC	Power System Lab	3	2	3	2.6	2.4	3	3	3	3	3	3	3	2.6	3	2.4
EE606PC	Microprocessors and Microcontrollers Lab	3	2	3	2.6	2.5	2.8	3	3	3	3	3	3	2.6	3	2.4
EE607PC	Signals and Systems Lab	3	2	3	2.6	2.5	2.8	3	3	3	3	3	3	2.6	3	2.4
*MC609	Cyber Security	3	2.8	3	3	3	3	2.8	2.8	2.6	3	3	2.6	2.8	2.8	3
YEAR 4 - SEMESTER I																



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SM701 MS	Fundamentals of Management for Engineers	3	3	3	3	3	2	1	2	1	3	3	3	3	3	2
EE711P E	Electrical and Hybrid Vehicles	2	2	3	2	2	2	1	1	1	2	2	2	2	2	2
EE721P E	HVDC Transmission	2.25 333 3	2.08	2.6	2.25 333 3	1.04	1.56	1.21 333 3	1.04	1.04	1.56	1.73 333 3	2.08	2.08	1.90 666 7	1.38 666 7
MN700 OE	Health and Safety in Mines	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2
EE701P C	Electrical and Electronics Design Lab	3	2	3	3	2	3	3	3	3	3	3	3	3	3	3
EE702P C	Industrial Oriented Mini Project/Summer Internship	3	2.8	2.8	3	3	3	3	3	3	3	3	3	3	3	3
EE703P C	Seminar	3	2	3	3	2	3	3	3	3	3	3	3	3	3	3
EE704P C	Project Stage - I	3	2	3	3	2	3	3	3	3	3	3	3	3	3	3
YEAR 4 - SEMESTER 2																
EE811P E	Power Quality and FACTS	2.5	2	2.5	2.16 666 7	2	1.5	0.83 333 3	1.04 166 7	1.66 6667	1.83 333 3	2.16 666 7	2.16 666 7	2.16 666 7	1.83 333 3	2
EE822P E	Electrical Distribution Systems	2.4	1.92	2.4	1.92	2.08	1.6	1.33 333 3	0.8	1.8	1.6	1.76	1.6	2.4	1.92	1.76
MT802 OE	Total Quality Management	3	2	3	2	2	2	1	1	2	2	2	2	3	2	3



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EE801P C	Project Stage - ii	3	3	3	3	2	1.8	1	2	3	2	3	3	3	2	2.2
	OVERALL ATTAINMENT	2.60 413 3	2.11 266 7	2.63 326	2.39 473 3	2.21 146 7	2.28 787 3	1.91 528 9	1.92 123 3	2.80 8912	2.26 326 7	2.38 64	2.40 226 7	2.42 020 7	2.39 486 7	2.21 713 3
	80% OF ATTAINMENT	2.08 330 7	1.69 013 3	2.10 660 8	1.91 578 7	1.76 917 3	1.83 029 9	1.53 223 1	1.53 698 7	2.24 7129	1.81 061 3	1.90 912	1.92 181 3	1.93 616 5	1.91 589 3	1.77 370 7



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INDIRECT ASSESSMENT

CO-PO-PSO MAPPING(R18)

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

A) STUDENT SURVEY

	PROGRAM OUTCOMES												PROGRAM SPECIFIC OUTCOMES		
RESPONDENT NAME	PO 1	PO2	PO 3	PO 4	PO 5	PO6	PO7	PO8	PO9	PO1 0	PO11	PO1 2	PSO1	PSO2	PSO 3
DASTAPURE SHRUTHI	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3
MOHAMMAD MUSKAN FALAK	3	2	3	3	3	3	3	3	2	3	2	3	3	3	3
UTTUNUR BHAVANI	3	3	3	3	3	2	2	3	3	3	3	3	3	3	3
AVERAGE	3	2.6666 7	3	3	3	2.6666 7	2.6666 7	2.6666 7	2.6666 7	3	2.6666 7	3	3	3	3



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INDIRECT ASSESSMENT

CO-PO-PSO MAPPING(R18)

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

B) PARENT SURVEY

	PROGRAM OUTCOMES												PROGRAM SPECIFIC OUTCOMES		
RESPONDENT NAME	PO1	PO2	PO3	PO4	P O5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO 1	PSO2	PSO 3
DASTAPURE SHRUTHI	2	2	3	2	3	3	2	2	3	1	2	1	3	2	3
MOHAMMAD MUSKAN FALAK	3	2	2	3	1	3	3	2	2	1	2	3	3	3	3
UTTUNUR BHAVANI	3	3	2	3	2	2	2	3	3	2	2	3	3	2	3
AVERAGE	2.666 667	2.333 333	2.333 333	2.666 667	2	2.666 667	2.333 333	2.333 333	2.666 667	1.333 333	2	2.3 33	3	2.333333	3



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INDIRECT ASSESSMENT

CO-PO-PSO MAPPING(R18)

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

C) ALUMNI SURVEY

	PROGRAM OUTCOMES												PROGRAM SPECIFIC OUTCOMES		
RESPONDENT NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
DASTAPURE SHRUTHI	3	3	3	2	3	3	2	3	3	2	3	2	3	2	3
MOHAMMAD MUSKAN FALAK	3	3	2	3	2	3	3	1	2	2	3	3	3	2	3
UTTUNUR BHAVANI	3	2	2	3	2	2	3	3	3	2	3	3	3	1	3
AVERAGE	3	2.666667	2.333333	2.666667	2.333333	2.666667	2.666667	2.333333	2.666667	2	3	2.666667	3	1.666667	3



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INDIRECT ASSESSMENT

CO-PO-PSO MAPPING(R18)

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

	PROGRAM OUTCOMES												PROGRAM SPECIFIC OUTCOMES		
SURVEY	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO2	PSO 3
STUDENT SURVEY	3	2.6666 67	3	3	3	2.6666 67	2.6666 67	2.6666 67	2.6666 67	3	2.6666 67	3	3	3	3
PARENT SURVEY	2.6666 67	2.3333 33	2.3333 33	2.6666 67	2	2.6666 67	2.3333 33	2.3333 33	2.6666 67	1.3333 33	2	2.3333 33	3	2.3333 33	3
ALUMNI SURVEY	3	2.6666 67	2.3333 33	2.6666 67	2.3333 33	2.6666 67	2.6666 67	2.3333 33	2.6666 67	2	3	2.6666 67	3	1.6666 67	3
AVERAGE	2.8888 89	2.5555 56	2.5555 56	2.7777 78	2.4444 44	2.6666 67	2.5555 56	2.4444 44	2.6666 67	2.1111 1	2.5555 56	2.6666 67	3	2.3333 33	3
20% OF INDIRECT ASSESSMENT	0.5777 78	0.5111 1	0.5111 1	0.5555 56	0.4888 89	0.5333 33	0.5111 1	0.4888 89	0.5333 33	0.4222 22	0.5111 1	0.5333 33	0.6	0.4666 67	0.6

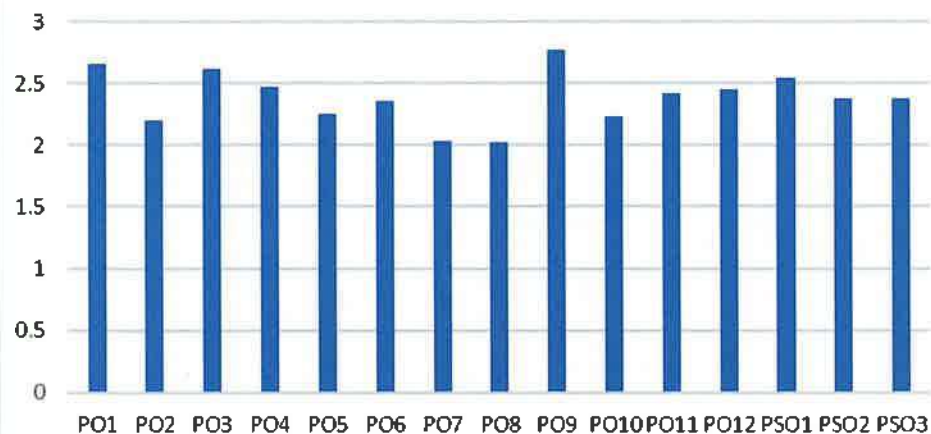


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EEE DEPARTMENT FINAL ATTAINMENT

AY : 2022-2023





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EEE DEPARTMENT FINAL ATTAINMENT AY: 2022-2023



■ PO1 ■ PO2 ■ PO3 ■ PO4 ■ PO5 ■ PO6 ■ PO7 ■ PO8
■ PO9 ■ PO10 ■ PO11 ■ PO12 ■ PSO1 ■ PSO2 ■ PSO3

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CO Attainment

Accademic Year: 2021-2022
 Year & Branch : I Year CSE
 Semester: I
 Batch: 2021-2023
 Subject Code:
 Subject: Advanced Data Structures
 Faculty:

Enter -1 for Absentees

Total no. of students registered for the course= 3

S.NO	HALL TICKET NUMBER	NAME OF THE STUDENT	MED I Examination				MED II Examination				% of Attainment					Univ. Exam Mark	Univ. Exam Mark	CRITERIA FOR CO ATTAINMENT (Internal Exams)		CRITERIA FOR CO ATTAINMENT (University Exams)	
			ASS	SUB	OBJ	Total	ASS	SUB	OBJ	Total	CO1	CO2	CO3	CO4	CO5			Criteria	Level	Criteria	Level
			5	10	10	25	5	10	10	25	100	100	100	100	100	75	100				
1	21H81D5801	FARHEEN BANU	5	9	10	24	5	7	10	22	96	96	92	88	88	65	87	60 Percentage and above of appeared students Scoring >=50% of Total Marks for Each CO	3	60 Percentage and above of appeared students Scoring >=35% of Total Marks for Each CO	3
2	21H81D5802	UMME HANI SARA	5	7	6	18	5	8	10	23	72	72	82	92	92	61	81	40 to 59 Percentage and above of appeared students Scoring >=50% of Total Marks for Each CO	2	40 to 59 Percentage and above of appeared students Scoring >=35% of Total Marks for Each CO	2
3	21H81D5803	USAMA AHMED	5	9	10	24	5	9	10	24	96	96	96	96	96	63	84	20 to 39 Percentage and above of appeared students Scoring >=50% of Total Marks for Each CO	1	20 to 39 Percentage and above of appeared students Scoring >=35% of Total Marks for Each CO	1
No of students crossed the threshold level in Internal Examination (>=50%)			3					3					3					No of students crossed the threshold level in		Otherwise	
No of Students Appered for the Examination			3					3					3					No of Students Appered for the Examination			
% of Students crossed the threshold level			100					100					100					% of Students crossed the threshold level			
COs attainment Level			3					3					3					COs attainment Level			
Average of COs attainment			3					3					3					Average of COs attainment			
Course Outcome attainment of the class													2.25								



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CO-PO-PSO ATTAINMENT (M.Tech)		
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING		
SUBJECT CODE	COURSE NAME	Attainment
	YEAR 1 - SEMESTER 1	
	Mathematical Foundations of Computer Science	2.25
	Advanced Data Structures	2.25
	Machine Learning	2.25
	Network Security	2.25
	Data Mining	3
	Advanced Data Structures Lab	3
	Machine Learning Lab	3
	Research Methodology & IPR	2.25
	YEAR 1 - SEMESTER 2	
	Advanced Algorithms	2.25
	Advanced Computer Architecture	2.25
	Data Science	2.25
	Cyber Security	2.25
	Advanced Algorithms Lab	3
	Data Science Lab	3
	Mini Project with Seminar	3
	YEAR 2 - SEMESTER 1	
	Digital Forensics	2.25
	Energy from Waste	2.25
	Dissertation Work Review - II	3
	YEAR 2 - SEMESTER 2	
	Dissertation Work Review - III	3
	Dissertation Viva-Voce	3
	OVERALL ATTAINMENT	2.5875
	80% OF ATTAINMENT	2.07



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PROGRAM OUTCOME'S (PO's): M.Tech

ACADEMIC YEAR: 2021-2022/2022-2023

I YEAR: I SEMESTER

COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Mathematical Foundations of Computer Science	CO1	Ability to understand and construct precise mathematical proofs.	2	3	3	2	3	2	0	0	1	0	1	2	3	3	3
	CO2	Ability to use logic and set theory to formulate precise statements.	2	3	3	2	2	2	0	0	2	0	2	3	3	2	3
	CO3	Ability to analyze and solve counting problems on finite and discrete structures.	3	3	3	2	3	3	0	0	2	0	2	3	2	3	2
	CO4	Ability to describe and manipulate sequences.	3	3	3	3	3	3	0	0	2	0	2	3	3	3	3
	CO5	Ability to apply graph theory in solving computing problems.	3	2	2	3	3	3	0	0	2	0	2	3	3	3	2
		AVERAGE	3	3	3	2	3	3	0	0	2	0	2	3	3	3	0
		AVERAGE WITH MARKS	2	2	2	2	2	2	0	0	1	0	1	2	2	2	0



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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Advanced Data Structures	CO1	The knowledge of atomic, molecular and electronic changes, band theory related to conductivity.	3	2	3	2	2	1	0	0	2	1	1	3	2	1	0
	CO2	The required principles and concepts of electrochemistry, corrosion and in understanding the problem of water and its treatments.	3	3	3	2	2	2	0	0	3	1	2	3	3	1	0
	CO3	The required skills to get clear concepts on basic spectroscopy and application to medical and other fields.	3	3	2	2	3	2	0	0	3	0	2	3	2	2	0
	CO4	The knowledge of configurational and conformational analysis of molecules and reaction mechanisms.	3	3	2	3	3	2	0	0	3	0	2	3	1	1	0
	CO5	The knowledge of Spectroscopic techniques and applications	3	3	3	2	3	3	0	0	3	1	2	3	1	2	0
		AVERAGE	3	3	3	2	3	2	0	0	3	1	2	3	2	1	0
		AVERAGE WITH MARKS	2	2	2	2	2	2	0	0	2	0	1	2	1	1	0



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COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Machine Learning	CO1	Understand Machine Learning concepts	2	3	3	3	2	1	0	0	2	0	2	3	3	3	2
	CO2	Differentiate Supervised and Unsupervised Learning	2	3	3	3	3	2	0	0	3	0	2	3	3	3	3
	CO3	Extract features that can be used for a particular machine learning approach in various IOT applications.	2	3	3	2	2	1	0	0	3	0	2	3	3	3	1
	CO4	To compare and contrast pros and cons of various machine learning techniques and to get an insight of when to apply a particular machine learning approach.	2	2	3	3	3	2	0	0	3	0	3	3	3	3	3
	CO5	To mathematically analyse various machine learning approaches and paradigms.	2	3	3	3	2	2	0	0	3	0	2	3	3	3	3
		AVERAGE	2	3	3	3	2	2	0	0	3	0	2	3	3	3	2
		AVERAGE WITH MARKS	2	2	2	2	2	1	0	0	2	0	2	2	2	2	2



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COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Network Security	CO1	To understand network security and cryptography	3	2	2	2	3	3	0	0	3	0	3	3	2	2	3
	CO2	To understand basics of security and issues related to it.	3	2	3	2	2	3	0	0	2	0	2	3	3	2	2
	CO3	Understanding of biometric techniques available and how they are used in today's world	3	3	3	2	3	3	0	0	3	0	2	3	2	3	3
	CO4	Security issues in web and how to tackle them.	3	3	3	3	3	2	0	0	3	1	3	3	2	1	2
	CO5	Learn mechanisms for transport and network security	3	3	3	3	3	3	0	0	2	1	2	3	2	2	1
		AVERAGE	3	3	3	2	3	3	0	0	3	0	2	3	2	2	2
		AVERAGE WITH MARKS	2	2	2	2	2	2	0	0	2	0	2	2	2	2	2



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COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Data Mining	CO1	understand data mining concepts.	2	3	2	3	2	3	0	0	3	0	3	3	2	3	3
	CO2	learn about various data preprocessing techniques.	2	2	2	3	2	3	0	0	2	0	3	2	2	3	2
	CO3	learn about data warehousing	3	3	3	2	3	2	0	0	3	0	2	3	2	2	2
	CO4	Understand Classification and Prediction	2	2	3	3	3	2	0	0	3	0	2	2	3	3	3
	CO5	learn about various data mining functionalities such as association rule mining, clustering, classification and outlier analysis.	2	2	3	2	3	3	0	0	2	0	1	3	2	2	3
		AVERAGE	2	2	3	3	3	3	0	0	3	0	2	3	2	3	3
		AVERAGE WITH MARKS	2	2	2	2	2	2	0	0	2	0	2	2	2	2	2



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COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Advanced Data Structures Lab	CO1	Ability to select the data structures that efficiently model the information in a problem.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO2	Ability to assess efficiency trade-offs among different data structure implementations or combinations.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO3	Implement and know the application of algorithms for sorting and pattern matching.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO4	Design programs using a variety of data structures, including hash tables, binary and general tree structures, search trees, tries, heaps, graphs, and B-	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO5	Able to implement all the functions of a dictionary using hashing	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3



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COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Machine Learning Lab	CO1	Understand Machine learning principles and Techniques	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO2	Understand complexity of Machine Learning algorithms and their limitations;	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO3	Understand modern notions in data analysis-oriented computing;	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO4	Be capable of confidently applying common Machine Learning algorithms in practice and implementing their own;	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO5	Be capable of performing experiments in Machine Learning using real-world data	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3



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COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Research Methodolog y & IPR	CO1	Understand research problem formulation.	3	2	2	2	3	2	0	0	3	0	1	3	2	3	3
	CO2	Analyze research related information. Follow research ethics	3	3	3	3	2	2	0	0	3	0	2	3	3	3	3
	CO3	Understand that today's world is controlled by Computer, Information Technology, but tomorrow world will be ruled by ideas, concept, and creativity.	3	3	2	2	3	3	0	0	3	0	2	3	2	3	3
	CO4	Understand IPR would take such important place in growth of individuals & nation, it is needless to emphasis the need of information about Intellectual Property Right to be promoted among students in general & engineering in particular.	2	3	2	3	3	3	0	0	3	0	1	3	2	2	3
	CO5	Understand that IPR protection provides an incentive to inventors for further research work and investment in R & D, which leads to creation of new and better products, and in turn brings about, economic growth and social benefits.	3	3	2	3	3	2	0	0	3	0	2	3	2	2	3
		AVERAGE	3	3	2	3	3	2	0	0	3	0	2	3	2	3	3
		AVERAGE WITH MARKS	2	2	2	2	2	2	0	0	2	0	1	2	2	2	2



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I YEAR: II SEMESTER

COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Advanced Algorithms	CO1	Understand various sorting algorithms	2	3	3	3	3	2	0	0	3	0	2	3	3	3	3
	CO2	Understand Edmond's Blossom algorithm to compute augmenting path.	2	3	3	3	3	2	0	0	3	0	2	3	3	3	3
	CO3	Analyze the complexity/performance of different algorithms.	2	3	3	2	3	2	0	0	3	0	1	3	3	3	3
	CO4	Determine the appropriate data structure for solving a particular set of problems.	2	3	3	3	3	3	0	0	3	0	2	3	3	3	3
	CO5	Categorize the different problems in various classes according to their complexity.	2	3	3	3	3	2	0	0	3	0	2	3	3	3	3
		AVERAGE	2	3	3	3	3	2	0	0	3	0	2	3	3	3	3
		AVERAGE WITH MARKS	2	2	2	2	2	2	0	0	2	0	1	2	2	2	2



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COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Advanced Computer Architecture	CO1	Understand the concepts and principles of parallel and advanced computer architectures.	3	2	1	2	2	2	0	0	2	0	1	3	1	2	3
	CO2	Understand shared memory organizations	3	2	1	2	2	1	0	0	2	1	1	3	1	2	2
	CO3	Computational models and Computer Architectures.	3	3	2	1	2	2	0	0	3	1	1	3	1	2	3
	CO4	Concepts of parallel computer models.	3	2	1	2	2	1	0	0	3	0	1	3	2	2	2
	CO5	Scalable Architectures, Pipelining, Superscalar processors	3	2	1	1	2	2	0	0	2	1	2	3	1	2	3
		AVERAGE	3	2	1	2	2	2	0	0	2	1	1	3	1	2	3
		AVERAGE WITH MARKS	2	2	1	1	2	1	0	0	2	0	1	2	1	2	2



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COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Data Science	CO1	Understand the basic concepts and technologies of data science.	2	3	3	3	3	2	0	0	2	0	3	3	3	3	2
	CO2	Explain how data is collected, managed and stored for data science;	3	3	3	3	2	2	0	0	3	0	3	3	2	3	3
	CO3	Understand the key concepts in data science, including their real-world applications and the toolkit used by data scientists	2	2	3	3	3	3	0	0	3	1	3	3	3	2	3
	CO4	Implement data collection and management scripts using MongoDB	3	3	3	3	3	2	0	0	3	1	3	3	3	3	3
	CO5	Understand Data Analysis and Visualization	2	3	3	3	2	3	0	0	3	0	3	3	3	3	3
		AVERAGE	2	3	3	3	3	2	0	0	3	0	3	3	3	3	3
		AVERAGE WITH MARKS	2	2	2	2	2	2	0	0	2	0	2	2	2	2	2



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COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Cyber Security	CO1	understand the concepts of Cyber Security	3	2	3	3	2	3	0	0	2	0	3	3	3	2	3
	CO2	learn about cyber crimes and how they are planned	2	2	2	2	3	3	0	0	3	0	2	3	3	2	2
	CO3	learn the vulnerabilities of mobile and wireless devices.	3	3	3	3	2	3	0	0	2	0	2	2	3	3	3
	CO4	Understand computer Forensics	3	2	3	3	2	3	0	0	2	0	3	2	3	2	2
	CO5	learn about the crimes in mobile and wireless devices.	3		3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE	3	2	3	3	2	3	0	0	2	0	3	3	3	2	3
		AVERAGE WITH MARKS	2	2	2	2	2	2	0	0	2	0	2	2	2	2	2



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COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Advanced Algorithms Lab	CO1	Able to analyze the performance of algorithms	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO2	Perform multiplication of long integers using divide and conquer method	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO3	Implement a solution for the knapsack problem using the Greedy method	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO4	Implement Gaussian elimination method	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO5	Implement Harspool algorithm	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3



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COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Data Science Lab	CO1	Understand the concepts and formulate the algorithms for simple problems	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO2	translate given algorithms to a working and correct program.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO3	understand learn about a Big Data – R Programming, way of solving problems	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO4	formulate the tools for data exploration, data analysis, and data visualization	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO5	write programs in Scala to solve problems.	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3



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COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Mini Project with Seminar	CO1	Understand the selection of Projects	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO2	Learn to collect data	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
	CO3	Learn to analyze the data	3	3	3	3	3	3	0	0	3	1	3	3	3	3	3
	CO4	Learn to implement the project	3	3	3	3	3	3	0	0	3	1	3	3	3	3	3
	CO5	understand the tools for testing	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
		AVERAGE WITH MARKS	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3



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Website : www.dvrkwomenscollege.com

II YEAR: I SEMESTER

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	CO1	Understand the concepts of Digital Forensics Science	2	3	3	2	3	2	0	0	3	0	3	3	3	2	2
Digital Forensics	CO2	Understand relevant legislation and codes of ethics	2	3	2	3	2	2	0	0	2	0	2	3	2	3	3
	CO3	Computer forensics and digital detective and various processes, policies and procedures.	3	2	3	3	3	2	0	0	3	0	2	3	3	2	3
	CO4	E-discovery, guidelines and standards, E-evidence, tools and environment.	3	3	2	3	2	3	0	0	2	0	1	3	3	2	2
	CO5	Email and web forensics and network forensics.	2	2	3	3	3	2	0	0	3	0	3	3	3	2	3
		AVERAGE	2	3	3	3	3	2	0	0	3	0	2	3	3	2	3
		AVERAGE WITH MARKS	2	2	2	2	2	2	0	0	2	0	2	2	2	2	2



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	2
Energy from Waste	CO1	Understand energy from waste	2	3	3	3	2	1	0	0	2	0	2	3	2	3	3
	CO2	Understand Biomass Pyrolysis: Pyrolysis	3	3	3	3	3	2	0	0	3	0	2	2	3	2	2
	CO3	Understand Biomass Gasification:	2	3	3	2	2	1	0	0	3	0	2	3	3	3	3
	CO4	Understand Biomass Combustion	2	2	3	3	3	2	0	0	3	0	3	2	2	3	2
	CO5	Understand Biogas: Properties of biogas	3	3	3	3	2	2	0	0	3	0	2	3	3	2	3
		AVERAGE	2	3	3	3	2	2	0	0	3	0	2	3	3	3	3
		AVERAGE WITH MARKS	2	2	2	2	2	1	0	0	2	0	2	2	2	2	2



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Dissertation Work Review - II	CO1	Apply the concepts of probability and distributions to some case studies.	2	3	3	3	3	2	0	0	1	1	1	3	2	3	3
	CO2	Correlate the material of one unit to the material in other units.	2	3	2	3	2	3	0	0	2	1	2	3	2	2	3
	CO3	Resolve the potential misconceptions and hazards in each topic of study	2	3	3	2	3	3	0	0	3	0	2	3	2	3	3
	CO4	Understand the Estimation & Tests of Hypotheses.	2	2	3	2	3	2	0	0	1	1	1	3	2	2	3
	CO5	Chains	2	3	3	3	2	2	0	0	1	0	2	3	2	2	3
		AVERAGE	2	3	3	3	3	2	0	0	2	1	2	3	2	2	3
		AVERAGE WITH MARKS	2	2	2	2	2	2	0	0	1	0	1	2	2	2	2



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II YEAR: II SEMESTER

Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Dissertation Work Review - III	CO1	Ability to understand and construct precise mathematical proofs	2	3	3	3	2	1	0	0	2	0	1	3	2	2	2
	CO2	Ability to use logic and set theory to formulate precise statements	2	3	2	3	1	1	0	0	2	0	1	3	2	2	2
	CO3	Ability to analyze and solve counting problems on finite and discrete structures	2	2	3	2	2	2	0	0	3	1	1	3	2	2	2
	CO4	Ability to describe and manipulate sequences	2	3	2	3	1	2	0	0	3	1	1	3	2	2	2
	CO5	Ability to apply graph theory in solving computing problems	2	2	3	3	1	1	0	0	3	0	1	3	2	2	2
		AVERAGE	2	3	3	3	1	1	0	0	3	0	1	3	2	2	2
		AVERAGE WITH MARKS	2	2	2	2	1	1	0	0	2	0	1	2	2	2	2



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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Dissertation Viva-Voce	CO1	understand the various Forms of Business and the impact of economic variables on the Business.	1	2	1	1	2	1	0	0	3	1	1	3	1	1	2
	CO2	Understand Demand and Supply Analysis.	1	2	2	1	2	1	0	0	3	1	2	3	1	1	2
	CO3	understand the Demand, Supply, Production, Cost, Market Structure, Pricing aspects are learnt.	1	2	2	2	1	1	0	0	3	0	1	3	1	1	1
	CO4	Understand Financial Accounting concepts and Conventions	1	1	1	2	2	1	0	0	3	0	2	3	1	1	2
	CO5	understand the firm's financial position by analysing the Financial Statements of a Company.	1	2	2	1	1	1	0	0	3	1	2	3	1	1	1
		AVERAGE	1	2	2	1	2	1	0	0	3	1	2	3	1	1	2
		AVERAGE WITH MARKS	1	1	1	1	1	1	0	0	2	0	1	2	1	1	1



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REGULATION :R19

BATCH: 2021 - 2023 M.Tech
CO-PO-PSO CONSOLIDATED MAPPIING

YEAR/SEMESTER: I / I

SUBJECT NAME	PROGRAMME OUTCOMES(PO'S)												PROGRAMME SPECIFIC OUTCOMES		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Mathematical Foundations of Computer Science	2	2	2	2	2	2	0	0	1	0	1	2	2	2	0
Advanced Data Structures	2	2	2	2	2	2	0	0	2	0	1	2	1	1	0
Machine Learning	2	2	2	2	2	1	0	0	2	0	2	2	2	2	1.8
Network Security	2	2	2	2	2	2	0	0	2	0	2	2	2	2	1.7
Data Mining	2	2	2	2	2	2	0	0	2	0	2	2	2	2	2
Advanced Data Structures Lab	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
Machine Learning Lab	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
Research Methodology & IPR	2	2	2	2	2	2	0	0	2	0	1	2	2	2	2.3

YEAR/SEMESTER: I / II

Advanced Algorithms	2	2	2	2	2	2	0	0	2	0	1	2	2	2	2.3
Advanced Computer Architecture	2	2	1	1	2	1	0	0	2	0	1	2	1	2	2
Data Science	2	2	2	2	2	2.2	0	0	2	0	2	2	2	2	2.1
Cyber Security	2	2	2	2	2	2	0	0	2	0	2	2	2	2	2
Advanced Algorithms Lab	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
Data Science Lab	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
Mini Project with Seminar	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3

YEAR/SEMESTER:II/I

Digital Forensics	1.8	2	2	2.1	2	2	0	0	2	0	2	2	2	2	2
Energy from Waste	1.8	2.1	2.3	2.1	2	1	0	0	2	0	2	2	2	2	2
Dissertation Work/ Review - II	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3

YEAR/SEMESTER:II / II

Dissertation Work Review - III	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
Dissertation Viva-Voce	3	3	3	3	3	3	0	0	3	0	3	3	3	3	3
OVERALL ATTAINMENT	2.38	2.405	2.365	2.36	2.4	3.25	0	0	2.35	0	2.15	2.4	2.3	2.35	2.21
80% OF ATTAINMENT	1.904	1.924	1.892	1.888	1.92	2.6	0	0	1.88	0	1.72	1.92	1.84	1.88	1.768



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

INDIRECT ASSESSMENT (M.Tech)

BATCH: 2021-2023

ALUMNI SURVEY

REGULATION : R19

Respondent Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
FARHEEN BANU	3	3	2	3	3	2	2	3	3	3	2	3	3	3	3
UMME HANI SARA	3	2	3	3	3	2	3	2	2	3	2	3	3	3	3
USAMA AHMED	2	3	3	2	3	2	3	3	3	3	2	2	3	3	2
Average	2.7	2.7	2.7	2.7	3	2	2.7	2.7	2.7	3	2	2.7	3	3	2.7

PARENT SURVEY

Respondent Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
FARHEEN BANU	3	3	3	3	2	3	2	3	3	3	3	3	3	3	3
UMME HANI SARA	2	2	3	3	3	3	3	2	3	2	3	3	3	2	3
USAMA AHMED	3	3	3	3	2	3	2	3	2	3	2	3	3	3	2
Average	2.7	2.7	3	3	2.3	3	2.3	2.7	2.7	2.7	2.7	3	3	2.7	2.7

STUDENT SURVEY

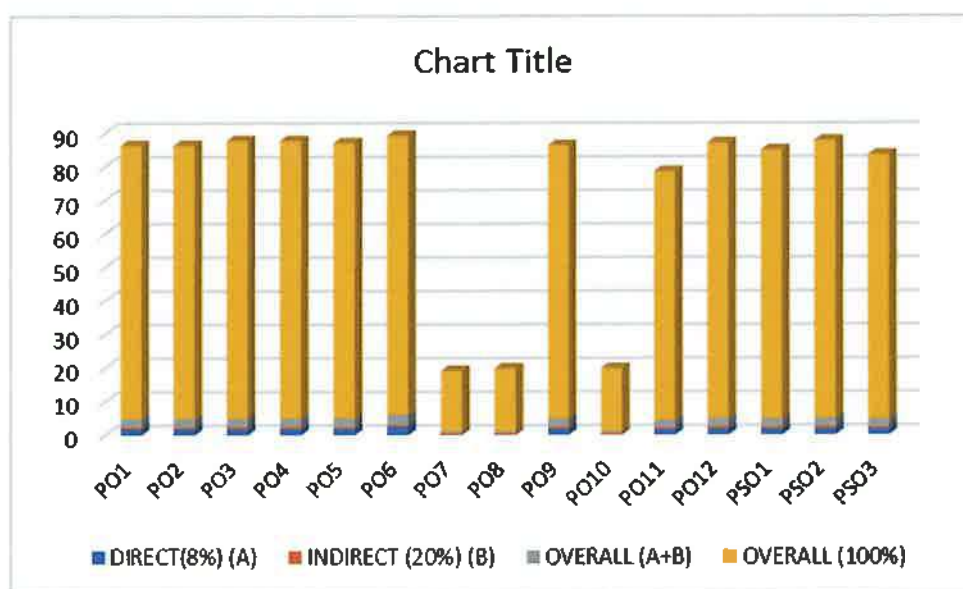
Respondent Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
FARHEEN BANU	3	2	3	3	3	2	3	3	3	3	3	2	3	3	3
UMME HANI SARA	2	3	3	3	3	3	3	3	2	3	3	3	3	3	3
USAMA AHMED	3	3	3	3	3	2	3	3	3	2	3	3	3	3	3
Average	2.7	2.7	3	3	3	2.3	3	3	2.7	2.7	3	2.7	3	3	3

AVERAGE OF INDIRECT ASSESSMENT

SURVEY	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
ALUMNI SURVEY	2.7	2.7	2.7	2.7	3	2	2.7	2.7	2.7	3	2	2.7	3	3	2.7
PARENT SURVEY	2.7	2.7	3	3	2.3	3	2.3	2.7	2.7	2.7	2.7	3	3	2.7	2.7
STUDENT SURVEY	2.7	2.7	3	3	3	2.3	3	3	2.7	2.7	3	2.7	3	3	3
AVERAGE OF INDIRECT ASSESSMENT	2.7	2.7	2.9	2.9	2.8	2.4	2.7	2.8	2.7	2.8	2.6	2.8	3	2.9	2.8
20% of Indirect Assessment.	0.54	0.54	0.58	0.58	0.56	0.48	0.54	0.56	0.54	0.56	0.52	0.56	0.6	0.58	0.56

FINAL POs / PSOs Attainment

SURVEY	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
DIRECT(8%) (A)	1.9	1.9	1.9	1.9	1.9	2.6	0	0	1.9	0	1.7	1.9	1.8	1.9	1.8
INDIRECT (20%) (B)	0.54	0.54	0.58	0.58	0.56	0.48	0.54	0.56	0.54	0.56	0.52	0.56	0.6	0.58	0.56
OVERALL (A+B)	2.44	2.44	2.48	2.48	2.46	3.08	0.54	0.56	2.44	0.56	2.22	2.46	2.4	2.48	2.36
OVERALL (100%)	81.3	81.3	82.7	82.7	82	83	18	18.7	81.3	18.7	74	82	80	82.7	78.67



DIRECT(8%) (A)



PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8
PO9 PO10 PO11 PO12 PSO1 PSO2 PSO3