

# 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	76	76	86	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	FARIJA 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	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	
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	Otherwise	0	Otherwise	0	
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. SAILAKSHMI	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					
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					
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 K.HAN	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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Contact No. 7893044962 / 08413235962

Website : [www.drvrkwomenscollege.com](http://www.drvrkwomenscollege.com)

CO-PO-PSO ATTAINMENT		
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING		
SUBJECT CODE	COURSE NAME	
	<b>YEAR 1 - SEMESTER 1</b>	<b>Attainment</b>
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
	<b>YEAR 1 - SEMESTER 2</b>	
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
	<b>YEAR 2 - SEMESTER 1</b>	
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
<b>YEAR 4 - SEMESTER II</b>		
SM801MS	Organizational Behaviour	2.25
CS815PE	Cyber Forensics	2.25
MT802OE	Total Quality Management	2.25
CS802PC	Major Project	3
<b>OVERALL ATTAINMENT</b>		<b>2.54307692</b>
<b>80% OF ATTAINMENT</b>		<b>2.03446154</b>

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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	CO1	Write the matrix representation of a set of linear equations and to analyse the solution of the system of equations	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	<b>1.95</b>	<b>2.1</b>	<b>2.1</b>	<b>1.8</b>	<b>2.1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.3</b>	<b>1.4</b>	<b>2.1</b>	<b>2.1</b>	<b>2.1</b>	<b>0</b>



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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
	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
	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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			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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			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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			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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			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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			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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			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	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	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	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	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	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
	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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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			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
	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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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			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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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			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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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			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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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			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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Subject Code Course Name	COs	Outcomes	PROGRAM OUTCOMES												PSO		
			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 farming 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
	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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			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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			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 an 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
	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 marketing 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	Measuring 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

SUBJECT NAME	PROGRAMME OUTCOMES(PO'S)												PROGRAMME SPECIFIC		
	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
<b>Average</b>	<b>2.71</b>	<b>2.43</b>	<b>2.86</b>	<b>2.29</b>	<b>2</b>	<b>2.29</b>	<b>2.14</b>	<b>2.71</b>	<b>2.86</b>	<b>2.86</b>	<b>2.29</b>	<b>2.43</b>	<b>2.86</b>	<b>2.29</b>	<b>2.43</b>

#### 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
<b>Average</b>	<b>2.85</b>	<b>2.71</b>	<b>2.86</b>	<b>2.86</b>	<b>2.57</b>	<b>2.86</b>	<b>2.43</b>	<b>2.29</b>	<b>2.57</b>	<b>2.71</b>	<b>2.86</b>	<b>2.86</b>	<b>2.86</b>	<b>2.57</b>	<b>2.86</b>



## STUDENT SURVEY

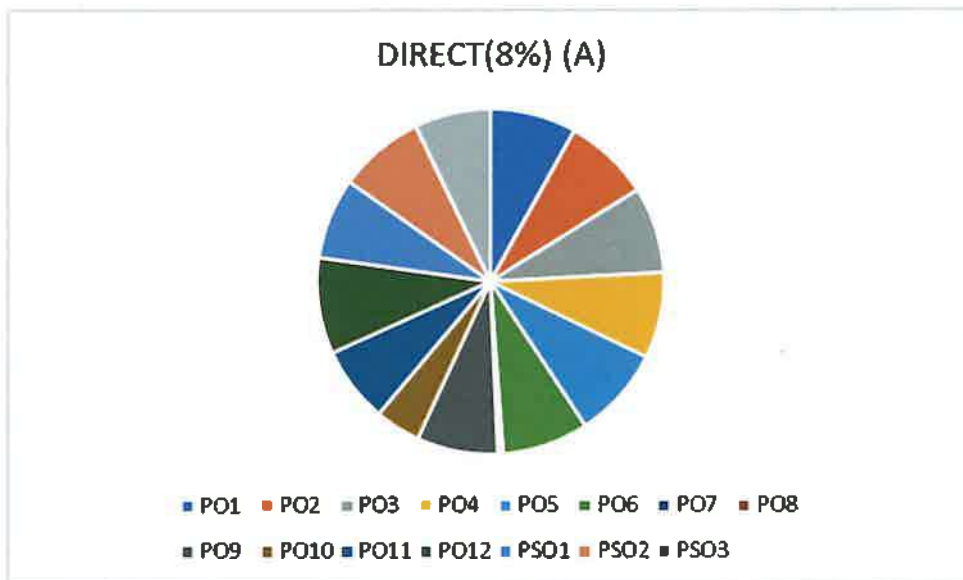
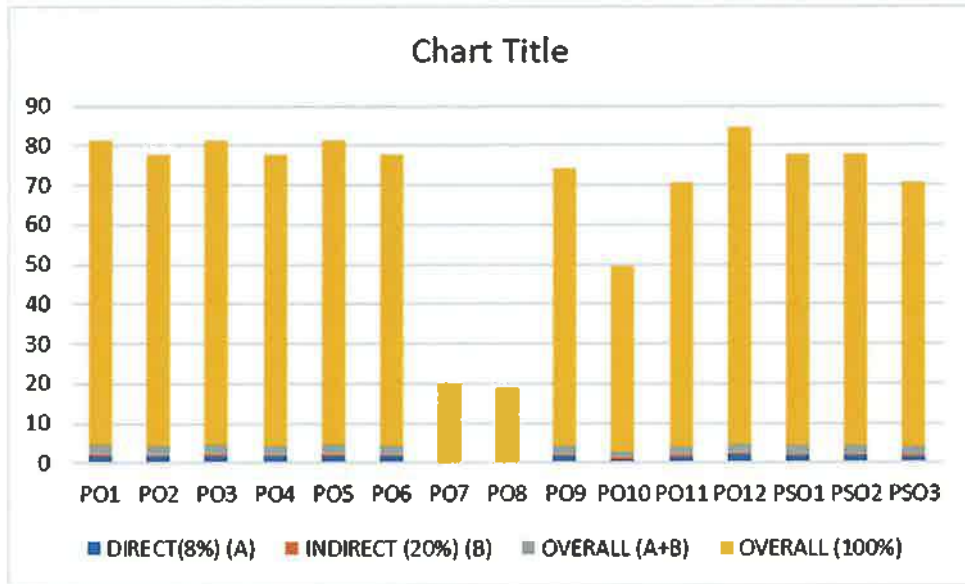
Respondent Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
SANA BEGUM	2	2	3	2	3	2	3	3	3	3	3	2	3	2	3
B. ANJALI	2	3	3	2	3	3	3	3	2	2	3	2	3	3	3
K. MADHAVI	3	3	3	2	3	2	3	3	3	2	3	2	3	3	3
SAEMA FIRDOUSE	3	3	3	2	3	3	3	3	3	3	3	3	3	2	3
MOHD.SOHAIL	3	3	3	3	3	2	3	2	3	3	3	3	2	3	3
V INDU	3	2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

## 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
<b>20% of Indirect Assessment.</b>	<b>0.55</b>	<b>0.52</b>	<b>0.58</b>	<b>0.50</b>	<b>0.49</b>	<b>0.51</b>	<b>0.49</b>	<b>0.52</b>	<b>0.53</b>	<b>0.54</b>	<b>0.54</b>	<b>0.52</b>	<b>0.57</b>	<b>0.50</b>	<b>0.54</b>

## 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%)	<b>76.7</b>	<b>73.3</b>	<b>76.7</b>	<b>73.3</b>	<b>76.7</b>	<b>73.3</b>	<b>18.7</b>	<b>18</b>	<b>70</b>	<b>46.7</b>	<b>66.7</b>	<b>80</b>	<b>73.3</b>	<b>73.3</b>	<b>66.7</b>



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

### DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

#### CO Attainment

Academic 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	3	3		3	No of students crossed the threshold level in		Otherwise		0
			No of Students Appeared for the Examination								3	3	3	3	3		3	No of Students Appeared for the Examination				
			% of Students crossed the threshold level								100	100	100	100	100		100	% 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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Contact No. 7893044962 / 08413235962

Website : [www.drvrkwomenscollege.com](http://www.drvrkwomenscollege.com)

CO-PO-PSO ATTAINMENT (M.Tech)		
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING		
SUBJECT CODE	COURSE NAME	Attainment
	<b>YEAR 1 - SEMESTER 1</b>	
	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
	<b>YEAR 1 - SEMESTER 2</b>	
	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
	<b>YEAR 2 - SEMESTER 1</b>	
	Digital Forensics	2.25
	Energy from Waste	2.25
	Dissertation Work Review - II	3
	<b>YEAR 2 - SEMESTER 2</b>	
	Dissertation Work Review - III	3
	Dissertation Viva-Voce	3
	<b>OVERALL ATTAINMENT</b>	<b>2.5875</b>
	<b>80% OF ATTAINMENT</b>	<b>2.07</b>





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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
<b>Mathematical Foundations of Computer Science</b>	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
		<b>AVERAGE</b>	3	3	3	2	3	3	0	0	2	0	2	3	3	3	0
		<b>AVERAGE WITH MARKS</b>	2	2	2	2	2	2	0	0	1	0	1	2	2	2	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
<b>Advanced Data Structures</b>	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
		<b>AVERAGE</b>	3	3	3	2	3	2	0	0	3	1	2	3	2	1	0
		<b>AVERAGE WITH MARKS</b>	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
<b>Machine Learning</b>	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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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
<b>Network Security</b>	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
<b>Data Mining</b>	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
<b>Advanced Data Structures Lab</b>	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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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
<b>Machine Learning Lab</b>	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
<b>Research Methodology &amp; IPR</b>	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 emphasize 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
<b>Advanced Algorithms</b>	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
		<b>AVERAGE</b>	2	3	3	3	3	2	0	0	3	0	2	3	3	3	3
		<b>AVERAGE WITH MARKS</b>	2	2	2	2	2	2	0	0	2	0	1	2	2	2	2



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Contact No. 7893044962 / 08413235962  
Website : [www.drwrkwomenscollege.com](http://www.drwrkwomenscollege.com)

COURSE & CODE	CO'S	COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
<b>Advanced Computer Architecture</b>	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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			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
<b>Data Science</b>	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
<b>Cyber Security</b>	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
<b>Advanced Algorithms Lab</b>	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
<b>Data Science Lab</b>	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
<b>Mini Project with Seminar</b>	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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## 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
<b>Digital Forensics</b>		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
		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
<b>Energy from Waste</b>	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	
		<b>AVERAGE</b>	2	3	3	3	2	2	0	0	3	0	2	3	3	3	3	
		<b>AVERAGE WITH MARKS</b>	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			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
			Understand Demand and Supply Analysis.	1	2	2	1	2	1	0	0	3	1	2	3	1	1	2
			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
			Understand Financial Accounting concepts and Conventions	1	1	1	2	2	1	0	0	3	0	2	3	1	1	2
			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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Contact No: 7893044962 / 08413235962  
Website : [www.drvtk.womenscollege.com](http://www.drvtk.womenscollege.com)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REGULATION :R19

BATCH: 2021 - 2023  
CO-PO-PSO CONSOLIDATED MAPPING

M.Tech

YEAR/SEMESTER: I / I

SUBJECT NAME	PROGRAMME OUTCOMES(PO'S)													ROGRAMME 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	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
<b>80% OF ATTAINMENT</b>	<b>1.904</b>	<b>1.924</b>	<b>1.892</b>	<b>1.888</b>	<b>1.92</b>	<b>2.6</b>	<b>0</b>	<b>0</b>	<b>1.88</b>	<b>0</b>	<b>1.72</b>	<b>1.92</b>	<b>1.84</b>	<b>1.88</b>	<b>1.768</b>



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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
<b>Average</b>	<b>2.7</b>	<b>2.7</b>	<b>2.7</b>	<b>2.7</b>	<b>3</b>	<b>2</b>	<b>2.7</b>	<b>2.7</b>	<b>2.7</b>	<b>3</b>	<b>2</b>	<b>2.7</b>	<b>3</b>	<b>3</b>	<b>2.7</b>

### 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
<b>Average</b>	<b>2.7</b>	<b>2.7</b>	<b>3</b>	<b>3</b>	<b>2.3</b>	<b>3</b>	<b>2.3</b>	<b>2.7</b>	<b>2.7</b>	<b>2.7</b>	<b>2.7</b>	<b>3</b>	<b>3</b>	<b>2.7</b>	<b>2.7</b>

### 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
<b>Average</b>	<b>2.7</b>	<b>2.7</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2.3</b>	<b>3</b>	<b>3</b>	<b>2.7</b>	<b>2.7</b>	<b>3</b>	<b>2.7</b>	<b>3</b>	<b>3</b>	<b>3</b>

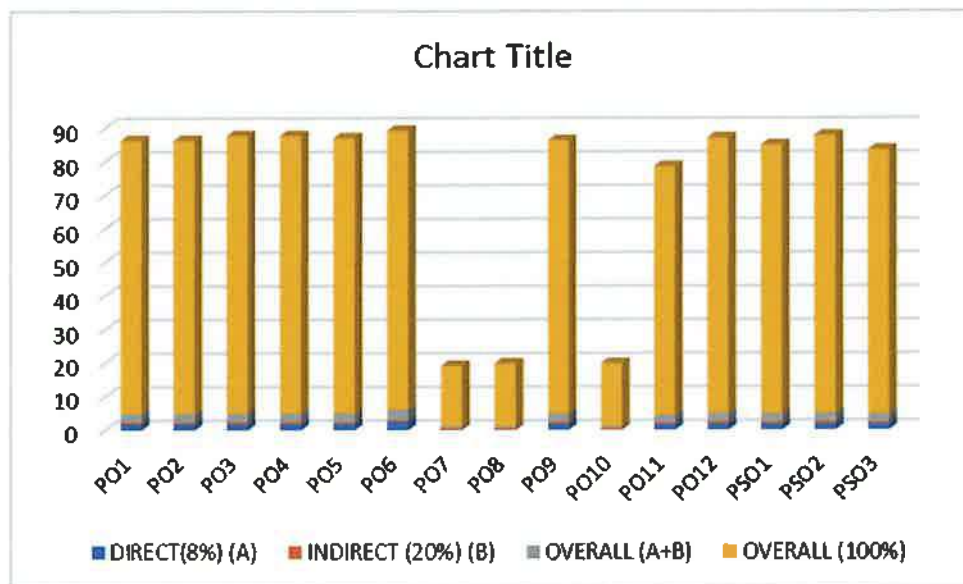


### AVERAGE OF INDIRECT ASSESSMENT

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