List of POs, PSOs PEOs
STANLEY COLLEGE OF ENGINEERING AND TECHNOLOGY FOR WOMEN
Chapel Road, Abids, Hyderabad.
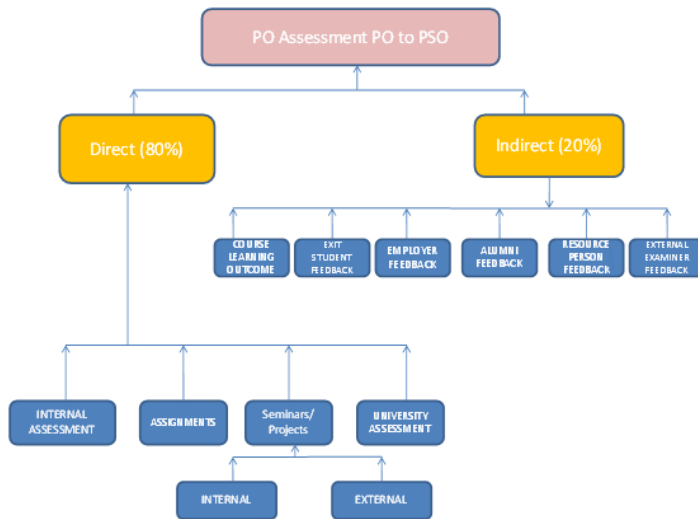### DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

PROGRAM OUTCOMES

PO1. **Engineering knowledge:** Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the conceptualization of engineering models.

PO2. **Problem Analysis:** Identify, formulate, research literature and solve complex engineering problems reaching substantiated conclusions using first principles of mathematics and engineering sciences.

PO3. **Design/development of solutions:** Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

PO4. **Conduct investigations of complex problems:** Conduct investigations of complex problems including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.

PO5. **Modern Tool Usage**: Create, select and apply appropriate techniques, resources, and modern engineering tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.

PO6. **The engineer and society**: Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.

PO7. **Environment & sustainability:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO8. **Ethics**: Demonstrate understanding of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering practice.

PO9. **Individual and Team work**: Understand and commit to professional ethics and responsibilities and norms of engineering practice.

PO10. **Communication**: Understand the impact of engineering solutions in a societal context and demonstrate knowledge of and need for sustainable development.

PO11. **Project Management and Finance:** Demonstrate a knowledge and understanding of management and business practices, such as risk and change management, and understand their limitations.

PO12. **Lifelong Learning**: Recognize the need for, and have the ability to engage in independent and life-long learning

PROGRAM SPECIFIC OUTCOMES

PSO 1.Problem-Solving Skills: The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for the benefit of students.

PSO2. Design,implement,test,and evaluate a computer system,component,or algorithm to meet   desired needs and to solve a computational problem.

Flow chart

Stanley College of Engineering and Technology for Women
Chapel Road, Abids, Hyderabad – 500 001
Department of Computer Science and Engineering
V SEM (A.Y- 22-23)

Name of the Course/lab	UNIQUE CODE	COURSE OUTCOMES
SOFTWARE ENGINEERING(PC501CS)	PC501CS.1	Acquired working knowledge of alternative approaches and techniques for each phase of software development
	PC501CS.2	Acquired working knowledge of alternative approaches and techniques for each phase of software development
	PC501CS.3	Acquire skills necessary as an independent or as part of a team for completing a project
	PC501CS.4	Acquire skills necessary as an independent or as part of a team for completing a project
	PC501CS.5	Concede product quality through testing techniques employing appropriate metrics by understanding the practical challenges associated with the development of a significant software system
PRINCIPLES OF PROGRAMMING LANGUAGES(PC502CS)	PC502CS.1	Ability to express syntax and semantics in formal notation
	PC502CS.2	Ability to apply suitable programming paradigm for the application
	PC502CS.3	Gain Knowledge and comparison of the features programming languages. Program in different language paradigms and evaluate their relative benefits
	PC502CS.4	Identify and describe semantic issues associated with variable binding, scoping rules, parameter passing, and exception handling.
	PC502CS.5	Understand the design issues of object-oriented and functional languages.
AUTOMATA LANGUAGE & COMPUTATION(PC503CS)	PC503CS.1	To define and analyze the Deterministic and Nondeterministic Finite Automata and automata with output for any given language
	PC503CS.2	To solve the problems relating context free languages and machines accepted by CFG.
	PC503CS.3	To identify formal language classes and membership properties of languages.

	PE515CS.5	Assess the solutions, Use K-means clustering and K-NN classification methods, Reading data from MySQL and NoSQL databases.
SOFTWARE ENGINEERING LAB(PC551 CS)	**PC551CS.1**	Analyze and design software requirements in an efficient manner.
	PC551CS.2	Use open-source case tools to develop software.
	PC551CS.3	Implement the code
	PC551CS.4	Design and debug the code
	PC551CS.5	Make test cases and test the code
ARTIFICIAL INTELLIGENCE LAB(PC552 CS)	**PC552CS.1**	Design and develop solutions for informed and uninformed search problems in AI
	PC552CS.2	Demonstrate reasoning in first order logic using Prolog.
	PC552CS.3	Utilize advanced package like NLTK for implementing natural language processing.
	PC552CS.4	Demonstrate and enrich knowledge to select and apply python libraries to synthesize information and develop supervised learning models
	PC552CS.5	Develop a case study in multidisciplinary areas to demonstrate use of AI
COMPUTER NETWORK LAB(PC553 CS)	**PC553CS.1**	Implement Various commands
	PC553CS.2	Implement various protocols using TCP and UDP
	PC553CS.3	Program using sockets.
	PC553CS.4	Use simulation tools to analyze the performance of various network protocols.
	PC553CS.5	Implement and Analyze various routing algorithms.

	PC503CS.4	To solve the problems related to Turing Machines
	PC503CS.5	To acquire a fundamental understanding of core concepts relating to the theory of computation and computational models including (but not limited to) decidability and intractability
ARTIFICIAL INTELLIGENCE(PE512 CS)	**PE512CS.1**	Formalize a problem in the language/framework of different AI methods
	PE512CS.2	Illustrate basic principles of AI in solutions that require problem solving, search, inference.
	PE512CS.3	Represent natural language/English using Predicate Logic to build knowledge through various representation mechanisms
	PE512CS.4	Demonstrate understanding of steps involved in building of intelligent agents, expert systems, Bayesian networks.
	PE512CS.5	Differentiate between learning paradigms to be applied for an application.
COMPUTER NETWORK(PC505CS)	**PC505CS.1**	Understanding Data communication Components ,and Techniques for Bandwidth Utilization.
	PC505CS.2	Investigating the reference model of Data link Layer and analyzing Flow control and error control techniques , and Protocols.
	PC505CS.3	Understanding different switching techniques, and differences of IPV4 and IPv6 header ,InternetControl Protocol, and Network routing Algorithm.
	PC505CS.4	Analyzing Process-to process communication using Transport Layer, and Understanding Congestion control, and quality of Service Techniques.
	PC505CS.5	Analyze and understand the working of application Layer such as DNS, mail, file transfer and Cryptography and Network security Attacks..
DATA SCIENCE(P E515CS)	**PE515CS.1**	Understand the mathematical background for Data science
	PE515CS.2	Assess and analyze the statistics of the data
	PE515CS.3	Use linear, non-linear regression models, and classification techniques for data analysis.
	PE515CS.4	Develop R codes for data science solutions

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VII SEM (A.Y- 22-23)

Name of the Course/lab	UNIQUE CODE	COURSE OUTCOMES
INFORMATION SECURITY(PC701CS)	PC701CS.1	Define the steps in Security Systems development life cycle(SecSDLC). Understand the common threats and attack to information systems.
	PC701CS.2	Understand the legal and ethical issues of information technology Identify security needs using risk management and choose the appropriate risk control strategy based on business needs.
	PC701CS.3	Use the basic knowledge of security frameworks in preparing security blue print for the organization . Usage of reactive solutions, network perimeter solution tools such as firewalls, host solutions such as antivirus software and Intrusion Detection techniques and knowledge of ethical hacking tools.
	PC701CS.4	Understand and apply various cryptographic algorithms and to create their own algorithm. Use ethical hacking tools to study attack patterns and cryptography and secure communication protocols.
	PC701CS.5	Understand the technical and non-technical aspects of security project implementation and accreditation. Design and prepare the industry recognized cyber security certifications and able to maintain the information security
DATA SCIENCE USING R PROGRAMMING(PC702 CS)	PC702CS.1	Define the steps in Security Systems development life cycle(SecSDLC). Understand the common threats and attack to information systems.
	PC702CS.2	Understand the legal and ethical issues of information technology Identify security needs using risk management and choose the appropriate risk control strategy based on business needs.
	PC702CS.3	Use the basic knowledge of security frameworks in preparing security blue print for the organization . Usage of reactive solutions, network perimeter solution tools such as firewalls, host solutions such as antivirus software and Intrusion Detection techniques and knowledge of ethical hacking tools.
	PC702CS.4	Understand and apply various cryptographic algorithms and to create their own algorithm. Use ethical hacking tools to study attack patterns and cryptography and secure communication protocols.
	PC702CS.5	Understand the technical and non-technical aspects of security project implementation and accreditation. Design and prepare the industry recognized cyber security certifications and able to maintain the information security

DISTRIBUTED SYSTEMS(PC703CS)	**PC703CS.1**		List the principles of distributed systems and describe the problems and challenges associated with these principles
	PC703CS.2		To know about interposes communication and remote communication.
	PC703CS.3		Understand Distributed Computing techniques, Synchronous and Processes.
	PC703CS.4		Understand Distributed File Systems Apply Distributed web-based system. Understand the importance of security in distributed systems
	PC703CS.5		Student will be able to know distributed service oriented architecture and to know about emerging trends in distributed computing.
FUNDAMENTAL OF IOT(OE701EC)	**OE701EC.1**		Understand the various applications of IOT and other enabling technologies
	OE701EC.2		Comprehend various protocols and communication technologies used in IOT
	OE701EC.3		Design simple IOT systems with requisite hardware and C programming software
	OE701EC.4		Understand the relevance of cloud computing and data analytics to IOT
	OE701EC.5		Comprehend the business model of IoT from developing a prototype to launching a product.
DATA SCIENCE LAB(PC751CS)	**PC751CS.1**		Write programs that communicate data between two hosts
	PC751CS.2		Configure NFS
	PC751CS.3		To implement inter process communication and remote communication
	PC751CS.4		Use distributed data processing frameworks and mobile application tool kits
DISTRIBUTED SYSTEMS LAB(PC752CS)	**PC752CS.1**		Write programs that communicate data between two hosts
	PC752CS.2		Configure NFS
	PC752CS.3		To implement inter process communication and remote communication

	PC752CS.4	Use distributed data processing frameworks and mobile application tool kits
	PW761CS.1	Demonstrate the ability to synthesize and apply the knowledge and skills acquired in the academic program to the real-world problems.
	PW761CS.2	Evaluate different solutions based on economic and technical feasibility
	PW761CS.3	Effectively plan a project and confidently perform all aspects of project management
PROJECT WORK(PW761CS)	**PW761CS.4**	Demonstrate effective written and oral communication skills

STANLEY COLLEGE OF ENGINEERING &TECHNOLOGY FOR WO
Engineering
Course Outcome Attainment

Name of the faculty : GHOUSIA BEGUM   Academic Yr 2022-23
Branch & Section : CSE-2   Exam : I Internal
Subject : ENGINEERING   Year III I   Target %= 60%

S.No	HT No	Q1	Q2	Q3	Q4	Q5	Q6	A1		1	2	3	4	5	6	A1
										1.2	1.2	1.2	4.2	4.2	4.2	3
	Max. Marks	3	2	2	7	7	7	5		1	1.2	1.2	4.2	4.2	4.2	3
1	160620713063	2	2	2			6	5		1	0	1	0	0		
2	160620713305	2	1	2	5.5	5		5		1	0	1	1	0		
3	160620713063	2	2	2			5.6	5		1		1	0			
4	160620713064	2	2	2			6	5		1		1	0			
5	160620713065	2	2			1	5	5		1	0	1	0			
6	160620713066	2	2	2		7	4	5		0		1	1	0		
7	160620713067	1.5	1.5	1.5			3.5	5		1	0	1	1	0	0	
8	160620713068	2	1	1		5	5	5		0	0	1				
9	160620733069	2	2	0		4	5	5		1	0	0	0	0		
10	160620733070	2	2	2		7	6	5		1		1	0			
11	160620733073				2	1	3	5		0	0	0	0	0	0	
12	160620733072		1	0	2	5	6	5		0	1	0	0	0	1	
13	160620733073	2		2		4	5	5		0		1	0	0		
14	160620733074	2	2	2		7	5	5		1		1	1			
15	160620733075	2	1	2		2	5	5		0	0	1	0	0		
16	160620733076	2	1	2		6	4	5		0		1	0	1	0	
17	160620733077				2		2	5		0	0	0	0	0	0	1
18	160620733078	2	2	2	4	4		5		1	1	1	0	0	0	1
19	160620733079	2	2	1		6	6	5		1	1	0	0	1	1	1
20	160620733080				2		4	5		0	0	0	0	0	1	1
21	160620733081		2	2	2	3	6	5		1	1	1	0	0	1	1
22	160620733082	1	1	1	6	8		5		0	0	0	1	1	0	1
23	160620733083	2	1	2		6	2	5		1	0	1	0	1	0	1
24	160620733084	2		2		1	4	5		1	0	1	0	0	0	1
25	160620733085	0			2		4	5		0	0	0	0	0	0	1
26	160620733086	2	2	2		7	6	5		1	1	1	0	1		1
27	160620733087	2	1	2	3		4	5		1	0	1	0	0	0	1
28	160620733088	0.5						5		0	0	0	0	0	0	1
29	160620733089				0			5		0	0	0	0	0	0	1
30	160620733090	2	2	2	5		5	5		1	1	1	1	0	1	1
31	160620733091	2	0	1	4			5		1	0	0	0	0	0	1
32	160620733092	2	1	2			6	5		1	0	1	0	0	1	1
33	160620733093	2	2	2		3	6	5		1	1	1	0	0	1	1
34	160620733094	2		2	4		4	5		1	0	1	0	0	0	1
35	160620733095	2	2	2	6		5	5		1	1	1	1	0	1	1
36	160620733096	2	2	2		7	7	5		1	1	1	0	1	1	1
37	160620733097	2	2	2		7	5	5		1	1	1	1	1	1	1
38	160620733098	2					3.0	5		1	0	0	0	0	0	1
39	160620733099	2	2	2		7	7	5		1	1	1	0	1	1	1
40	160620733100	2	2	2		7	4	5		1	1	1	0	1	0	1
41	160620733101	2	2	2		1	6	5		1	1	1	0	0	1	1
42	160620733102	2	2	2	6	4		5		1	1	1	1	0	0	1
43	160620733103	2	2	2		7	6	5		1	1	1	0	1	1	1
44	160620733104	1	1	2		5	5	5		0	0	1	0	1	1	1
45	160620733105	2	2	1		7	5	5		1	1	0	0	1	1	1
46	160620733106	2	1	2		5	6	5		1	0	1	0	1	1	1
47	160620733107	2		2	4		3	5		1	0	1	0	0	0	1
48	160620733108	2	2	2	5.5	4		5		1	1	1	1	0	0	1
49	160620733109	1	2	2	4.5	4		5		0	1	1	1	0	0	1
50	160620733110	2	0	1	6.5	4		5		1	0	0	1	0	0	1
51	160620733111	2	2	2	5		4	5		1	1	1	1	0	0	1
52	160620733112	2	2	2		4.5	5	5		1	1	1	0	1	1	1
53	160620733113	2	2	2	5		5	5		1	1	1	1	0	1	1
54	160620733114	1		1	1		1	5		0	0	0	0	0	0	1
55	160620733115	2	0	2		2.5	4	5		1	0	1	0	0	0	1
56	160620733116	2		2	1		4	5		1	0	1	0	0	0	1
57	160620733117	2	2	2	6		5	5		1	1	1	1	0	1	1
58	160620733118	2	2	2		0	6	5		1	1	1	0	0	1	1
59	160620733119	1	2	2	3		6	5		0	1	1	0	0	1	1
60	160620733120	2	2	2		6.5	7	5		1	1	1	0	1	1	0
61	160620733306	2	1	2	4		4	5		1	0	1	0	0	0	0
62	160620733307	1			2.5		4	5		0	0	0	0	0	0	0
63	160620733308	2		2	3		2	5		1	0	1	0	0	0	0
64	160620733309	2		2	3		3	5		1	0	1	0	0	0	0
65	160620733310	2	0	2	3.5		4	5		1	0	1	0	0	0	0
	SUM	105	72	100	112	169	247	325		52	32	44	12	21	32	59
	COUNT	61	49	57	30	38	55	65		61	49	57	30	38	55	65
	AVERAGE	1.72131	1.469	1.754	3.733	4.447	4.49	5	%	85%	65%	77%	40%	55%	58%	91%

CO Mapping with Exam Questions:

CO - 1	Y			y		y	Y
CO - 2		y			y	y	y
CO - 3			y				Y
CO - 4							
CO - 5							

Students Scored >Target %	52	32	44	12	21	32	59
% Students Scored ≥Target %	85%	65%	77%	40%	55%	58%	91%

CO Attainment based on Exam Questions:

CO - 1	85%			40%		58%	91%
CO - 2		65%			55%	58%	91%
CO - 3			77%				91%
CO - 4							
CO - 5							

Attainment Level	
1	>= 40 %
2	>= 60 %
3	>= 80 %

CO	Subj	obj	Asgn	Overall	Level
CO-1	61%		91%	76%	3
CO-2	60%		91%	75%	3
CO-3	77%		91%	84%	3
CO-4					
CO-5					

isnumbe	level	final level
TRUE	3	3
TRUE	3	3
TRUE	3	3
FALSE	3	
FALSE	3	
FALSE	3	

Overall Course Attainment =   3

STANLEY COLLEGE OF ENGINEERING &TECHNOLOGY FOR WO

Department of Computer Science & Engineering

Course Outcome Attainment

I the Deculty:	CHOUKIA BEGUM	Academic Year:	2022-23
& Section:	CSE-2	Exam:	II Internal
ubject:	SOFTWARE ENGINEERING	Year: Sem: I	Target %: 60%

S.No	HT No.	Question No.						A1
		1	2	3	4	5	6	
Marks ===		3	2	3	7	7	7	5
1	160620733061	2	2	2	7		6	5
2	160620733062	2	2	2	8		5	5
3	160620733063	2	2	2	7		4	5
4	160620733064	2	2	2	2	2		5
5	160620733065	1	2	2	7		6	5
6	160620733066	2	2	2	7		2	5
7	160620733067	2	2	2	5			5
8	160620711068	2	2	2	7		7	5
9	160620733069	2	2	1		2	4	5
10	160620733070	2	2	2	6	6		5
11	160620733071					2	3	5
12	160620733072	2	2	2	7		7	5
13	160620733073		5	1	5			5
14	160620733074	2	2	2	7		6	5
15	160620733075	1	2	1	8		4	5
16	160620733076	2	2	2	7	1		5
17	160620733077	2	2	2	4		2	5
18	160620733078	2	2	2	8		4	5
19	160620733079	2	2	2	8		4	5
20	160620733080	2	2	2			3	5
21	160620733081	2	2	2	2		3	5
22	160620733082	1	2	2	7		6	5
23	160620733083	2	1	0	3			5
24	160620733084	2	2	0			3	5
25	160620733085	2	2	2		2	3	5
26	160620733086	2	2	2	6	6		5
27	160620733087	2	2	1	1		2	5
28	160620733088	2		2			5	5
29	160620733089	2	2				3	5
30	160620733090	1	1	0	6		5	5
31	160620733091	2	2	2		1	3	5
32	160620733092	2	2	2		1	3	5
33	160620733093	2	2	2	7	6		5
34	160620733094	2	2	2	2		5	5
35	160620733095	2	2	2	2		6	5
36	160620733096	2	2	2	7	6		5
37	160620733097	2	2	2	7	6		5
38	160620733098	2	2	2	7			5
39	160620733099	2	2	2	7	5		5
40	160620733100	2	2	2	6		6	5
41	160620733101	2	2	2	5		2	5
42	160620733102	2	2	2	1		6	5
43	160620733103	2	2	2		3	5	5
44	160620733104	2	2	2		6	7	5
45	160620733105	2	2	2	6		5	5
46	160620733106	1	2	2	5		7	5
47	160620733107	0	2	2	4		3	5
48	160620733108	2	2	2	7		7	5
49	160620733109	2	2	2	3		5	5
50	160620733110	2	2	2	7		6	5
51	160620733111	2	2	2		4	7	5
52	160620733112	1	2	2	6		7	5
53	160620733113	2	2	2	7		7	5
54	160620733114	1	0	1		2	1	5
55	160620733115	2	2	0		2	7	5
56	160620733116	2	2	2		3	7	5
57	160620733117	2	2	2	6.5		5	5
58	160620733118	2	2	0.5		6	7	5
59	160620733119	2	2	0	4.5		4	5
60	160620733120	2	2	2	6.5	6.5		5
61	160620733306	2	2	2	3.5	1.5		5
62	160620733307	1	1	0.5	5		2	5
63	160620733308	1	2	2	3		3	5
64	160620733309	2	1	2	4		3	5
65	160620733310	2	2	0	6.5		3	5
	SUM	103.5	111.0	102.5	247.0	77.0	221.5	325.0
	COUNT	64	63	63	49	22	51	65
	AVERAGE	1.6953	1.762	1.626984	5.04081633	3.5	4.3431	5

	Question No.						A1
1	2	3	4	5	6		
1.2	1.2	1.2	4.2	4.2	4.2	3	
1	1	1	0	1	1		
1	1	1	0	1	1		
1	1	1	0	0	1		
1	1	0	0	0	0		
0	1	1	0	1	1		
1	1	1	0	0	1		
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1	1	1	0	1	1		
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0	1	1	1	0	1		
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1	1	0	0	0	0		
1	1	1	1	0	1		
1	1	0	0	0	0		
1	0	1	0	0	1		
1	0	0	0	0	1		
0	0	0	1	0	1		
1	1	1	0	0	0		
1	1	1	0	0	0		
1	1	1	1	0	1		
1	1	1	0	0	1		
1	1	1	0	0	1		
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1	1	1	1	1	0		
1	1	1	1	0	0		
1	1	1	1	1	0		
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1	1	1	0	0	1		
1	1	1	1	0	1		
1	1	1	0	0	1		
0	1	1	1	0	1		
1	1	1	1	0	1		
0	0	0	0	0	0		
1	1	0	0	0	1		
1	1	0	0	0	1		
1	1	1	1	0	1		
1	1	0	0	1	1		
1	1	0	1	0	0		
1	1	1	1	1	0		
1	1	1	0	0	0		
0	0	0	1	0	0		
0	1	1	0	0	0		
1	0	1	0	0	0		
1	1	0	1	0	0		
51	55	48	33	9	27	61	
64	63	63	49	22	51	65	
% 80%	87%	76%	67%	41%	53%	94%	

4th Exam Questions:

CO - 1						
CO - 2						
CO - 3			y			Y
CO - 4	y			V		Y
CO - 5		y	y		Y	Y

Students Scored >Target %	51	55	48	33	9	27	61
% Students Scored >Target %	80%	87%	76%	67%	41%	53%	94%

2nd 3rd Exam Questions:

CO - 1						
CO - 2						
CO - 3			67%			94%
CO - 4	80%			41%		94%
CO - 5		87%	76%		53%	94%

CO	Subj	obj	Asgn	Overall	Level
CO-1					
CO-2					
CO-3	67%		94%	81%	3
CO-4	60%		94%	77%	3
CO-5	72%		94%	83%	3

Attainment Level

1	>= 40 %
2	>= 60 %
3	>= 80 %

isnumber	level	nal level
FALSE	3	
FALSE	3	
TRUE	3	3
TRUE	3	3
TRUE	3	3

rall Course Attainment = 3

STANLEY COLLEGE OF ENGINEERING &TECHNOLOGY FOR WOMEN

Department of Computer Science & Engineering

Course Outcome Attainment

Name of the faculty : GHOUSIA BEGUM

Branch & Section: CSE-2

Subject: **SOFTWARE ENGINEERING**

Academic Year: 2022-23

Exam: University

Year: III Semester: V Target % 60%

SL.No	REG. NO	NAME OF THE STUDENT	TOTAL			Is > Target!
		Max Marks	10.00			6
1	160620733061	M SAMHITHA REDDY	6			1
2	160620733062	ABBA ANJALI	6			1
3	160620733063	ADAMALA VYSHNAVI	7			1
4	160620733064	ANDHRAPU MOUNIKA	5			0
5	160620733065	ANNEM ANUHYA	6			1
6	160620733066	ASNA MUSKAAN	7			1
7	160620733067	BANDARU NIKHITHA	5			0
8	160620733068	SAMIYA ASHRAF KHAN	6			1
9	160620733069	BHUKYA MANI PRIYA	0			0
10	160620733070	BODDU SHARANYA	7			1
11	160620733071	CHANDU YAGNA PRIYA	0			0
12	160620733072	CHIKKA HEMIKA	6			1
13	160620733073	D. SOWJANYA	0			0
14	160620733074	DAMARAJU SRI HARSHINI	7			1
15	160620733075	FAREEHA SAYEED	6			1
16	160620733076	FIZA ABDUL AZIZ	6			1
17	160620733077	GANGA PRERNA REDDY	5			0
18	160620733078	GOSI VARSHITHA	6			1
19	160620733079	GOUREDDY SINDHU	7			1
20	160620733080	GUMMALLA SREYA	5			0
21	160620733081	GUNDA LIKHITHA	6			1
22	160620733082	JILKA PALLY SUMANA REDDY	6			1
23	160620733083	K NITHISHA	0			0
24	160620733084	KAVALI SAI KEERTHI	5			0
25	160620733085	K. VAISHNAVI	5			0
26	160620733086	KAMBLE SHIVANI	7			1
27	160620733087	KAMMADANAM JEYA KEERTHI	5			0
28	160620733088	KANDALA AASHRITHA REDDY	0			0
29	160620733089	KANDALA AKSHITHA REDDY	5			0
30	160620733090	KANDUNURI SRUJALA	7			1
31	160620733091	KAVITHA MANGALGI	5			0
32	160620733092	KOPPULA ESHWARI	6			1
33	160620733093	KOTHA SRIMUKHI	7			1
34	160620733094	MALKU VARSHINI	6			1
35	160620733095	MANPURI VENNELA	7			1
36	160620733096	MARIYAM FATIMA	8			1
37	160620733097	MOHAMMED AFREEN NIKHATH	8			1
38	160620733098	MOKILA CHAITHANYA	6			1
39	160620733099	MUTHYAM HARSHITHA	7			1
40	160620733100	NARLAGIRI RACHANA	10			1
41	160620733101	NARRA ANJALI	7			1
42	160620733102	NUNAVATH VAISHNAVI	9			1
43	160620733103	P HARSHINI	6			1
44	160620733104	PATLOLLA SATHVIKA REDDY	7			1

45	160620733105	PELLATE ANOUSHKA	6			1
46	160620733106	PERMAL BEULAH MARIA	7			1
47	160620733107	PERUKA SHALINI	6			1
48	160620733108	PILLY ASHRITHA	8			1
49	160620733109	PUJALA NISHITHA	8			1
50	160620733110	PULLISANI SATVIKA	7			1
51	160620733111	RACHAKONDA SAHITHI	7			1
52	160620733112	S MEGHANA	7			1
53	160620733113	SINGASANI SOUMYA	8			1
54	160620733114	TALARI LASYA	0			0
55	160620733115	UPPU AKSHAYA SREE	6			1
56	160620733116	V V VIDYADHARI	7			1
57	160620733117	VANAM PAVANI	7			1
58	160620733118	VEMURI ALEKHYA	8			1
59	160620733119	YELLANDULA SAI SIRI	6			1
60	160620733120	YUSRA RAFAT	8			1
61	160620733306	KORICHERLA SUPRIYA	6			1
62	160620733307	KAVALI SONIKA	6			1
63	160620733308	CHINTHAKUNTLA KEERTHANA	0			0
64	160620733309	GOTTANUKKULA NAVYA	6			1
65	160620733310	A ARCHANA	5			0

sum	377	
avg	5.8	

SUM	46
Count	65
%	71%

no. of students scored more than target %	46
no. of students present	65
Percentage of students scored more than target %	71%
Attainment level	**2**

Attainment Level	Percentage
1	>40%
2	>60%
3	>80%

Faculty : GHOUSIA BEGUM

STANLEY COLLEGE OF ENGINEERING &TECHNC

Department of Computer Science & Engineering

Course Outcome Attainment

Name of the faculty : GHOUSIA BEGUM Academic Year: 2021-22

Branch & Section: CSE-1 Year: III

Subject: SOFTWARE ENGINEERING Semester: V

Course Outc	1st Internal Exam	2nd Internal Exam	Internal Exam	University Exam
CO1	3		3	2
CO2	3		3	2
CO3	3	3	3	2
CO4		3	3	2
CO5		3	3	2

Attainment level of Course Outcomes

	Course Outcomes	Attainment Level
CO1	Acquired working knowledge of alternative approaches and techniques for each phase of software developmen	2
CO2	Judge an appropriate process model(s) assessing software project attributes and analyze necessary requirements for	2
CO3	Acquire skills necessary as an independent or as part of a team for d	2
CO4	Judge an appropriate process model(s) assessing software project attributes and analyze necessary requirements for	2
CO5	employing appropriate metrics by understanding the practical challenges associated with the development of a	2
Average		2

Overall course attainment level 2

Faculty Signature

STANLEY COLLEGE OF ENGINEERING &TECHNOLOGY FOR WOM

Department of Computer Science & Engineering

Program Outcome Attainment

Name of Faculty: **GHOUSIA BEGUM** Academic Year: 2022-2023

Branch & Section: **CSE-2** Year: III Semester: V

Course Name: **SOFTWARE ENGINEERING**

Course outcome attainment
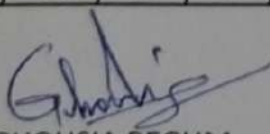
CO	Ist Mid	IInd Mid	Int	Univ
CO1	3		3	2
CO2	3		3	2
CO3	3	3	3	2
CO4		3	3	2
CO5		3	3	2
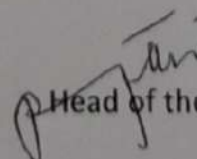
CO-PO mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2			2			1	2	1	2	2	1
CO2	2	2	2	2		1		2	1	1	1	2	1	2
CO3	2	2	1	2		2			2	2	1	2	1	1
CO4	2	2	1	2		2			2	2	1	2	1	1
CO5	2	1	1	1		1			2	1	2	1	1	2

PO-ATTAINMENT

		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
INTERNAL	CO1	6	6	6			6			3	6	3	6	6	3
	CO2	6	6	6	6		3		6	3	3	3	6	3	6
	CO3	6	6	3	6		6			6	6	3	6	3	3
	CO4	6	6	3	6		6			6	6	3	6	3	3
	CO5	6	3	3	3		3			6	3	6	3	3	6
UNIVERSITY	CO1	4	4	4			4			2	4	2	4	4	2
	CO2	4	4	4	4		2		4	2	2	2	4	2	4
	CO3	4	4	2	4		4			4	4	2	4	2	2
	CO4	4	4	2	4		4			4	4	2	4	2	2
	CO5	4	2	2	2		2			4	2	4	2	2	4
OVERALL	CO1	2	2	2			2			2	2	2	2	2	2
	CO2	2	2	2	2		2		2	2	2	2	2	2	2
	CO3	2	2	2	2		2			2	2	2	2	2	2
	CO4	2	2	2	2		2			2	2	2	2	2	2
	CO5	2	2	2	2		2			2	2	2	2	2	2
	Attainment	2	2	2	2		2		2	2	2	2	2	2	2

Faculty GHOUSIA BEGUM

Head of the Deapartment CSE

Stanley College of Engineering & Technology for Women
Chapel Road, Hyderabad
B.E IV SEM (A,B,C) I-Mid Examination, 6th May 2022
OPERATING SYSTEM SET-1

[Time: 1 Hour] *[Max. Marks: 20]*

[Time: 9.30 -10.30AM]
Note: 1) Answer all questions of Part-A
2) Answer any two questions from Part-B
PART – A (6 Marks)
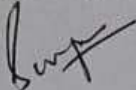
1 Explain layered structure of operating system. (2)

2   Define and draw the Process Control Block (PCB)? (2)

3 Define Context Switching? (2)

PART – B (14 Marks)

4 What is Operating System? List the services that an Operating System provides to its u s e r s ? (7)

5 Draw the Gant Chart For FCFS and SJF, priority scheduling algorithm and calculate Waiting Time, Turn Around Time, Average Waiting Time and Average Turn Around Time for the given problem (7)

Process	Burst time
P1	10
P2	3
P3	1
P4	5
P5	7

6 Explain in detail Operating system Types? (7)

Paper Set by: Dr. M.Swapna, Mrs.Shivani Yadao

CO Mapping

Q1	Q2	Q3	Q4	Q5	Q6
CO1	CO2	CO2	CO1	CO2	CO1
(Understand)	(Knowledge)	(Knowledge)	(Understand)	(Analyze)	(Knowledge)

STANLEY COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN

Department of Electrical and Electronics Engineering

2.6.1 The institution has stated learning outcomes (programme and course outcome)/graduate attributes which are integrated into the assessment process and widely publicized through the website and other documents and the attainment of the same are evaluated by the institution.

➢ **POs, PSOs PEOs**

Department of Electrical & Electronics Engineering

PROGRAM OUTCOMES

PO1. **Engineering knowledge:** Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the conceptualization of engineering models.

PO2. **Problem Analysis:** Identify, formulate, research literature and solve complex engineering problems reaching substantiated conclusions using first principles of mathematics and engineering sciences.

PO3. **Design/development of solutions:** Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

PO4. **Conduct investigations of complex problems:** Use research based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.

PO5. **Modern Tool Usage**: Create, select and apply appropriate techniques, resources, and modern engineering tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.

PO6. **The Engineer and society**: Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7. **Environment & sustainability:** Understand the impact of professional engineering solutions in societal and environmental context, and demonstrate knowledge of, and need for sustainable development.

PO8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9. **Individual and Team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10. **Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions

PO11. **Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12. **Life -Long Learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Department Of Electrical and Electronics Engineering

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO 1	Our graduates shall have enhanced skills and contemporary knowledge in Electrical and Electronics fields with social awareness and professional excellence towards successful employment, advanced learning and research.
PEO 2	Our graduates shall have life-long learning attitude, innovation and creativity to devise solutions for realistic and social problems in the society.
PEO 3	Our graduates have good attitude and personality skills, ethical values, teamwork and leadership skill towards professionalism and ethical practices within the organization and the society.

PROGRAM SPECIFIC OUTCOMES (PSOS)

PSO 1	**Skilled Engineering Knowledge:** The ability to analyze, design, and implement power systems, power electronic systems, instrumentation systems, communication systems, control systems, and computer systems.
PSO 2	**Research Ability:** The ability to apply project management techniques to electrical/electronic (s) and renewable energy systems and to utilize statistics & and probability, discrete mathematics, applied differential equations or transform methods in support of electrical/electronic (s) systems

➤ Program Outcomes Notice Board Display
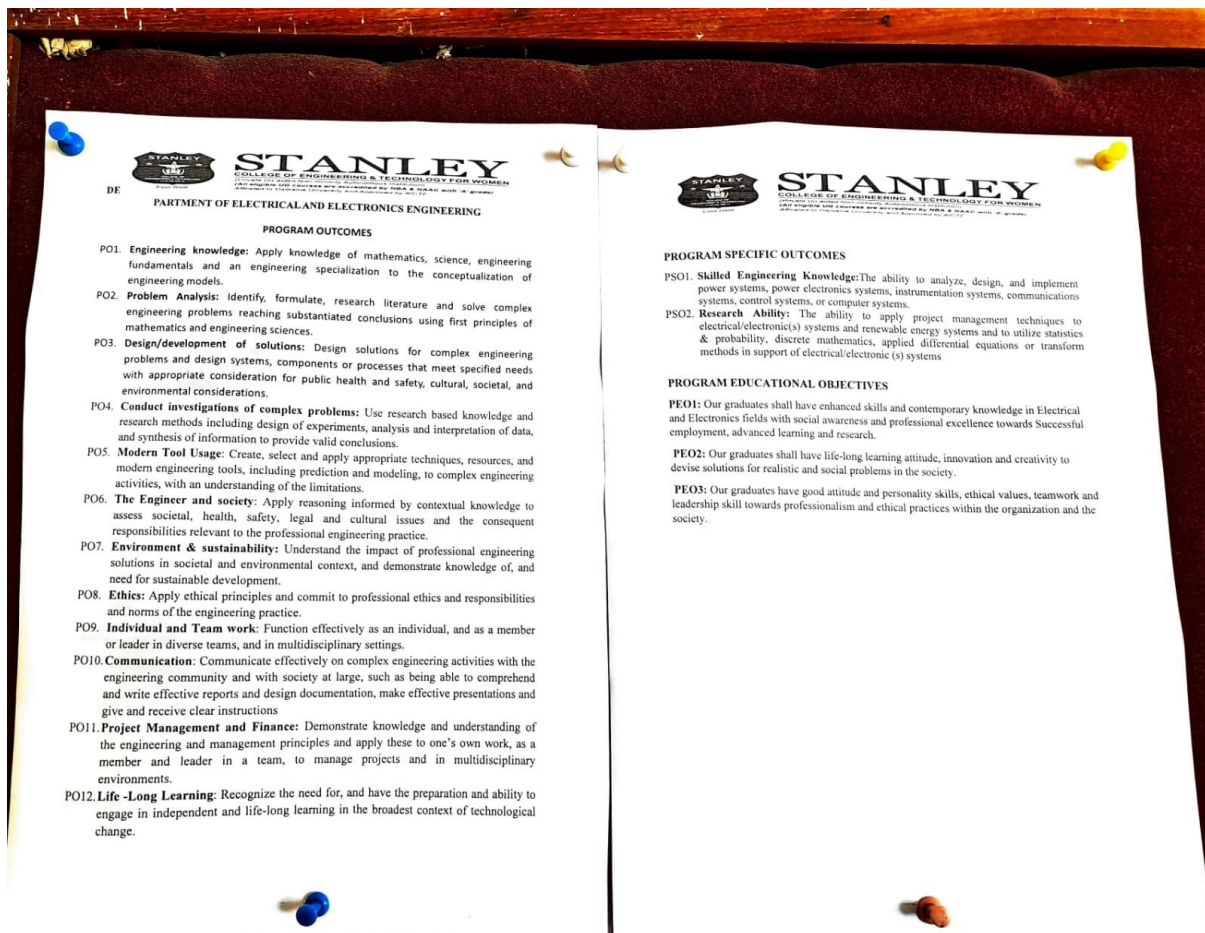
➢ **Design procedure of POs, PSOs PEOs using Flow Chart**

Stanley College of Engineering & Technology for Women

Chapel Road, Abids, Hyderabad

(AUTONOMOUS)

Approved by AICTE, Affiliated to Osmania, Accredited by NBA & NAAC with "A" Grade

CO-PO Analysis Flow Chart

```
                    CO Assessment PO to PSO
                    ┌──────────┴──────────┐
              Direct (80%)           Indirect (20%)
                   │        ┌────┬────┬────┬────┬────┬────┐
                   │     Course   Exit   Employer  Alumni  Resource  External
                   │     Learning Student Feedback Feedback Person   Examiner
                   │     Outcome  Feedback                  Feedback Feedback
        ┌─────┬────┴────┬──────────┬──────────┐
  Internal Tests  Quiz (4%)  Assignment  Seminar/   University
  (16%)                      (4%)        Projects   Assessment (56%)
                                         ┌────┴────┐
                                     Internal   External
```

Signature
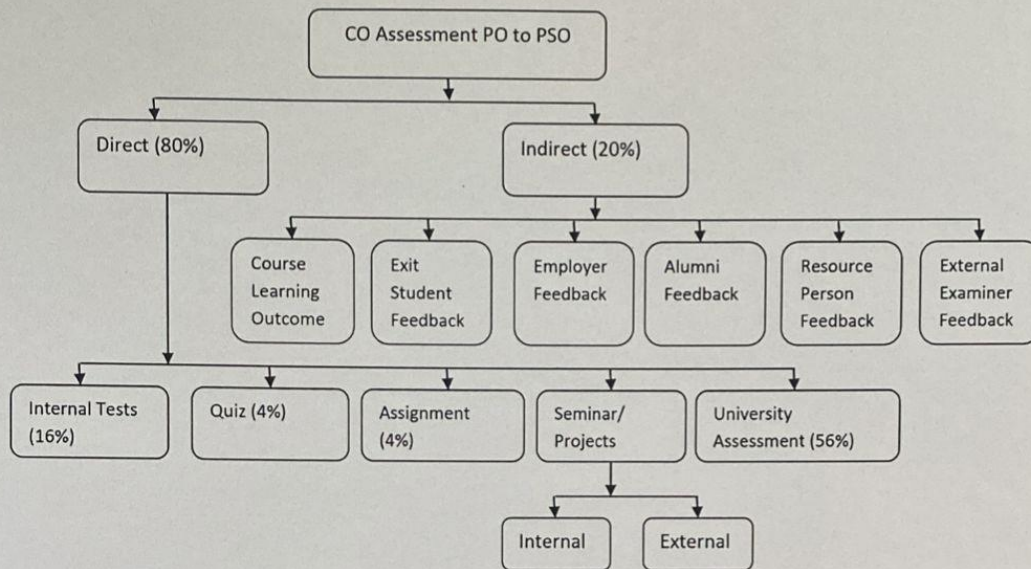
HOD EEE

Dr. Nagasekhara Reddy Naguru

HEAD
Department of Electrical & Electronics Engineering
Stanley College of Engg. & Tech. for Women
Chapel Road, Abids, Hyderabad.

> ➢ **CO-PO Mapping**

COURSE INFORMATION SHEET

COURSE NAME: MICROPROCESSORS AND MICROCONTROLLERS	**COURSE CODE:** PC423EE
	REGULATION: AICTE (UG) **AY:** 2022 – 23
PROGRAM / YEAR / SEMESTER: B.E VI SEM	**CREDITS:** 3
COURSE TYPE: CORE	
COURSE AREA/DOMAIN: MICROPROCESSORS	**CONTACT HOURS:** 3 HOURS/WEEK.

CORRESPONDING LAB COURSE NAME, CODE (IF ANY): MICROPROCESSORS AND MICROCONTROLLERS LAB (PC462EE)

PRE-REQUISITE COURSES/SEM/CODE: DIGITAL ELECTRONICS AND LOGIC DESIGN (PC410EE)

SYLLABUS:

UNIT	DETAILS	HOURS (LECTURE)
I	**UNIT I – Microprocessor** Architecture of 8086 – Segmented memory, Addressing modes, Instruction set, Minimum and maximum mode operations.	12
II	**UNIT II – Introduction to Programming** Assembly language programming, Assembler directives, Simple programs using assembler, Strings, Procedures, Macros timing.	11
III	**UNIT III – Interfacing to Microprocessor** Memory and I/O interfacing, A/D and D/A interfacing, 8255(PPI), Programmable Internal Timer (8253), Keyboard and display interlace, Interrupts of 8086.	12
IV	**UNIT IV – Microcontroller Architecture** Types of Micro Controllers, 8051 MC – Architecture input/output pins, Ports and circuits, Internal and external memories, counters and timers, serial data input/output, Interrupts & timers.	11
V	**UNIT V – Introduction to Programming** Basic Assembly language programming, instruction cycle, Addressing modes, 8051 instruction set, Classification of instructions, Simple programs.	10
	TOTAL	56

TEXT/REFERENCE/ADDITIONAL BOOKS:

T/R	BOOK TITLE/AUTHORS/PUBLISHER
T1	1. Douglas, V. Hall microprocessors and Interfacing- Tata McGraw Hill-Revised 2nd Edition, 2017.
T2	2. Kenneth. J. Ayala – The 8051 Microcontroller Architecture Programming and Applications", Thomson publishers, 2nd Edition, 2007.
R1	3. Krishna Kant – microprocessors and Microcontrollers – Architeture, Programming and System Design 8085, 8086, 8051, 8096, Prentice-Hall india-2007.
R2	4. Waiter A. Triebel & Avtar Singh – The 8088 and 8086 Microprocessor – Pearson Publishers, 4th Edition, 2007.

WEB SOURCE REFERENCES: (Detailed Topic link)

UNIT I	W1	https://www.youtube.com/watch?v=XI2nWDcy0To
	W2	https://www.youtube.com/watch?v=DmwOSdwzZ3E
	W3	https://nptel.ac.in/courses/108103157
UNIT II	W1	https://www.youtube.com/watch?v=iROUX8eYU38&list=RDCMUC-AyjLkoQSxTHN3zlThxg6w&index=2
	W2	https://nptel.ac.in/courses/108103157
UNIT III	W1	https://www.youtube.com/watch?v=gjq9fWku34U&list=RDCMUC-AyjLkoQSxTHN3zlThxg6w&index=21
	W2	https://nptel.ac.in/courses/108103157
UNIT IV	W1	https://www.youtube.com/watch?v=nfq_WaPGb6o&list=RDCMUC-AyjLkoQSxTHN3zlThxg6w&index=12
	W2	https://nptel.ac.in/courses/108105102
UNIT V	W1	https://www.youtube.com/watch?v=6Q362E3Llgo&list=RDCMUC-AyjLkoQSxTHN3zlThxg6w&index=35
	W2	https://www.youtube.com/watch?v=3gl8RAEo40c&list=RDCMUC-AyjLkoQSxTHN3zlThxg6w&index=21
	W3	https://nptel.ac.in/courses/108105102

COURSE OUTCOMES:

COURSE CODE	DESCRIPTION	PO (1 – 12) MAPPING	PSO (1, 2) MAPPING	BLOOMS TAXONOMY LEVEL
PC423EE.1	Acquire the knowledge of architecture of 8086	1,2,3,4,5,11,12	1,2	Understand (Level 2)
PC423EE.2	Understanding the writing of assembly language programming for different applications	1,2,3,4,5,11,12	1,2	Apply (Level 3)
PC423EE.3	Analyse the interfacing of 8086 to different applications	1,2,3,4,5,11,12	1,2	Analyze (Level 4)
PC423EE.4	Understanding the architecture of 8051	1,2,3,4,5,11,12	1,2	Apply (Level 3)
PC423EE.5	Analyse the coding of 8051 for different problems	1,2,3,4,5,11,12	1,2	Analyze (Level 4)

(Course outcomes Minimum 4 Maximum 6)

COURSE OUTCOMES VS POs MAPPING (DETAILED; HIGH:3; MEDIUM:2; LOW:1):

COURSE CODE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
PC423EE.1	2	2	2	1	2						1	1	2	1
PC423EE.2	2	3	1	1	1						1	2	3	1
PC423EE.3	2	2	2	1	2						1	2	2	2
PC423EE.4	3	2	2	1	2						1	2	3	2
PC423EE.5	3	2	2	1	1						2	2	3	1
AVG	2.4	2.2	1.8	1	1.6						1.2	1.8	2.6	1.4

* For Entire Course, PO & PSO Mapping

Note: Enter correlation levels 1, 2 or 3 as defined below:
1: Slight (Low)   2: Moderate (Medium)   3: Substantial (High)
If there is no correlation, put "-"

POs & PSO REFERENCE:

PO1	Engineering Knowledge	PO6	Engineer & Society	PO11	Project Management & Finance
PO2	Problem Analysis	PO7	Environment & Sustainability	PO12	Life Long Learning
PO3	Design & Development	PO8	Ethics		
PO4	Investigations	PO9	Individual & Team Work	PSO1	Skilled Professional
PO5	Modern Tools	PO10	Communication Skills	PSO2	Research Capability

GAPS IN THE SYLLABUS - TO MEET COs, POs & PSOs:

SNO	GAP	PROPOSED ACTIONS	PROPOSED RESOURCE	CO	PO / PSO
1	8085 Architecture	Advise	NPTEL Lectures	1	1,2,3,4,11,12/1,2
2	Explanation about 80186, 80286, 80386, ...	Advise	NPTEL Lectures	2	1,2,3,4,11,12/1,2

TOPICS BEYOND SYLLABUS: Additional course material / learning material / Lab Experiments / Projects

S.No	Description	CO	PO/PSO
1	Differences between 8085, 8086 and latest computers	1	PO1,PO2,PO3,PSO1,PSO2
2	Writing a ALP to find out LCM and GCD of given numbers	2	PO1,PO2,PO3,PSO1,PSO2
3	Interfacing of stepper motor in both directions	3	PO1,PO2,PO3,PSO1,PSO2
4	Role of microcontroller in embedded systems	4	PO1,PO2,PO3,PSO1,PSO2
5	PIC Microcontroller programming	5	PO1,PO2,PO3,PSO1,PSO2

Innovation / Pedagogical Initiatives to cater Weak & Advanced Learners: Multimedia Learning Process, Mind Map, Z to A approach, Lecture method & Interactive Learning, Project based learning, Computer assisted Learning, Smart Class Room.

INSTRUCTIONAL METHODOLOGIES:
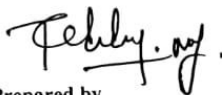
■	REAL WORLD EXAMPLES	■	COLLABORATIVE LEARNING	■	QUALITY LAB EXPERIMENTS	■	OBSERVATIONS RECORDED
■	INDUSTRY INTERNSHIP		SUMMER TRAINING		EXPERT GUEST LECTURES		PROJECTS
■	USE OF ICT		ANY OTHER (SPECIFY)				

ASSESSMENT METHODOLOGIES-DIRECT

■	EXAM QUESTIONS	■	TUTORIAL QUESTIONS	■	ASSIGNMENTS	■	LABORATORY TESTS
	PROJECT EVALUATION		STUDENT ARTIFACTS		ORAL EXAMS		PROJECT PRESENTATIONS
■	INTERNALLY DEVELOPED EXAMS		ANY OTHER (SPECIFY)				

ASSESSMENT METHODOLOGIES-INDIRECT

■	STUDENT EXIT SURVEY	■	CO-CURRICULAR ACTIVITIES	■	EXTRA CURRICULAR ACTIVITIES

Prepared by
(Dr. Nagasekhara Reddy Naguru)

Approved by
(HOD)

HEAD
Department of Electrical & Electronics Engineering
Stanley College of Engg. & Tech. for Women
Chapel Road, Abids, Hyderabad.

Course Outcomes Notice Board Display

STANLEY
COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN
(Private Un-aided Non-minority Autonomous Institution)
(All eligible UG courses are accredited by NBA & NAAC with 'A' grade)
Affiliated to Osmania University and Approved by AICTE

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
COURSE OUTCOMES Academic Year-2022-2023

VI SEM

S.no	Subject	Subject Code	CO Statement
I	Finance and Accounting	HS103CM.1	Evaluate the financial performance of the business unit.
		HS103CM.2	Take decisions on selection of projects.
		HS103CM.3	Take decisions on procurement of finances.
		HS103CM.4	Analyse the liquidity, solvency and profitability of the business unit.
		HS103CM.5	Evaluate the overall financial functioning of an enterprise.
2	Microprocessors and Microcontrollers	PC423EE.1	Acquire the knowledge of architecture of 8086, writing assembly language programming for different applications
		PC423EE.2	Explain types of microcontrollers and their applications
3	Digital Signal Processing and Applications	PC424EE.1	Acquire the knowledge of - Classification of discrete time signals & discrete time systems,
		PC424EE.2	Properties of Z-transforms, Discrete time Fourier transform.
		PC424EE.3	Analyze the Characteristics of IIR digital filters, FIR digital filters.
4	Switchgear and Protection	PC425EE.1	Acquire the knowledge of construction, working principles of different electromagnetic and static relays used to protect generators, transformers, transmission lines and distribution feeders
		PC425EE.2	Analyze the Characteristics of over current, over voltage, distance and differential relays and also theirapplications in power system networks.
		PC425EE.3	Explain the working principle. Construction, rating and applications of different types of circuit breakers used in power system networks
		PC425EE.4	Understand the construction details, advantages, disadvantages of Gas Insulation substations.
5	High Voltage Engineering	PE505EE.1	Explain the fundamentals of conduction and breakdown in various solid, liquid and gaseous insulating materials
		PE505EE.2	Able to design the circuits used in high voltage AC, DC generation, measurement and testing.
		PE505EE.3	Able to understand the significance of standard impulse wave shapes and radio interference measurement.
6	OOP using Java	OE602CS.1	develop java applications using OO concepts and packages write multi threaded programs withsynchronization
		OE602CS.2	implement real world applications using java collection frame work and I/O classes
		OE602CS.3	write Event driven GUI programs using AWT/Swing

7	Microprocessors and Microcontrollers Lab	PC462EE.1	Apply the design concepts for development of a process and interpret data.
		PC462EE.2	Demonstrate knowledge of programming environment, compiling, debugging, linking and executing variety of programs
		PC462EE.3	Demonstrate documentation and presentation of the algorithms/flowcharts /programs in a record form.
		PC462EE.4	Validate the process using known input-output parameters
8	Digital Signal Processing Lab	PC463EE.1	Compute and write MATLAB code to generate basic waves and perform basic operations on them.
		PC463EE.2	Compute and write MATLAB code to apply sampling theorem, to obtain convolution andcompute DFT and FFT
		PC463EE.3	Compute and write MATLAB code to design FIR and IIR filters
		PC463EE.4	Compute and write MATLAB code to obtain convolution of sequences, Design of FIR and IIR filters, compute DFT and FFT algorithms, Impulse response and generate basic waves using DSP kit
9	Summer Internship	PW701EE.1	Get Practical experience of software design and development, and coding practices within Industrial/R&D Environments
		PW701EE.2	Gain working practices within Industrial/R&D Environments
		PW701EE.3	Prepare reports and other relevant documentation

HOD

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> **MID Question paper with Bloom's Taxonomy and CO-PO Mapping**

Stanley College of Engineering & Technology for Women

Chapel Road, Hyderabad

VI – Semester BE- EEE I-Mid Examinations – 03rd May 2023

MICROPROCESSORS & MICROCONTROLLERS

[Time: 2:00 PM – 3:00 PM]   [Max. Marks: 20]

Note: 1) Answer all questions of Part-A   **SET 2**
      2) Answer any two questions from Part-B

PART-A (6 Marks)

1. Discuss the function of M/IO in 8086?   (2)
2. What is meant by "MACRO" in assembly language programming?   (2)
3. Indicate the addressing modes of the following instruction: (2)
   (a.) MOV DL, AF h   (b.) MOV CL, [BX]

PART-B (14 Marks)

4. (a.) Draw the architecture of 8086 microprocessor and explain it in detail?   (5)
   (b.) Explain about Arithmetic instructions in detail?   (2)

5. (a.) Write an assembly language program to multiply two 8-bit signed numbers?
   Explain with one example?   (5)
   (b.) Explain the following 8086 directives
       (i.) ENDM   (ii.) SHORT   (2)

6. (a.) Explain about 8086 addressing modes?   (5)
   (b.) What are the differences between "PROCEDURE" and "MACRO"?   (2)

***** Paper set by Dr. Nagasekhara Reddy Naguru

CO & PO mapping and Bloom's Taxonomy

Question	Q1	Q2	Q3	Q4	Q5	Q6
Course Outcome	CO1	CO2	CO1	CO1	CO2	CO1, CO2
Bloom's Taxonomy	Understanding	Remember	Knowledge	Knowledge & Remember	Apply & Knowledge	Knowledge & Understanding

Stanley College of Engineering & Technology for Women

Chapel Road, Hyderabad

VI – Semester BE- EEE II-Mid Examinations – 07th August 2023

MICROPROCESSORS & MICROCONTROLLERS

[Time: 10:00 AM – 11:00 AM]   [Max. Marks: 20]

SET 2

Note: 1) Answer all questions of Part-A
       2) Answer any two questions from Part-B

PART-A (6 Marks)

1. Write the differences between Microprocessors and Microcontrollers?   (2)

2. List the various special function registers in 8051 Microcontroller?   (2)

3. List out the various addressing modes of 8051 Microcontroller?   (2)

PART-B (14 Marks)

4. (a.) Explain the different modes of operation of 8255 PPI?   (3)
   (b.) Explain the different modes of operation of 8253 PIT?   (4)

5. (a.) Draw the pin configuration of 8051 Microcontroller and explain the function of   (5)
   each pin in detail?
   (b.) Explain the difference between JUMP and CALL?   (2)

6. (a.) Explain the port operation of 8051 Microcontroller?   (3)
   (b.) Write an assembly language program to find the minimum number in an array of ten   (4)
   8-bit numbers of an 8051 Microcontroller?

***** Paper set by Dr. Nagasekhara Reddy Naguru

CO & PO mapping and Bloom's Taxonomy

Question	Q1	Q2	Q3	Q4	Q5	Q6
Course Outcome	CO4	CO5	CO5	CO3	CO4	CO5
Bloom's Taxonomy	Understanding	Knowledge	Remember	Knowledge & Remember	Understanding & Knowledge	Knowledge & Apply

➤ Quiz Paper with Blooms Taxonomy

Name: SADIA BEGUM   Roll No: 1606207340 22

Stanley College of Engineering & Technology for Women
Chapel Road, Hyderabad
VI – Semester BE- EEE I-Mid Examinations – 03rd May 2023
MICROPROCESSORS & MICROCONTROLLERS

[Time: 03:00 PM – 03:10 PM]   [Max. Marks: 5]

Ⓐ

Each question is of 0.5 marks.

1. 33rd pin of 8086 descries MN/MX (maximum/minimum pin)
2. The number of address lines of 8086 processor is 20
3. Write an example of 8086 register indirect addressing mode MOV AX, [BX]
4. For BCD addition, which instruction can be used? [c]
   (a.) ADD   (b.) AAA   (c.) DAA   (d.) ADC
5. What is meant by instruction XLAT Translating the instruction
6. What is meant by the directive DB Double byte
7. How to set carry flag to 1 By compare
8. What is the physical address of 076A:2345h INT 3
9. What is meant by the directive ENDS ending a segment
10. 8086 is a 16-bit processor
   (a.) 8-bit processor   (b.) 16-bit processor
   (c.) 20-bit processor   (d.) 32-bit processor

....

CO & BLOOMS TAXONOMY MAPPING

Question	1	2	3	4	5
Course Outcome	CO1	CO1	CO1	CO1	CO1
Blooms Taxonomy	Knowledge	Understanding	Remember	Knowledge	Remember
Question	6	7	8	9	10
Course Outcome	CO2	CO2	CO2	CO2	CO1
Blooms Taxonomy	Knowledge	Understanding	Application	Knowledge	Remember

Name: P. Yamini   Roll No: 1606209304306

Stanley College of Engineering & Technology for Women

Chapel Road, Hyderabad

VI – Semester BE- EEE II-Mid Examinations – 07th August 2023

MICROPROCESSORS & MICROCONTROLLERS

[Time: 11:00 AM – 11:10 AM]   [Max. Marks: 5]

Each question is of 0.5 marks.

1. The MSB value of Control Word Register of 8255 is __1__ to operate in I/O Mode.

2. How many counters/timers are present in 8253 PIT _____?
   (a.) 1   (b.) 2   (c.) 3   (d.) 4

3. Memory interfacing of 8086 requires 8255 PPI. Is it True/False __True__?

4. 8051 is a _____.
   (a.) 8-bit Microcontroller   (b.) 16-bit Microcontroller
   (c.) 20-bit Microcontroller   (d.) 32-bit Microcontroller

5. What are the sizes of internal RAM and ROM of 8051 _____?
   (a.) 4 KB and 128 Bytes respectively   (b.) 128 Bytes and 4 KB respectively
   (c.) 128 Bytes and 128 Bytes respectively   (d.) 4 KB and 4 KB respectively

6. How many internal ports and timers are present in 8051?
   (a.) 4 and 3 respectively   (b.) 2 and 4 respectively
   (c.) 4 and 2 respectively   (d.) 4 and 4 respectively

7. 8051 address lines are _____.
   (a.) 8 Address lines   (b.) 16 Address lines   (c.) 20 Address lines   (d.) 12 Address lines

8. MOV A, @R0 is an example of _____ addressing mode.
   (a.) Immediate   (b.) Register   (c.) Direct   (d.) Register indirect

9. Which instruction can be used to transfer the data from external memory location to register?
   (a.) MOV   (b.) MOVC   (c.) MOVX   (d.) MOVP

10. 8051 Microcontroller operating frequency is __12 MHz__.

CO & BLOOMS TAXONOMY MAPPING

Question	1	2	3	4	5
Course Outcome	CO3	CO3	CO3	CO4	CO4
Blooms Taxonomy	Knowledge	Understanding	Remember	Knowledge	Remember
Question	6	7	8	9	10
Course Outcome	CO4	CO4	CO5	CO5	CO5
Blooms Taxonomy	Knowledge	Understanding	Application	Knowledge	Remember

➢ Course showing all Course Objectives and Course Outcomes

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE OUTCOMES Academic Year-2022-2023

IV SEM

S.no	Subject	Subject Code	CO Statement
1	Effective Technical Communication	SHS401EG.1	To understand the process and barriers of communication
		SHS401EG.2	To learn the aspects of communication and presentation.
		SHS401EG.3	To comprehend the types of business correspondence
		SHS401EG.4	To analyze the techniques of report writing
		SHS401EG.5	To get the knowledge of basics of manual writing
2	Electrical Machines I	SPC401EE.1	Understand the concepts of magnetic circuits
		SPC401EE.2	Understand electrical principle, laws, and working of DC machines.
		SPC401EE.3	Analyse the construction and characteristics and application of various types of DC generators.
		SPC401EE.4	Analyse the construction and characteristics and application of various types of DC motors and testing of motors.
		SPC401EE.5	Understand electrical principle, laws, and working of transformer and losses and also conduct various tests on the transformer.
3	Control Systems	SPC402EE.1	Understand the concept of the terms control systems, feedback, Mathematical modeling of Electrical and Mechanical systems.
		SPC402EE.2	Explain the time domain and frequency response analysis of control systems.
		SPC402EE.3	Acquire the knowledge of various analytical techniques used to determine the stability of control systems.
		SPC402EE.4	Able to understand the importance of design of compensators
		SPC402EE.5	Able to demonstrate controllability and observability of modern control systems.
4	Switching Theory and Logic Design	SPC403EE.1	understand and apply the Boolean algebra, including CMOS gates and arithmetic circuits.
		SPC403EE.2	apply combinational digital circuits for logic functions
		SPC403EE.3	use the concepts of Boolean Algebra for the analysis & design of sequential logic circuits
		SPC403EE.4	design various A/D and D/A converters
		SPC403EE.5	design various logic gates starting from simple ordinary gates to complex programmable logic

			devices and arrays.
5	OOP Using JAVA	SPC901CS.1	To introduce fundamental object-oriented concepts of Java programming Language such as classes, inheritance, packages and interfaces
		SPC901CS.2	To introduce concepts of exception handling and multi-threading
		SPC901CS.3	To use various classes and interfaces in java collection framework and utility classes
		SPC901CS.4	To understand the concepts of GUI programming using AWT controls
		SPC901CS.5	To introduce Java I/O streams and serialization
6	Electrical Machines – 1 Lab	SPC411EE.1	Estimate the efficiency and voltage regulation of D.C. generator and transformers under various loading conditions
		SPC411EE.2	
		SPC411EE.3	Acquire the knowledge of efficiency and speed regulation D.C. Motors under various loading conditions.
		SPC411EE.4	Able to understand the speed control of DC motor by conducting different experiments
		SPC411EE.5	Analyze the transformer performance by performing different tests.
7	Control Systems Lab	SPC412EE.1	Understand the concept of the terms control systems, feedback, Mathematical modeling of Electrical and Mechanical systems.
		SPC412EE.2	Explain the time domain and frequency response analysis of control systems.
		SPC412EE.3	Acquire the knowledge of various analytical techniques used to determine the stability of control systems
		SPC412EE.4	Able to understand the importance of design of compensators
		SPC412EE.5	Able to demonstrate controllability and observability of modern control systems
8	Switching Theory and Logic Design Lab	SPC413EE.1	Understand working of logic families and logic gates
		SPC413EE.2	Design and implement Combinational and Sequential logic circuits
		SPC413EE.3	Understand the process of Analog to Digital conversion and Digital to Analog conversion.
		SPC413EE.4	Use PLCs to implement the given logical problem
		SPC413EE.5	Analyze synchronous and asynchronous counters
9	Internship-I	SPW511EE.1	Design/develop a small and simple product in hardware or software
		SPW511EE.1	Complete the task or realize a pre-specified target, with limited scope, rather than taking up a complex task and leave it.
		SPW511EE.1	Learn to find alternate viable solutions for a given problem and evaluate these alternatives with reference to pre-specified criteria.
		SPW511EE.1	Implement the selected solution and document the same
		SPW511EE.1	Able to write a technical report and present it to appropriate audience.

Course Code	MICROPROCESSOR AND MICROCONTROLLERS						Core/Elective
PC423EE	(Common to EEE and EIE						Core
Prerequisite	L	T	D	P	CIE	SEE	Credits
-	3	0	0	0	30	70	3

Course Objectives
To be able to understand in details about 8086 microprocessor architecture, programming and interfacing
To be able to understand about 8051 microcontroller architecture, and programming

Course outcomes
At the end of the course students will be able to
Acquire the knowledge of architecture of 8086, writing assembly language programming for different applications
Explain types of microcontrollers and their applications

UNIT-I
Microprocessor: Architecture of 8086 – Segmented memory, Addressing modes, Instruction set, Minimum and maximum mode operations.

UNIT-II
Introduction to Programming: Assembly language programming, Assembler directives, Simple programs using assembler, Strings, Procedures, Macros timing.

UNIT-III
Interfacing to Microprocessor: Memory and I/O interfacing, A/D and D/A interfacing, 8255(PPI), Programmable Internal Timer (8253), Keyboard and display interlace, Interrupts of 8086.

UNIT-IV

Micro Controller Architecture: Types of Micro Controllers, 8051 MC – Architecture input/output pins, Ports and circuits, Internal and external memories, counters and timers, serial data input/output, Interrupts & timers.

UNIT-V
Introduction to Programming: Basic Assembly language programming, instruction cycle, Addressing modes, 8051 instruction set, Classification of instructions, Simple programs.

Suggested Reading:
1. Douglas, V. Hall microprocessors and Interfacing- Tata McGraw Hill-Revised 2nd Edition, 2017.
2. Krishna Kant – microprocessors and Microcontrollers – Architeture, Programming and System Design 8085, 8086, 8051, 8096, Prentice-Hall india-2007.
3. Kenneth. J. Ayala – The 8051 Microcontroller Architecture Programming and Applications", Thomson publishers, 2nd Edition, 2007.
4. Waiter A. Triebel & Avtar Singh – The 8088 and 8086 Microprocessor – Pearson Publishers, 4th Edition, 2007.

POs, PSOs PEOs

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Chapel Road, Abids, Hyderabad – 500 001

Department of Business Management

Program Educational Objectives (PEOs)

PEO1: To transform students into effective professionals.

PEO2: To equip the students to adapt a rapidly changing environment.

PEO3: To Prepare the students for immediate employment and for life-long learning in advanced areas of management.

Program Specific Outcomes (PSOs)

PSO1: Students should exhibit knowledge of management principles and organizational behavior.

PSO2: Students should demonstrate the contemporary Marketing, Financing and manpower management skills.

Program Outcomes (POs)

PO1: Managerial Knowledge: Demonstrate knowledge and understanding of the management concepts and apply in contemporary professional managerial practice

PO2: Human Values and Ethics: Demonstrate the knowledge of human values such as truth, honesty and loyalty by understanding the impact of management practice and Apply ethical principles and commit to professional ethics and responsibilities and norms of the management practice

PO3: Functional Area knowledge: To gain the knowledge in Finance, HR and Marketing areas with an understanding of practical application as per the contemporary needs, trends and changes

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Co-Po Mapping(2021-22)

Name of the Faculty : Anjum Fathima
Branch & Section: ECE 1
Subject: IAFM
Subject Code: HS 707 ME

Mid: I
Year AICTE   Sem: VII

AY: 2021-22
Target %= 55%

S.No	HT No.	1	2	3	4	5	6	Q1	AI
Max. Marks ==>		2	2	2	7	7	7	5	5
1	160618735001	2	1.5	1.5	6.5	5		5	5
2	160618735002	2	2	2	7		6	5	5
3	160618735003	1.5	1	1.5	4	5		4	5
4	160618735004	2	1.5	2	7		7	4	5
5	160618735005	2	1.5	1.5	5	5		5	5
6	160618735006	1.5	1.5	1.5		4	6.5	5	5
7	160618735007	2	2	2	7	7		5	5
8	160618735008	1.5	1	2	6		5	5	5
9	160618735009	2	2	2	7	7		5	5
10	160618735010	2	2	2	7		6.5	5	5
11	160618735011	1.5	2	1.5	3.5		3	5	5
12	160618735012	1.5	1.5	2	6		6	5	5
13	160618735013	1.5	0	1	5.5	4		3	5
14	160618735014	1.5	1.5	1.5	7		5	5	5
15	160618735015	2	1	1.5	6		6	4	5
16	160618735016	2	1.5	2	6.5		7	5	5
17	160618735017	1	2	2	6.5	6		5	5
18	160618735018	1.5	0	1.5		2	2	5	5
19	160618735019	1.5	1.5	2	5.5		6	3	5
20	160618735020	2	2	1.5	5	6		5	5
21	160618735021	2	1.5	2	5		6	5	5
22	160618735022	2	2	2	5.5		5.5	5	5
23	160618735023	2	1	1.5	6.5		5.5	4	5

1	2	3	4	5	6	Q1	AI
1.1	1.1	1.1	3.85	3.85	3.85	2.75	2.75
1	1	1	1	1	0	1	1
1	1	1	1		0	1	1
1	1	1	1	0		1	1
1	0	1	1		1	1	1
1	1	1	1	1		1	1
1	1	1		1	1	1	1
1	1	1	0	1		1	1
1	1	1	1		1	1	1
1	0	1	1	0		1	1
1	1	1	1		0	1	1
1	1	1	1		1	1	1
1	1	1	0	0		1	1
1	1	1	1	0		1	1
1	0	0	1		1	1	1
1	1	1	1	0		1	1
1	0	1	1		0	1	1
1	1	1	1	0		1	1
0	1	1		1	0	1	1
1	0	1	0		0	1	1
1	1	1	1	0		1	1
1	1	1	1		0	1	1
1	1	1	1		0	1	1
1	0	1	1		0	1	1

24	160618735024	2	2	2	6			4	5
25	160618735025	1	1.5	2	6			5	5
26	160618735026	2	2	1	7			4	5
27	160618735027	2	1.5	2	6			5	5
28	160618735028	2	1.5	2		5.5	6.5	5	5
29	160618735029	2	1.5	2	6			5	5
30	160618735030	1.5	1.5	2	6			5	5
31	160618735031	1.5	1.5	2	5		6	5	5
32	160618735032	2	2	2	7		6	4	5
33	160618735033	2	2	2	5		7	4	5
34	160618735034	1.5	1.5	2	6		5	4	5
35	160618735035	1.5	1.5	1.5	6	4	6.5	4	5
36	160618735036	2	1.5	2	6.5	7		4	5
37	160618735037	1.5	1.5	2	5.5			5	5
38	160618735038	2	2	2	7		6	5	5
39	160618735039	2	1.5	2	7		6	5	5
40	160618735040	2	1.5	2			7	4	5
41	160618735042	2	2	2		6.5	6.5	4	5
42	160618735043	1.5	1.5	2	6		6.5	4	5
43	160618735044	2	1.5	2	4		5.5	4	5
44	160618735045	2	1.5	2	6		6	4	5
45	160618735046	2	1.5	2	6	4		4	5
46	160618735048	2	1.5	2		5.5		5	5
47	160618735049	1.5	2	2	4.5	4.5		5	5
48	160618735050	2	1.5	2	5		4	4	5
49	160618735051	2	1.5	0	6	5		5	5
50	160618735052	1.5	1.5	2	6		6	4	5
51	160618735053	1.5	0	0	6	5.5		5	5
52	160618735054	2	2	2	7	6.5		5	5
53	160618735055	1.5	1.5	1.5	5.5	3.5		5	5
54	160618735056	2	0	1.5	5	3		5	5
55	160618735057	1.5	1.5	2	6		5.5	5	5
56	160618735058	2	1.5	1.5	6		5.5	5	5
57	160618735059	1.5	1.5	2	5.5	5.5		5	5
58	160618735060	2	1.5	2	5.5	6		4	5
59	160618735302	2	1.5	2	5.5		5	5	5
60	160618735304	2	1.5	2	6		5.5	4	5
		2	1.5	2	5.5		6	5	5

1	2	3	4	5	6	Q1	AI
1	1	1	1		0	1	1
1	1	1	1		0	1	1
1	1	0	1		0	1	1
1	1	1	1	0		1	1
1	1	1		1	1	1	1
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1	1	1	1	0		1	1
1	1	1	1	0		1	1
1	1	1	1	0		1	1
1	1	1	1	0		1	1
1	1	1	1		0	1	1
1	1	1	1		0	1	1
1	1	1	1	0		1	1
1	1	1	1		0	1	1
1	0	0	1		0	1	1
1	1	1	1	0		1	1
1	1	1	1	0		1	1
1	0	1	1	0		1	1
1	1	1	1		0	1	1
1	1	1	1		0	1	1
1	1	1	1	0		1	1
1	1	1	1		0	1	1
1	1	1	1	0		1	1
1	1	1	1	0		1	1

#	ID								
61	160618735305	2	1.5	2	5.5		6	5	5
62	160618735306	2	1.5	2	6		6	4	5
63	160618735307	2	1.5	2	6.5		6	4	5
64	160618735308	1.5	1.5	2	6		6	3	5
65	160618735313	2	1.5	2	5		7	3	5
66	160617735002	1	0	1		2	3	3	5
67	160617735007	2	2	2	6		6	4	5
68	160617735015	2	0	2		6	5.5	4	5
69	160617735025	2	2	2	5		7	4	5
70	160617735038	2	2	2		6	7	4	5
71	160617735058	1.5	0	2		6	6	4	5
	SUM	127.5	103.5	128.0	369.0	168.0	272.5	317.0	355.0
	COUNT	71	71	71	63	32	47	71	71
	AVERAGE	1.80	1.46	1.80	5.86	5.25	5.80	4.46	5.00

1	1	1	1	0	1	1	1
1	1	1	1	0	1	1	1
1	1	1	1	0	1	1	1
1	1	1	1	0	1	1	1
1	1	1	1	0	1	1	1
0	0	0	0	0	0	1	1
1	1	1	1	0	1	1	1
1	0	1	0	1	1	1	1
1	1	1	1	0	1	1	1
1	1	1	0	1	1	1	1
1	0	1	0	1	1	1	1
68.0	60.0	66.0	62.0	28.0	44.0	71.0	71.0
71	71	71	63	32	47	71	71
96%	85%	93%	98%	88%	94%	100%	####

(% label at left of last three rows)

CO Mapping with Exam Questions:

CO - 1	Y			Y	Y	Y	Y	Y
CO - 2		Y		Y			Y	Y
CO - 3			Y				Y	Y
CO - 4								
CO - 5								

Students Scored >Target %	1	1	1	1	0	1	1	1
% Students Scored >Target	96%	85%	93%	98%	88%	94%	100%	100%

CO Attainment based on Exam Questions:

CO - 1	96%			98%	88%	94%	100%	100%
CO - 2		85%		98%			100%	100%
CO - 3			93%				100%	100%
CO - 4								
CO - 5								

CO	Subj	Obj	Asgn	Overall	Level
CO-1	94%	100%	100%	98%	3

Attainment Level	
1	>= 40 %

isnumber	level	final level
TRUE	3	3

CO					
CO-2	91%	100%	100%	97%	3
CO-3	93%	100%	100%	98%	3
CO-4					
CO-5					
Overall Course Attainment =					3.00

2	>= 60 %
3	>= 80 %

isnumber	level	final level
TRUE	3	3
TRUE	3	3
FALSE	3	
FALSE	3	

STANLEY COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN
Department of Electronics and Communications Engineering
Course Outcome Attainment

Name of the Faculty: Anjum Fathima
Branch & Section: I CE I
Subject: IAFM
Subject Code: HS 707 ME

Mid: II
Year: AICTE   Sem: VII

AY: 2021-22
Target %= 55%

S.No	HT No.	Q1	Q2	Q3	Q4	Q5	Q6	Q2	A2
Max. Marks ⟹		2	2	2	7	7	7	5	5
1	160618735001	2	1	2			7	5	5
2	160618735002	2	1	2	7		7	5	5
3	160618735003	2	2	2	7		7	4	5
4	160618735004	2	2	2			7	4	5
5	160618735005	2	2	2		7	7	5	5
6	160618735006	2	2	2	7		7	5	5
7	160618735007	2	2	2	7	7		5	5
8	160618735008	2	2	2		7	7	5	5
9	160618735009	2	2	2	7	7		5	5
10	160618735010	2	1	2		7	6	5	5
11	160618735011	2	1	2		7	7	5	5
12	160618735012	2	0.5	1	5.5		7	5	5
13	160618735013	2	2	2	6	7		3	5
14	160618735014	2	2	2	7	6		5	5
15	160618735015	2	2	2	7		7	4	5
16	160618735016	2	2	2		7	7	5	5
17	160618735017	2	1	2	7		7	5	5
18	160618735018	2	2	2	6		7	5	5
19	160618735019	2	2	2		7	7	3	5
20	160618735020	2	2	2		7	7	5	5
21	160618735021	2	2	2	6		7	5	5
22	160618735022	2	2	2	6	7		5	5
23	160618735023	2	1	2	6		7	4	5
24	160618735024	2	2	2		7	7	4	5
25	160618735025	2	2	2	7		7	5	5
26	160618735026	2	2	2	7	7		4	5

Q1	Q2	Q3	Q4	Q5	Q6	Q2	A2
1.1	1.1	1.1	3.85	3.9	3.85	2.75	2.75
1	0	1	0	1	1	1	1
1	0	1	1	0	1	1	1
1	1	1	1	0	1	1	1
1	1	1	0	1	1	1	1
1	1	1	0	1	1	1	1
1	1	1	0	1	1	1	1
1	1	1	1	1	0	1	1
1	1	1	0	1	1	1	1
1	1	1	1	1	0	1	1
1	0	1	0	1	1	1	1
1	0	1	0	1	1	1	1
1	0	0	1	0	1	1	1
1	1	1	1	1	0	1	1
1	1	1	1	0	1	1	1
1	1	1	1	0	1	1	1
1	1	1	0	1	1	1	1
1	0	1	1	0	1	1	1
1	1	1	0	1	1	1	1
1	1	1	0	1	1	1	1
1	1	1	0	1	1	1	1
1	1	1	0	1	1	1	1
1	1	1	1	0	1	1	1
1	0	1	1	0	1	1	1
1	1	1	0	1	1	1	1
1	1	1	1	0	1	1	1
1	1	1	1	0	1	1	1

S.No	HT No.	Q1	Q2	Q3	Q4	Q5	Q6	Q2	A2
27	160618735027	1	2	1		7	6	5	5
28	160618735028	2	2	2	7	7		5	5
29	160618735029	2	2	2	7		7	5	5
30	160618735030	2	2	2	7		7	5	5
31	160618735031	2	1	2	7	7		5	5
32	160618735032	2	2	2	7	7		4	5
33	160618735033	2	2	2	6		7	4	5
34	160618735034	2	2	2	7		7	4	5
35	160618735035	2	1	2	6	7		4	5
36	160618735036	2	2	2	7	7		5	5
37	160618735037	2	2	2	7		7	5	5
38	160618735038	2	2	2		7	7	5	5
39	160618735039	2	2	2	7		7	4	5
40	160618735040	2	2	2		7	7	4	5
41	160618735042	2	1	2	7	7		4	5
42	160618735043	1	2	1	7	7		4	5
43	160618735044	2	2	2	7		7	4	5
44	160618735045	2	2	2	7	7		4	5
45	160618735046	2	2	2		7	7	5	5
46	160618735048	2	1	2		7	7	5	5
47	160618735049	1	2	1	7	7		4	5
48	160618735050	2	2	2	7		7	5	5
49	160618735051	2	2	2	7	7		4	5
50	160618735052	2	2	2	7	7		5	5
51	160618735053	2	2	2	6	7		5	5
52	160618735054	2	1	2	6		7	5	5
53	160618735055	2	2	1	3	7		5	5
54	160618735056	2	2	2	7		7	5	5
55	160618735057	2	2	2	6	7		5	5
56	160618735058	2	2	2	6	7		5	5
57	160618735059	2	2	2	7		7	4	5
58	160618735060	2	2	2	6	7		5	5
59	160618735302	2	2	2	7		7	4	5
60	160618735304	2	2	2	7		7	5	5
61	160618735305	2	2	2	3	6		5	5
62	160618735306	1	2	1	4	6		4	5
63	160618735307	2	2	2	5		7	4	5
64	160618735308	1	2	2		7	7	3	5
65	160618735313	1	2	2	6	6		3	5
66	160617735002	2	2	1	3	7		3	5

Q1	Q2	Q3	Q4	Q5	Q6	Q2	A2
0	1	0	0	1	1	1	1
1	1	1	1	1	0	1	1
1	1	1	1	1	0	1	1
1	1	1	1	1	0	1	1
1	1	1	1	1	0	1	1
1	0	1	1	1	0	1	1
1	1	1	1	1	0	1	1
1	1	1	1	1	0	1	1
1	1	1	1	0	1	1	1
1	0	1	1	1	0	1	1
1	1	1	1	1	0	1	1
1	1	1	1	0	1	1	1
1	1	1	1	0	1	1	1
1	1	1	0	1	1	1	1
1	0	1	0	1	1	1	1
0	1	0	1	1	0	1	1
1	1	1	1	0	1	1	1
1	1	1	0	1	1	1	1
1	1	1	1	0	1	1	1
1	0	1	0	1	1	1	1
0	1	0	1	0	1	1	1
1	1	1	1	0	1	1	1
1	1	1	1	0	1	1	1
1	1	1	1	0	1	1	1
1	1	1	1	1	0	1	1
1	0	1	1	0	1	1	1
1	1	0	0	1	0	1	1
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1	1	1	1	1	0	1	1
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0	1	0	1	1	0	1	1
1	1	1	1	0	1	1	1
0	1	1	0	1	1	1	1
0	1	1	1	0	1	1	1
1	1	0	0	1	0	1	1

67	160617735007	2	2	2	3		6	4				1	1	1	1	0	1	1	1
68	160617735015	2	2	2	7	7		4				1	1		1	0	1	1	1
69	160617735025	1	2	1		5	4	4				0	1	0	1	1	1	1	1
70	160617735038	2	2	2	2	7		4				1	1	1	1	1	0	1	1
71	160617735058	2	2	2	6		7	4				1	1	1	1	0	1	1	1
	SUM	135.0	129.5	134.0	336.5	137.0	267.0	317.0	31 0			64.0	59.0	63.0	49 0	###	39.0	71.0	1.0
	COUNT	71	71	71	54	49	39	71				71	71	71	5 4	49	39	71	71
	AVERAGE	1.90	1.82	1.89	6.23	6.88	6.85	4.46	5 0	%		90%	83%	89%	91%	###	100%	100%	100%

CO Mapping with Exam Questions:

CO - 1								
CO - 2								
CO - 3					Y		Y	Y
CO - 4			Y	Y			Y	Y
CO - 5	Y	Y				Y	Y	Y

Students Scored >Target %	1	1	1	1	0	1	1	1
% Students Scored >Target	90%	83%	89%	91%	100%	100%	100%	100%

CO Attainment based on Exam Questions:

CO - 1								
CO - 2								
CO - 3					100%		100%	100%
CO - 4			89%	91%			100%	100%
CO - 5	90%	83%				100%	100%	100%

CO	Subj	Quiz	Asgn	Overall	Level
CO-1					
CO-2					
CO-3	100%	100%	100%	100%	3
CO-4	90%	100%	100%	97%	3
CO-5	91%	100%	100%	97%	3
Overall Course Attainment =					**3.00**

Attainment Level	
1	>= 40 %
2	>= 60 %
3	>= 80 %

isnumber	level	final level
FALSE	3	
FALSE	3	
TRUE	3	3
TRUE	3	3
TRUE	3	3

STANLEY COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN
Department of Electronics and Communication Engineering
Course Outcome Attainment

Name of the Faculty : Anjum Fathima
Branch & Section: I-CE-I
Subject: I AFM
Subject Code: HS 707 ME

AY: 2021-22
Sem:
AICTE
Target %   55%

SL.No	REG. NO	NAME OF THE STUDENT	TOTAL	Is > Target%
		Max Marks	10.00	5.5
1	160618735001	A. JAHNAVI	7	1
2	160618735002	AFREEN NIKHAT	9	1
3	160618735003	AMMANABOLU AAKANKSHA	8	1
4	160618735004	AMSAM SAHITHI	8	1
5	160618735005	ATURI ASWINI	6	1
6	160618735006	ATHMAKURI SUKSHMATA	6	1
7	160618735007	AYESHA SIDDIQA	8	1
8	160618735008	AYYAPUSETTY SAI PRANATHI	6	1
9	160618735009	B N MADHURI	5	0
10	160618735010	BHARANI RACHARLA	6	1
11	160618735011	BOGARAJU SWATHI	5	0
12	160618735012	BORRA RACHANA	5	0
13	160618735013	CHILUVERU DIVYA	8	1
14	160618735014	CHINTAKAYALA MOUNIKA	8	1
15	160618735015	CIRASINAGANDLA POOJITHA	9	1
16	160618735016	CHALLA PRAVALLIKA	10	1
17	160618735017	D NEHA REDDY	9	1
18	160618735018	DEVARAPALLI PRAVALLIKA	7	1
19	160618735019	DIDUGU VYSHNAVI	8	1
20	160618735020	DOREPALLY SWETHA	9	1
21	160618735021	DURSHETY SATHVIKA	8	1

22	160618735022	ERANI LAKSHMI PRA ANNA	8	1
23	160618735023	AREESA KAZIMI	6	1
24	160618735024	BHAVANA	9	1
25	160618735025	SRUJANA	8	1
26	160618735026	SRIJA	6	1
27	160618735027	GANESHULA SRUTHI	7	1
28	160618735028	GOPU BHOOMIKA	5	0
29	160618735029	GORTHI MADHULIKA	8	1
30	160618735030	H G MANASA	6	1
31	160618735031	HAFSA AHMED	9	1
32	160618735032	HIMANSHI AGARWAL	10	1
33	160618735033	J NAGA ANANDINI	5	0
34	160618735034	JAGABATHUNI SRI POOJITHA	7	1
35	160618735035	K PRANATHI	6	1
36	160618735036	K.B.L.P. SREEJA	8	1
37	160618735037	KASALA SAHITHI	8	1
38	160618735038	KOSIREDDY MEGHANA REDDY	10	1
39	160618735039	K. JAHNNAVI	8	1
40	160618735040	LINGAM DIVVYASREE	8	1
41	160618735042	M. SAI NIKITHA	7	1
42	160618735043	M. VARSHA	6	1
43	160618735044	MAKTHALA RITHIKA	8	1
44	160618735045	MAMIDIPAKA ANURADHA	8	1
45	160618735046	MENGANI LAXMI PRASANNA	8	1
46	160618735048	MYNENI VENKATA GEETHIKA	6	1
47	160618735049	NALLAPU SREEJA	9	1
48	160618735050	NELAPUDI DHANALAKSHMI	8	1
49	160618735051	P AKHILA	6	1
50	160618735052	PASARAGONDA RAVALIKA	6	1
51	160618735053	PASHAM NEHA	7	1
52	160618735054	POGUL SAI PRIYA	6	1
53	160618735055	PONNALA SHIVANI	5	0
54	160618735056	PULIPATI SNEHA NANDINI	7	1

55	160618735057	REDDY SUMANA SRI	6	1
56	160618735058	SREE HARSHINI SIRIPI EDDY	6	1
57	160618735059	AGULAPURAM PRAN ETHA	6	1
58	160618735060	YOUSUF AAFREEN	5	0
59	160618735302	MOGILI AKHILA	6	1
60	160618735304	PANTANGI SRI HARI PRIYA	6	1
61	160618735305	PATRI UMA MAHESHWARI	7	1
62	160618735306	POTHUGANTI SASYA REDDY	9	1
63	160618735307	R NAMRATHA	8	1
64	160618735308	V RADHIKA	6	1
65	160618735313	BANAPURAM ASHWINI	6	1
66	160617735002	ALICHALAVYSHALI	0	0
67	160617735007	BHARATHULA LAHARI	5	0
68	160617735015	Nivruthi	0	0
69	160617735025	JAKKIDI HARSHITHA	6	1
70	160617735038	NEERATI VANI	7	1
71	160617735058	ALEKHYA VEMU	6	1

		Sum	489	SUM	61
		Avg	8.8909091	Count	71
				%	86%

No. of students scored more than target %	61	Attainment Level	Percentage
No. of students present	71	1	> = 40 %
Percentage of students scored more than target %	86%	2	> = 60 %
Attainment level	3.00	3	> = 80 %

STANLEY COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN
Department of Electronics and Communication Engineering
Course Outcome Attainment

Name of the Faculty : **Anjum Fathima**   AY: **2021-22**
Branch & Section: **ECE 1**
Subject: **IAFM**
Subject Code: **HS 707 ME**   AICTE   Sem: **VII**

Course Outcomes	1st Internal Exam	2nd Internal Exam	Internal Exam	University Exam
CO1	3.00		3.00	3.00
CO2	3.00		3.00	3.00
CO3	3.00	3.00	3.00	3.00
CO4		3.00	3.00	3.00
CO5		3.00	3.00	3.00
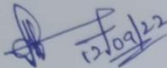
Attainment level of Course Outcomes
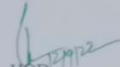
	Course Outcomes	Attainment Level
CO1	Students can understand various phases of product life cycle and design various plants and product layouts.	3.00
CO2	Students will be able to analyze various types of manufacturing systems;plant layout ,optimization problem.	3.00
CO3	Students can understand the quality control ,process control.	3.00
CO4	Students will be able to analyze the material control ,appreciate the importance.	3.00
CO5	Students will be able to know the difference terminology used in fianacial management techniques of capital budgeting and various types of cost in running an industrial organization.	3.00

Average   3.00
Overall course attainment level   **3.00**

Faculty Signature
Anjum Fathima

HOD

STANLEY COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN
Department of Electronics and CommunicationEngineering
Program Outcome Attainment

Name of the Faculty **Anjum Fathima**
Branch & Section: **ECE-1**
Subject: **IAFM**
Subject Code: **HS 707 ME**

AY: **2021-22**

Sem: **VII**

AICTE

Course outcome attainment

CO	Ist Mid	IInd Mid	Int	Univ
CO1	3.00		3.00	3.00
CO2	3.00		3.00	3.00
CO3	3.00	3.00	3.00	3.00
CO4		3.00	3.00	3.00
CO5		3.00	3.00	3.00

CO-PO mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	3	3								3	2	
CO2	2	3	3	2								1	3	
CO3	2	3	3	3								2	2	
CO4	3	2	3	3								3	2	
CO5	3	3	2	2								3	2	
Avg	2.40	2.80	2.80	2.60								2.40	2.20	

PO-ATTAINMENT

	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
INTERNAL	CO1	6	9	9	9								9	6	
	CO2	6	9	9	6								3	9	
	CO3	6	9	9	9								6	6	
	CO4	9	6	9	9								9	6	
	CO5	9	9	6	6								9	6	
	CO1	6	9	9	9								9	6	
UNIVERSI	CO2	6	9	9	6								3	9	
	CO3	6	9	9	9								6	6	
	CO4	9	6	9	9								9	6	
	CO5	9	9	6	6								9	6	
OVERALL	CO1	3	3	3	3								3	3	
	CO2	3	3	3	3								3	3	
	CO3	3	3	3	3								3	3	
	CO4	3	3	3	3								3	3	
	CO5	3	3	3	3								3	3	
	Attainment	3.00	3.00	3.00	3.00								3.00	3.00	

Faculty Signature

HOD

Co-Po Mapping (2022-23)

STANLEY COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN

Department of Information Technology

Course Outcome Attainment

Name of the Faculty : Ms. Anjum Fathima

Branch & Section: ECE

Subject: IAFM

Subject Code: HS701ME

Internal I

AY: 2022-23

Year: **AICTE** Sem: VII SEM   Target %= 55%

S.No	HT No.	1	2	3	4	5	6	QI	AI	1	2	3	4	5	6	QI	AI
	Max. Marks ==>	2	2	2	7	7	7	5	5	1.1	1.1	1.1	3.85	3.85	3.85	2.75	2.75
1	160619735001	1.5	1	2		3	5.5	4.5	5	1	0	1	0	0	1	1	1
2	160619735002	2	1.5	2	6.5		3	4	5	1	1	1	1	0	0	1	1
3	160619735003	2	1.5	2	4	4		3.5	5	1	1	1	1	1	0	1	1
4	160619735004	2	1.5	2	4		3	3.5	5	1	1	1	1	0	0	1	1
5	160619735005	2	1.5	2	7		4	3.5	5	1	1	1	1	0	1	1	1
6	160619735006	2	2	2	7		6.5	3.5	5	1	1	1	1	0	1	1	1
7	160619735007	1.5	1.5	2	6	3		3	5	1	1	1	1	0	0	1	1
8	160619735008	1.5	2	2	4	5		3.5	5	1	1	1	1	0	0	1	1
9	160619735009	2	2	1.5	6.5		3	3	5	1	1	1	1	0	0	1	1
10	160619735010	2	1.5	2	5.5		5.5	3.5	5	1	1	1	1	0	1	1	1
11	160619735011	2	1.5	2		2.5	7	4	5	1	1	1	0	0	1	1	1
12	160619735012	2	2	1.5	5		3	3.5	5	1	1	1	1	0	0	1	1
13	160619735013	2	1.5	2	3		5	3.5	5	1	1	1	0	0	1	1	1
14	160619735014	2	2	2	7	7		4	5	1	1	1	1	1	0	1	1
15	160619735015	2	2	2	5		4.5	3.5	5	1	1	1	1	0	1	1	1
16	160619735016	2	1.5	2	5		4.5	4	5	1	1	1	1	0	1	1	1
17	160619735017	2	1.5	2	7	5.5		4	5	1	1	1	1	1	0	1	1
18	160619735018	1		1	1			2	5	0	0	0	0	0	0	0	1
19	160619735019	2	2	2	7	1.5		3.5	5	1	1	1	1	0	0	1	1
20	160619735020	2	2	2	3	2		3	5	1	1	1	0	0	0	1	1
21	160619735021	2	1.5	2	7		6.5	4	5	1	1	1	1	0	1	1	1
22	160619735022	1	1	1	2	1		3	5	0	0	0	0	0	0	1	1
23	160619735023	2	2	1.5	7	5		3.5	5	1	1	1	1	1	0	1	1
24	160619735024	2	2	2	7		4.5	3.5	5	1	1	1	1	0	1	1	1

#	ID									
25	160619735025	2	1.5	2	3	1		3.5	5	
26	160619735026	2	2	2	6	3			5	
27	160619735027	2	2	1	5.5	3		3.5	5	
28	160619735028	1.5	2	2	5.5		3		5	
29	160619735029	2	2	2	4	2.5		3.5	5	
30	160619735030	2	2	2	4	2.5		3.5	5	
31	160619735031	2	1.5	2	5		3	2.5	5	
32	160619735032	1.5	1.5	1.5	3.5	2		3	5	
33	160619735033	2	1.5	2	3		3.5	3	5	
34	160619735034	2	1.5	2	3	3		3.5	5	
35	160619735035	1.5	2	2	6	4		2.5	5	
36	160619735036	1	2	1	3			3	5	
37	160619735037	2	2	2	6	3.5		3.5	5	
38	160619735038	2	2	2	7	4		3	5	
39	160619735039	2	2	2	3.5	3		3.5	5	
40	160619735040	2	2	1	7	4		3	5	
41	160619735041	2	2	2	5.5	3.5		3	5	
42	160619735042	2	1.5	2	6	2.5		3	5	
43	160619735043	2	2	2	5.5	3		3.5	5	
44	160619735044	2	2	2	3	6		4	5	
45	160619735045	2	2	2	6.5		3.5	3	5	
46	160619735046	2	2	2	5	4		3	5	
47	160619735047	2	2	2	5	3		3	5	
48	160619735048	2	2	2	4.5	3.5		3	5	
49	160619735049	1.5	2	2	4.5	4		3	5	
50	160619735050	2	1.5	1.5	4		3.5	1.5	5	
51	160618735077	2	1	2	7	6		3	4	
	SUM	95.5	88	94.5	248	111	82	165	254	
	COUNT	51	50	51	49	32	19	51	51	
	AVERAGE	1.873	1.76	1.853	5.061	3.45	4.32	3.235	4.98039	

Right-side table (binary):

1	1		0	0	0	1	1
1	1		1	0	0	1	1
1	1	1	1	0	0	1	1
1	1		1	0	0	0	1
1	1		1	0	0	1	1
1	1		1	0	0	1	1
1	1		1	0	0	0	1
1	1		0	0	0	1	1
1	1		0	0	0	1	1
1	1		0	0	0	1	1
1	1	1	1	1	0	1	1
0	1	0	0	0	0	0	1
1	1	1	1	0	0	1	1
1	1	1	1	1	0	1	1
1	1	1	0	0	0	1	1
1	1	0	1	1	0	1	1
1	1	1	1	0	0	1	1
1	1	1	1	0	0	1	1
1	1	1	1	0	0	1	1
1	1	1	0	1	0	1	1
1	1	1	1	0	0	1	1
1	1	1	1	1	0	1	1
1	1	1	1	0	0	1	1
1	1	1	1	0	0	1	1
1	1	1	1	1	0	1	1
1	1	1	1	0	0	0	1
1	0	1	1	1	0	1	1
48	47	46	38	12	10	45	51
51	50	49	32	19	51	51	

| % | 94% | 94% | 90% | 78% | 38% | 53% | 88% | 100% |

CO Mapping with Exam Questions:

CO - 1	Y			Y			Y	Y
CO - 2		Y			Y	Y	Y	Y
CO - 3			Y			Y	Y	Y
CO - 4								
CO - 5								

Students Scored >Target %	48	47	46	38	12	10	4	51
% Students Scored >Target	94%	94%	90%	78%	38%	53%	88%	100%

CO Attainment based on Exam Questions:

CO - 1	94%			78%			88%	100%
CO - 2		94%			38%	53%	88%	100%
CO - 3			90%			53%	88%	100%
CO - 4								
CO - 5								

CO	Subj	Obj	Asgn	Overall	Level
CO-1	86%	88%	100%	91%	3
CO-2	61%	88%	100%	83%	3
CO-3	71%	88%	100%	87%	3
CO-4					
CO-5					
Overall Course Attainment =				3.00	

Attainment Lev	
1	>= 40 %
2	>= 60 %
3	>= 80 %

isnumbe	level	final level
TRUE	3	3
TRUE	3	3
TRUE	3	3
#####		
#####		

#	Roll No								
1	160619735021	2	2	2	7	7		4	5
2	160619735022	1	2	2	0.5	6.5		4	5
3	160619735023	2	2	1	7	5		3.5	5
4	160619735024	2	2	2	6	7		2	5
5	160619735025	2	2	1.5		3.5	3	1	5
6	160619735026	2	2	2	5		5	3.5	5
7	160619735027	2	2	1		7	4	2.5	5
8	160619735028	1	1	0.5	3.5	4		2.5	5
9	160619735029								5
10	160619735030	2	2	1	2.5	4		2.5	5
11	160619735031	2	2	2	6	7		4	5
12	160619735032	2	2	2	4	4		3.5	5
13	160619735033	2	2	2		4	3	1	5
14	160619735034	2	1.5	2		4.5	3	4	5
15	160619735035	2	2	2	5	5		4	5
16	160619735036	2	2	2	3			4	5
17	160619735037	2	2	2		5	7	4	5
18	160619735038	1.5	1	1		4.5	5	4.5	5
19	160619735039	2	2	2		5	2	3.5	5
20	160619735040	2	2	2	5	5		3.5	5
21	160619735041	2	2	2		5	3	4	5
22	160619735042	1	1	1		3.5		4	5
23	160619735043								5
24	160619735044	2	1.5	1.5	3	5		3	5
25	160619735045	2	2	2		7	3	4	5
26	160619735046	2	0.5	0.5	3	4		3	5
27	160619735047	2	2	2	5.5	5.5		3.5	5
28	160619735048	2	2	2	5.5	1.5		3.5	5
29	160619735049	1.5	1.5	2	5			2.5	5
30	160619735050	2	2	2	7			4	5
51	160618735077	1	1.5	1	6.5	4		2.5	5
	SUM	87.5	84.5	78	156	225	60	161	255
	COUNT	48	48	48	33	42	16	48	51

1	1	1	1	1	0		1
0	1	1	0	1	0		1
1	1	0	1	1	0		1
1	1	1	1	1	0		1
1	1	1	0	0	0	0	1
1	1	1	1	0	1		1
1	1	0	0	1	1	0	1
0	0	0	0	1	0	0	1
0	0	0	0	0	0	0	1
1	1	0	0	1	0	0	1
1	1	1	1	1	0	1	1
1	1	1	1	1	0	1	1
1	1	1	0	1	0	0	1
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1	1	1	0	0	0	1	1
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1	0	0	0	1	1	1	1
1	1	1	0	1	0	1	1
1	1	1	1	1	0	1	1
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0	0	0	0	0	0	1	1
0	0	0	0	0	0	0	1
1	1	1	0	1	0	1	1
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1	1	1	1	1	0	1	1
1	1	1	0	0	0	1	1
1	1	1	1	0	0	1	1
1	1	1	1	0	0	0	1
0	1	0	1	1	0	0	1
42	42	34	25	38	8	36	51
48	48	48	33	42	16	48	51

AVERAGE	8.23	1.76042	1.625	4.73	5.4	3.75	3.3	5
%	88%	88%	71%	76%	90%	50%	75%	100%

CO Mapping with Exam Questions:

CO - 1								
CO - 2								
CO - 3	Y			Y			Y	Y
CO - 4		Y			Y		Y	Y
CO - 5			Y			Y	Y	Y

Students Scored >Target %	42	42	34	25	38	8	36	51
% Students Scored >Target	88%	88%	71%	76%	90%	50%	75%	100%

CO Attainment based on Exam Questions:

CO - 1								
CO - 2								
CO - 3	88%			76%			75%	100%
CO - 4		88%			90%		75%	100%
CO - 5			71%			50%	75%	100%

CO	Subj	Quiz	Asgn	Overall	Level
CO-1					
CO-2					
CO-3	82%	75%	100%	86%	3
CO-4	89%	75%	100%	88%	3
CO-5	60%	75%	100%	78%	2
Overall Course Attainment =					2.67

Attainment Level	
1	>= 40 %
2	>= 60 %
3	>= 80 %

isnumber	level	final level
FALSE		
FALSE		
TRUE	3	3
TRUE	3	3
TRUE	2	2

STANLEY COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN
Department of Information Technology
Course Outcome Attainment

Name of the Faculty :	Ms. Anjum Fathima		
Branch & Section:	ECE	Year	AICTE AY: 2022-23
Subject:	IAFM	Sem	VII SEM
Subject Code:	HS701ME		Target % 55%

S=10,A=9,B=8,C=7,D=6,E=5,F=0

SL.No	REG. NO	NAME OF THE STUDENT	TOTAL	Is > Target%
		Max Marks	10.00	5.5
1	160619735001	AFIFA RABBANI	5	0
2	160619735002	AIRPULA NIKITHA	6	1
3	160619735003	AKAVARAM SNEHA	5	0
4	160619735004	ALAMPALLY AKAANKSHA	7	1
5	160619735005	ANISETTI PRAHARSHA	7	1
6	160619735006	BADISHA SAI KAVYA SREE	7	1
7	160619735007	BOPPU SAI SHRIYA	6	1
8	160619735008	BOTUMANCHI PRAJWALA	6	1
9	160619735009	BYSANI LAKSHMI PRASANNA	6	1
10	160619735010	CHINTALA MANISHA	7	1
11	160619735011	CHOLLETI MANASWINI	7	1
12	160619735012	DEVUNI VAISHNAVI	5	0
13	160619735013	G SANDHYA	6	1
14	160619735014	GANDLA JAYA SREE	8	1
15	160619735015	GINNE VARSHA	7	1
16	160619735016	GODHA NIKHITHA	7	1
17	160619735017	GUDISEVA BHAVANA	7	1
18	160619735018	GULLEPELLI SRIJA	0	0
19	160619735019	HAJERA FATHIMA	6	1
20	160619735020	JANNAMARAJU SRIPURNA	5	0

21	160619735021	JELLAPURAM USHSMITHA	7	1
22	160619735022	KOPPULA SAI RUTHI	0	0
23	160619735023	KANDULA SAI THI	7	1
24	160619735024	KANKANALA BHAVANI	7	1
25	160619735025	KATTUPALLI PRAGNA ANGELINE	5	0
26	160619735026	KONDURI BHAVANI	6	1
27	160619735027	MUCHARLA SAI SREE	6	1
28	160619735028	MUTHE SRITEJA	6	1
29	160619735029	NALLI ELENA SHERENE	0	0
30	160619735030	NALUMACHU MAHALAKSHMI	5	0
31	160619735031	PABBA SHRAVANTHI	6	1
32	160619735032	PALREDDY VAISHNAVI	6	1
33	160619735033	PATHLAVATH TEJA SRI	6	1
34	160619735034	RAJEERKULA KHYATHI	6	1
35	160619735035	RAVADA MOUNIKA	7	1
36	160619735036	SAMREEN	5	0
37	160619735037	SATHELLI SHRUTHI	7	1
38	160619735038	SHAIK HADIYA	7	1
39	160619735039	SIRIPURAPU SUNIDHI	7	1
40	160619735040	SRIKARI SAYARWAR	6	1
41	160619735041	SYEDA FAYEZA ALI	7	1
42	160619735042	THINETI BINDU	6	1
43	160619735043	TIRUMALA PALANANJANI	6	1
44	160619735044	V SAI CHANDANA	7	1
45	160619735045	VADLA SWATHI	6	1
46	160619735046	VATTIKUTI RAMYA	6	1
47	160619735047	VILLURI LAKSHMI SIVANI	6	1
48	160619735048	VODELA APOORVA	6	1
49	160619735049	YELE SRIVANI	5	0
50	160619735050	VEMULA MOUNIKA REDDY	6	1
51	160618735077	G.Mounika	5	0
		Sum	298	SUM 39
		Avg	5.2280702	Count 51

No. of students scored more than target %		39
No. of students present		51
Percentage of students scored more than target %		76%
Attainment level		**2**

Attainment level	Percentage
1	>= 40 %
2	>= 60 %
3	>= 80 %

STANLEY COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN
Department of Information Technology
Course Outcome Attainment

Name of the Faculty : Ms. Anjum Fathima

Branch & Section: ECE

Subject: IAFM

Subject Code: **HS701ME**

AY: 2022-23

Year: AICTE

Sem: VII SEM

Course Outcomes	Exam	Internal	Exam	University Exam
CO1	3		3	2
CO2	3		3	2
CO3	3	3	3	2
CO4		3	3	2
CO5		3	3	2

Attainment level of Course Outcomes

	Course Outcomes	Attainment Level
CO1	To demonstrate various organization structures and design various plant and product layouts. [BLT 3, 6]	2.30
CO2	To analyze the principles of work study, method study, and importance of performance appraisal in the work	2.30
CO3	To demonstrate quality of work and quality control systems through SQC tools. [BLT 3]	2.30
CO4	To evaluate PERT/CPM techniques for projects of an enterprise and understand the concepts of various	2.30
CO5	To understand the different techniques of capital budgeting and various types of costs and leverages	2.30

Average	2.30

Overall course attainment level   2

Faculty Signature   HOD

STANLEY COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN
Department of Information Technology
Program Outcome Attainment

Name of the Faculty: Ms. Anjum Fathima
Branch & Section: ECE
Subject: IAFM
Subject Code: HS701ME

AY: 2022-23
Year: IV
Sem: VII SEM

Course outcome attainment

CO	Ist Mid	IInd Mid	Int	Univ
CO1	3		3	2
CO2	3		3	2
CO3	3	3	3	2
CO4		3	3	2
CO5		3	3	2

CO-PO mapping
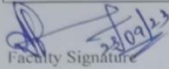
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	3						2			3	2	
CO2	2	3	3		2				3			3		
CO3	3	2	3		3				3			3		
CO4		3	3								3			
CO5		3	2	3			2				3			
Avg	2.33	2.80	2.80	3.00	3.00	2.00	2.00		2.67		3.00	3.00	2.00	
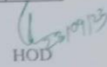
PO-ATTAINMENT

	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
INTERNAL	CO1	6	9	9						6			9	6	
	CO2	6	9	9			6			9			9		
	CO3	9	6	9		9				9			9		
	CO4		9	9								9			
	CO5		9	6	9			6				9			
	CO1	4	6	6						4			6	4	

	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
UNIVERSITY	CO2	4	6	6			4			5			6		
	CO3	6	4	6		6				5			6		
	CO4		6	6								6			
	CO5		6	4	6			4				6			
OVERALL	CO1	5	2	2						2			2	2	
	CO2	5	2	2			2			2			2		
	CO3	2	2	2		2				2			2		
	CO4		2	2								2			
	CO5		2	2	2			2				2			
Attainment		2.30	2.30	2.30	2.30	2.30	2.30	2.30		2.30		2.30	2.30	2.30	

Faculty Signature 28/09/23

HOD 23/09/23

Sample Question paper with Bloom's Taxonomy

Hall Ticket No-

Code: R412723

Stanley College of Engineering and Technology for Women (A)

MBA- II Semester (Main) Examinations July-2023

Business Research Methods

Time: 3 hours

Max..Marks:60

PART-A

Note: Answer all questions (Compulsory)

5 X 2=10M

1. Explain exploratory research. L2 CO1
2. Calculate Mean deviation for the following data by using Arithmetic mean. L3 CO2
   X : 68 ,49 ,32, 21, 54, 38, 59, 66, 41
3. What is Stratified Random Sampling? L1 CO3
4. Explain Confidential Interval L1 CO4
5. Discuss the concept of Correlation Analysis. L2 CO5

PART-B

Note: Answer all questions (Compulsory)

5 X 10= 50M

6 a. What is research design? Explain the criteria of a good research design. L2 CO1

OR

   b. Find out the Mode for the data given below: L3 CO1

Class Interval	0-5	5-10	10-15	15-20	20-25	25-30	30-35
Frequency	2	4	20	8	20	18	4

7 a. Define Kurtosis. What are the different types of Kurtosis? Explain. L2 CO2

OR

   b. Calculate the Quartile Deviation and it's co-efficient. L3 CO2

Value	15-25	25-35	35-45	45-55	55-65	65-75	75-85	85-95
Freque ncy	32	38	45	98	122	80	50	25

8 a. Define Data .Discuss the various methods of data collection. L4 CO3

OR

   b. Explain various Probabilistic sampling methods. L5 CO3

9 a. A group of 5 patients treated with medicine A weigh 42, 39, 48, 60, and 41 kgs. Second group of 7 patients from the same hospital treated with medicine B weigh 38,42,56,64, 68, 69, and 62 kgs. Do you agree with the claim that medicine B increases the weight significantly? (Use q=5%) L3 CO4

OR

   b. Write briefly about the various concepts used in hypothesis testing. L5 CO4

10 a. Find both regression lines to the following L4 CO5
       Mean (X)=15
       Mean (Y)=110
       Variance (X) =25
       Variance (Y) =625 and r=0.81

OR

   b. Find Karl Pearson's coefficient correlation to the following: L3 CO5

X	48	39	65	80	73	60	52
Y	10	50	12	25	90	60	55

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STANLEY COLLEGE OF ENGINEERING AND TECHNOLOGY FOR WOMEN (A)
Chapel Road, Abids

MBA-I-Semester (Main) Semester End Examinations, March-2022

Business Law and Ethics

Time: 3 Hrs   Max. Marks: 60

PART-A   5 X2=10 M

Note: Answer all questions (Compulsory)

Write short notes on the following.

1. Legality of object.

2. Offer.

3. Article of association.

4. Quasi contracts.

5. Consumer Redressal commission.

PART-B   5X10=50 M

Note: Answer all questions

6. a) How would you express that Contract without consideration is void?

OR

b) How can you sort the Difference between coercion and undue influence?

7. a) How can you sort the difference between the duties of bailor and bailee?

OR

b) What are the essential features of contract of guarantee?

8. a) What are the features of a company?

OR

b) Rani is a wealthy lady enjoying large dividend and interest income she has informed 3 private companies in agreed with each of them to hold a block of investment as an agent for it income received was credited in the accounts of a company but the company founded back the amount to her as a pretended loan. This way she divided her income into three parts in a bit to reduce her tax liability. Discuss the legality of the purpose for which the three companies were formed.

9. a) How would you express the law relating to IPR ?

OR

b) How would you sort the difference between Arbitration and Conciliation?

10. a) What are ethical considerations?

OR

b) What are the possible outcomes of principles of corporate governance?

****

Sample copy of a course showing all Course Objectives and Course Outcomes

Course Code	Course Title						Core/Elective
MB101	Management & Organizational Behaviour						Core
Prerequisite	Contact hours per week				CIE	SEE	Credits
	L	T	D	P			
-	5	-	-	-	40	60	5

Course Objectives:

1. To provide an understanding about individual and group behavior.
2. To understand the implications of organizational behavior on the process of management.
3. To evaluate the appropriateness of various Leadership styles towards Conflict Management

Course Outcomes:

1. Imbibe the key management process and various Approaches to Organization Structure
2. Impart knowledge on Decision-making, its models and importance of planning in the organizations
3. Analyze the psychological states of an employees and motivation theories towards their rate of success in the organizations
4. Identify various models of OB and the conflict models in the organization
5. Ideologize the organization design, culture and climate including the emerging aspects of Organizational Behaviour

Unit – I: Introduction to Management

Management Process and Functions, Scientific and Modern Management, 3D Model of Managerial Behavior – MBO – MBWA – Line and Staff – The Peter's Principle – Parkinson's Law – Main Approaches to Organisation Structure-Management – Classical, Human Relations, Systems and Contingency Approaches, Hawthorne's Experiments – Human Engineering.

Unit – II: Planning and Decision Making

Decision Making and Negotiations: Approaches to Decision making – Rational, Behavioral, Practical, and Personal Approaches – Open and Closed Models of Decision Making, Types and steps in planning, Authority, Responsibility, Centralisation, Decentralisation and Recentralisation, Bureaucracy.

Unit – III: Organization Behaviour

Psychological contract – Personality Traits, Big 5 personality traits, MBTI inventory, the Process of Perception – Perceptual distortions and errors, Kelly's personal construct Theory, Motivation – Content Theories: Maslow, Alderfer, Herzberg, McClelland Process Theories: Vroom, Porter and Lawler, Equity Theory – Goal Theory – Attribution Theory.

Unit – IV: Group Dynamics and Leadership

Models of OB – Autocratic, Custodial, Supportive, Collegial and System Models, Transactional Analysis, Johari Window. Group Dynamics: Typology of Groups – Conflicts in groups – The nature of conflict – Reactions to conflict – A model of conflict. Trait and Behavioral Approaches to Leadership, Managerial Grid, Path-Goal Theory, Vroom's Decision Tree Approach to Leadership – Hersey and Blanchard Model

Unit – V: Emerging aspects of OB

Organisation Design, organisation culture and organisation climate. Stress Management and Psychological Counseling for Pandemics, Job loss, Mergers & Acquisitions. Management of change and organisation development. Organization Citizenship Behaviour. Communication – Emerging aspects of OB in Industrial Scenario.

Essential Books:

1. Harold Koontz and Heinz Weihrich, 2010, Essentials of Management, TMH.
2. Michael A. Hitt, J. Stewart Black, and Lyman W. Porter 2010, Management, Pearson.

Suggested Books:

1. Curtis W. Cook and Phillip L.Hunsaker, 2010, Management and Organizational Behaviour, Mc Graw. – Hill Irwin.
2. Robbins & Judge, 2010, OrganisationalBehaviour, Prentice Hall of India.
3. Gregory Moorhead and Ricky W. Griffin 2010, OrganisationBehaviour. Biztantra.
4. VSP Rao, V. Harikrishna 2010, Management – Text and Cases, Excel Books.
5. K. Aswathappa 2010, OrganisationalBehaviour – Text, Cases and Games, Himalaya Publishing House.
6. UdaiPareek 2010, Understanding OrganisationalBehaviour. Oxford University Press.
7. Lauriel J Mullins, 2010, Management &OrganisationalBehaviour, Pearson.
8. Robin Fincham and Peter Rhodes 2010, Principles of OrganisationalBehaviour, Oxford University Press.
9. B.R. Virmani, 2010, Managing People in Organisations, Response Books.

2.6.1 The institution has stated learning outcomes (programme and course outcome) /graduate attributes which are integrated into the assessment process and widely publicized through the website and other documents and the attainment of the same are evaluated by the institution

Department of Electronics and Communication Engineering

STANLEY COLLEGE OF ENGINEERING ANDTECHNOLOGY FOR WOMEN (AUTONOMOUS)
Hyderabad – 500 001
(Affiliated to Osmania University & Approved by AICTE)
(All eligible UG Courses are accredited by NBA & Accredited by NAAC with 'A' Grade)

Department of Electronics and Communication Engineering

Vision of the Institute
Empowering girl students through professional education integrated with values and character to make an impact in the World.

Mission of the Institute
M1: Providing quality engineering education for girl students to make them competent and confident to succeed in professional practice and advanced learning.
M2: Establish state-of-art-facilities and resources to facilitate world class education.
M3: Integrating qualities like humanity, social values, ethics, leadership in order to encourage contribution to society.

Vision of the Department
Empowering girl students with the contemporary knowledge in Electronics and Communication Engineering for their success in life.

Mission of the Department
M1: To impart rationalized and high quality technical education and knowledge.
M2: To achieve self-sustainability and overall development through Research and Consultancy activities.
M3: To provide education for life by focusing on the inculcation of human and moral values through an honest and scientific approach
M4: To groom students with good attitude and personality skills.

Program Educational Objectives:

PEO-1: Graduate shall have skills to excel in professional career and in applied research through innovative design by acquiring the knowledge in Electronics and Communication Engineering principles

PEO-2: Graduate shall pursue higher education and participate in research and development activities or entrepreneurship to integrate engineering work in the environmental, ethical and broader societal contexts.

PEO-3: Graduate shall exhibit effective communication, good team building and leadership qualities to design socially accepted and economically feasible solutions through multidisciplinary and interdisciplinary approaches for analysis of real-life problems.

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Department of Electronics and Communication Engineering

Program Outcomes:
1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment & sustainability:** Understand the impact of professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and Team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes:

PSO1: Appertain to Communication and Automation Principles: To apply principles of Communication Engineering and Signal Processing both in private and public organizations.

PSO2: Adaptability to Productive Environment: To be well equipped with Management skills, interdisciplinary and modern technologies.

2.6.1 The institution has stated learning outcomes (programme and course outcome) /graduate attributes which are integrated into the assessment process and widely publicized through the website and other documents and the attainment of the same are evaluated by the institution

Department of Electronics and Communication Engineering

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Department of Electronics and Communication Engineering

Process for Program Educational Objectives (PEOs)

As a result of this feedback, two major changes have been made: Approval of CAC is required for Department Vision and Mission and Program Educational Objectives (PEOs). If not approved, the Vision- Mission restructuring is done through the DAC. In the case of PEOs, a revised draft based on the CAC feedback is framed by the DAC and then the stakeholders are involved in redefining them. This process is followed by SWOC analysis and finally, submission to the CAC for approval.

Drafting, Validation, Approval and Decimation of Vision, Mission and PEOs: The department established the draft Vision and Mission through a consultative process involving the stakeholders, faculty of the department and the Department Advisory Committee through Multi-level meetings. The stakeholders include parents, faculty, employers, alumni, current students, Head of the department.

The process flow was initiated through a Department Advisory Committee (DAC) meeting for establishing the first draft of the Vision and Mission statements, with an Industry Expert, a University Expert, HOD (ECE) and senior faculty, in alignment to the Institute Vision-Mission. The statements were refined by DAC after a through brainstorming session by the stakeholders. The draft is then submitted to the College Advisory Committee (CAC) consisting of the experts from academia and industry. The document (on Department Vision-Mission) is submitted to the department for publishing upon approval. If not approved, the DAC reiterates the exercise based on the stakeholders' input in the initial stages.

The Department Vision-Mission was dessimated at various locations, during various meets like

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Department of Electronics and Communication Engineering

Orientation Day, Parents' Meet, etc. and to all the stakeholders through post/e-mail.

The principles to establish a common foundation for developing practices that carry out the mission and vision of the department were benchmarked and validated in global context. These would govern the Program Educational Objectives (PEOs) that the graduate would achieve within 3 to 5 years after graduation. The final draft was approved and finalized by the CAC and sent to the department for publishing. The approved PEOs were dessimated to the stakeholders. In the process, if these PEOs were not approved, the exercise would be repeated after another draft based on the feedback from the CAC is prepared by the DAC. The draft is revisited in meetings including the interactions with the stakeholders before the final submission for approval to the CAC.

The consistency of the Department Mission with the Institute Mission, PEOs with Institute Mission, PEOs with Department Mission, PEOs with Program Outcomes (POs) and Program Specific Outcomes (PSOs) is identified.

The Assessment of the achievement of the PEOs through various forms of data collection and academic components is defined.

The meetings conducted at every stage are documented through the dispatch of invitation letters to the stakeholders, their approval to attend the meetings, the meeting minutes and the attendance.

PSOs:

- To apply principles of Communication engineering and Signal processing both in private and public organizations.
- To be well equipped with Management skills, interdisciplinary and modern technologies.

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Department of Electronics and Communication Engineering

CO-PO MAPPING:

Stanley College of Engineering & Technology for Women(Autonomous)

Department of Electronics & Communication Engineering

COURSE OUTCOMES

AY :2022-23   **IV Semester**

S.No	COURSE	COURSE CODE	COs	DESCRIPTION
1	ANALOG ELECTRONIC CIRCUITS	SPC 401 EC	SPC401EC.1	Analyze frequency response of Amplifiers.(BLT 4)
			SPC401EC.2	Compare and analyse the types of feedback amplifiers.((BLT 4)
			SPC401EC.3	Design and analyze oscillators at audio and radio frequencies. (BLT 5)
			SPC401EC.4	Distinguish and design various classes of power amplifiers.. (BLT 4)
			SPC401EC.5	Compare the performance of single, double and stagger tuned amplifiers. (BLT 4)
2	SIGNALS AND SYSTEMS	SPC 402 EC	SPC402EC.1	Define and differentiate types of signals and systems in continuous and discrete time domains (BLT-1Remember)
			SPC402EC.2	Explain the properties of Fourier transform for continuous time signals (BLT-2 Understand)
			SPC402EC.3	Apply continuous time Fourier Transform and Laplace Transform for analysis of system behavior. (BLT-3 Apply)
			SPC402EC.4	Perform Fourier analysis of discrete time signals (BLT-4 Analyze)
			SPC402EC.5	Construct Z-transforms for discrete time signals to solve difference equations (BLT-6 Create)
3	INTEGRATED CIRCUITS AND APPLICATIONS	SPC 403 EC	SPC403EC.1	Construct different linear and non linear networks and analyse their response to different input signals
			SPC403EC.2	Design and analyze multi vibrators and sweep circuits using transistors
			SPC403EC.3	Analyze DC and AC characteristics for Single/Dual input Balanced/Unbalanced output configurations using BJTs
			SPC403EC.4	Understand the applications of OPAMP
			SPC403EC.5	Experiment with the applications of 555 timer, D/A and A/D converter types
4	COMPUTER ORGANIZATION AND ARCHITECTURE	SPC 404 EC	SPC404EC.1	Perform mathematical operations on fixed and floating point digital data(BLT 4)
			SPC404EC.2	Illustrate the operation of a digital computer. (BLT 2)
			SPC404EC.3	Understand I/O interfacing of a computer. (BLT 1)
			SPC404EC.4	Interface microprocessor with memory devices. (BLT 4)
			SPC404EC.5	Understand latest trends in microprocessors. (BLT 4)
			SPC405EC.1	Understand the basic principles of antennas and learn the antenna terminology. (BLT 2)

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Department of Electronics and Communication Engineering

Stanley College of Engineering & Technology for Women(Autonomous)

Department of Electronics & Communication Engineering

PROGRAM OUTCOMES

AY :2022-23   IV Semester

S.N	COURSE	COURSE	SNO	PO1	PO2	PO3	PO	PO	PO	PO	PO8	PO9	PO10	PO1	PO12	PSO1	PSO
1	ANALOG ELECTRONIC CIRCUITS	SPC 401 EC	PC401EC.1	3	3	3		3								2	3
			PC401EC.2	3	3	3		3								2	3
			PC401EC.3	3	3	3		3								3	3
			PC401EC.4	3	3	3	2	3								2	3
			PC401EC.5	3	3	3	2	3								2	3
			AVG	3.00	3.00	3.00	2.00	3.00								2.20	3.00
2	SIGNALS AND SYSTEMS	SPC 402 EC	SPC402EC.1	3	3			1							2	2	3
			SPC402EC.2	3	3	3	3	1							2	2	3
			SPC402EC.3	3	3	3	3	3				1			1	2	3
			SPC402EC.4	3	3	3	3	3				1			1	2	3
			SPC402EC.5	3	3	3	3	3				1			2	2	3
			AVG	3.00	3.00	3.00	3.00	2.20				1.00			1.60	2.00	3.00
3	INTEGRATED CIRCUITS AND APPLICATIONS	SPC 403 EC	SPC403EC.1	3	3		2									3	
			SPC403EC.2	3	3	3	2									3	
			SPC403EC.3	3	3	3	3									3	
			SPC403EC.4	3	1	3									2	3	
			SPC403EC.5	3		2	2								3	3	
			AVG	3.00	2.00	2.20	1.80								1.00	3.00	
4	COMPUTER ORGANIZATION AND ARCHITECTURE	SPC 404 EC	SPC404EC.1	3	3	3	3		3	3					3	3	3
			SPC404EC.2	3	3	3	3		3	3					3	3	3
			SPC404EC.3	3	3	3	3		3	3					3	3	3
			SPC404EC.4	3	3	3	3		3	3					3	3	3
			SPC404EC.5	3	3	3	3		3	3					3	3	3
			AVG	3.00	3.00	3.00	3.00		3.00	3.00					3.00	3.00	3.00

2.6.1 The institution has stated learning outcomes (programme and course outcome) /graduate attributes which are integrated into the assessment process and widely publicized through the website and other documents and the attainment of the same are evaluated by the institution

Department of Electronics and Communication Engineering

B.E (ECE) III Sem Internal Examination- III, A.Y- 2022-23

Electronic Devices and Circuits (SPC301EC)

Time: 1 Hour 15 Min	Date: 27th December , 2022	Max Marks: 25

Part – A

(Answer all Questions) (5*2= 10 Marks)

1.	Distinguish between drift and diffusion currents.	[2M]
2.	Compare half wave, Full wave center tapped and bridge rectifier?	[2M]
3.	Define is thermal run away? Specify the conditions to prevent thermal runaway?	[2M]
4.	Draw an approximate model for Common Base Configuration.	[2M]
5.	Differentiate between BJT and JFET.	[2M]

Part – B

(Answer any three out of four Questions) (3*5= 15 Marks)

1. In a bridge rectifier the transformer is connected to 220V, 60Hz mains and the turns ratio of the step down transformer is 5:1. Assuming the diode to be ideal and load resistance to be 1kΩ , calculate:
   i) I_{DC} ii) V_{DC} iii) I_{rms} iv) PIV v) Ripple factor   [5M]

2. Sketch the input and output characteristics in CE configuration, mark different operating regions on it and define h-parameters.   [5M]

3. A junction transistor amplifier has the following h-parameters h_{ie} = 1000Ω, h_{re} = 2×10^{-4}, h_{fe} = 100, h_{oe} = 25µA/V. Determine the A_I, A_V, Z_i, Z_o, A_{VS}, A_{IS}, Z_{IS} and Z_{OS} of the CE amplifier using exact analysis. Take load resistance R_L as 1KΩ, source resistance as 600Ω.   [5M]

4. Illustrate the operation of n – channel JFET? Draw the drain and transfer characteristics.   [5M]

Blooms Taxonomy & CO, PO Mapping

Question	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Course Outcome No	SPC301EC.1	SPC301EC.2	SPC301EC.3	SPC301EC.4	SPC301EC.5	SPC301EC.2	SPC301EC.3	SPC301EC.4	SPC301EC.5
PO Mapping	PO 1,2,3,4,6,8,9, 12 PSO 1,2	PO 1,2,3,4,6,8,9, 12 PSO 1,2	PO 1,2,3,4,6,7,8,9 ,12 PSO 1,2	PO 1,2,3,4,6,8, 9,12 PSO 1,2	PO 1,2,3,4,6,8,9, 12 PSO 1,2	PO 1,2,3,4,6,8,9 ,12 PSO 1,2	PO 1,2,3,4,6,7,8 ,9,12 PSO 1,2	PO 1,2,3,4,6,8,9 ,12 PSO 1,2	PO 1,2,3,4,6,8,9 ,12 PSO 1,2
Bloom's Taxonomy Level	Understanding (BLT2)	Understanding (BLT2)	Understanding (BLT2)	Knowledge (BLT1)	Application (BLT 3)	Analyzing (BLT 4)	Application (BLT 3)	Application (BLT 3)	Application (BLT 3)

Paper Set by: Mrs. T. Prasanna

2.6.1 The institution has stated learning outcomes (programme and course outcome) /graduate attributes which are integrated into the assessment process and widely publicized through the website and other documents and the attainment of the same are evaluated by the institution

Department of Electronics and Communication Engineering

Scheme of Instruction & Detailed Syllabus

Course Code	Course Title						Core / Elective
SPC301EC	Electronic Devices and Circuits						Core
Prerequisite	Contact hours per week				CIE	SEE	Credits
	L	T	D	P			
–	3	–	–	–	40	60	3

Course Objectives:
1. To familiarize basic concepts of semiconductor devices.
2. To comprehend the applications of diodes as rectifiers and filters.
3. To give insights of V-I characteristics of BJT configurations.
4. To comprehend amplifier configurations using h-parameter model.
5. To illustrate V-I characteristics of FETs and MOSFETs and their applications.

Course Outcomes: On successful completion of the course, the students will be able to
1. Interpret the characteristics of diodes using models for analysis of various applications.
2. Compare performance characteristics of various filters.
3. Discriminate the BJT configurations and design a stable biasing circuit.
4. Analyse and design BJT amplifiers.
5. Distinguish the operations of FETs & MOSFETs.

UNIT-I:

Basics of Semiconductors: Review of semiconductors and their properties, Poisson and continuity equations, Hall Effect, Fermi level in P- and N-type semiconductors.

Junction Diode : PN Junction formation, Characteristics, biasing- band diagrams and current flow, Diode current equation, Diode as a circuit element, small signal diode models, Diode switching characteristics, effect of temperature on diode characteristics, Breakdown mechanisms in diodes, Zener Diodes and Zener voltage regulator.

UNIT-II

PN Diode Applications: Half wave, Full wave and Bridge rectifiers - their operation, performance characteristics, and analysis; Filters-L, C, LC and CLC filters, used in power supplies with FWR and their ripple factor calculations, design of Rectifiers with and without Filters.

COURSE OUTCOMES:

SNO	DESCRIPTION	PO(1..12) MAPPING	PSO(1..3) MAPPING
SBS101MT.1	Find the nature of series and sequences (Evaluate).	PO1,PO2,PO3,PO4,PO12	PSO1,PSO2
SBS101MT.2	Analyze the consequences of the mean value Theorems for differentiable functions and Evaluate the Curvature (Anlayze).	PO1,PO2,PO3,PO4,,PO12	PSO1,PSO2
SBS101MT.3	To explore the idea for finding the extreme values of Multi variable functions (Knowledge).	PO1,PO2,PO3,PO4,PO12	PSO1,PSO2
SBS101MT.4	Understanding the concepts of vector and scalar fields and applying the concepts to solve the problems on Green's, Gauss and Stroke's (Understand).	PO1,PO2,PO3,PO4,PO12	PSO1,PSO2
SBS101MT.5	Solve the engineering problems using Numerical methods (Application.)	PO1,PO2,PO3,PO4,PO12	PSO1,PSO2

COURSE OUTCOMES VS POs MAPPING (DETAILED; HIGH:3; MEDIUM:2; LOW:1):

SNO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
SBS101MT.1	3	3	2	2								2	3	1
SBS101MT.2	3	3	2	2								2	3	1
SBS101MT.3	3	3	2	2								2	3	1
SBS101MT.4	3	3	2	2								2	3	1
SBS101MT.5	3	3	2	2								2	3	1

For Entire Course, PO & PSO Mapping

Note: Enter correlationlevels1,2 or 3 as defined below:

1:Slight(Low)   2:Moderate(Medium)   3: Substantial(High)

POs and PSOs of IT Dept

Programme Outcomes:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

2. **Problem Analysis:** Identify, formulate, research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics and natural sciences and engineering sciences.

3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety and the cultural, societal, and environmental considerations.

4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. **Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.

6. **The engineer and society:** Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7. **Environment & sustainability:** Understand the impact of professional engineering solutions in societal and environmental context, and demonstrate knowledge of, and need for sustainable development.

8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. **Individual and Team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

Flow Chart Components:

- Institute Vision & Mission
- Department Vision & Mission
- Departmental Advisory Committee (DAC) — Draft of Department Program Educational Objectives (PEOs)
- Parent
- Faculty
- Employers
- Alumni
- Current Students
- SWOC Analysis by DAC redefined PEOs
- Draft submitted for approval
- College Advisory Committee (CAC)
- Approved? — No / Yes
- Sent to the Department to Publish

Flow Chart of process for defining PEO's of the IT - department

1. **PSO1**: Acquire skills to design, analyze and implement algorithms using high-level programming languages.
2. **PSO2**: Contribute their engineering skills in information technology domains like operating systems, network design and web designing, database design, information security and cloud computing.
3. **PSO3**: An ability to design and implement knowledge-based discovery and machine learning by oncepts of mathematical models, digital system design, neural networks, internet of things

9. **Individual and Teamwork:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinarysettings.

10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clearinstructions.

11. **Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinaryenvironments.

12. **Life-long Learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technologicalchange.

Program Specific Outcomes:

PSO1: To instill interest and curiosity in students in the field of AI and Data Science through project based learning.

PSO2: To provide a concrete foundation and enrich their abilities to qualify for Employment, Higher studies and pursue Research in Artificial Intelligence and Data science with ethical values.

PSO3: To promote ethical and responsible AI practices for the benefit of humanity; and to harness AI for a positive societal impact & meet global standards.

Program Educational Objectives:

PEO1: To provide graduates with the proficiency to utilize the fundamental knowledge of basic sciences, mathematics, artificial intelligence, data science and statistics to build systems that require management and analysis of large volume of data.

PEO2: To enrich graduates with necessary technical skills to pursue pioneering research in the field of AI

PEO3: To encourage students to think critically, develop innovative skills, expose them to an array of ideas and information through numerous technical events, hackathons and quality internships.

Department of Computer Science and Engineering

Program Outcomes:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2. **Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineeringsciences.

3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide validconclusions.

5. **Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineeringpractice.

7. **Environment & sustainability:** Understand the impact of professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineeringpractice.

11. **Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. **Life-long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Specific Outcomes:

1. **PSO1**: Acquire skills to design, analyze and implement algorithms using high-level programming languages.

2. **PSO2**: Contribute their engineering skills in information technology domains like operating systems, network design and web designing, database design, information security and cloud computing.

3. **PSO3**: An ability to design and implement knowledge-based discovery and machine learning by using the various concepts of mathematical models, digital system design, neural networks, internet of things.

STANLEY
COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN
(Private Un-aided Non-minority Autonomous Institution)
(All eligible UG courses are accredited by NBA & NAAC with 'A' grade)
Affiliated to Osmania University and Approved by AICTE
STANLEY
Estd.2008

B.E (IT-A,B) I Sem Internal Examination- I,   January 2022   SET-1

Chemistry (SBS904CH)

[1.15 Hour]   [Max Marks: 25]

Part – A (5*2= 10 Marks)
(All Questions are compulsory)

1.Define Reverse osmosis and mention any one example?   (2 M)

2.What is Pilling Bedworth rule and write its importance?   (2 M)

3.Write any Five specifications of Potable water?   (2 M)

4.Write the chemical reactions and Applications of Li ion Batteries? (2 M)

5.Define Fuel Cell?Give any two Examples?   (2 M)

Part – B (3*5= 15 Marks)
(Three out of four have to be Answered)

6.Explain the Process of Determination of Temporary,Permanent and Total Hardness of water by Using EDTA method?   (5M)

7.Define Hot dipping?Explain the method of Galvanisation with relevant diagram?
                                                          (5M)

8. a)Calculate the permanent hardness of a given sample of water from the following data. A 250 ml of water sample is boiled and filtered. The filtrate is made upto 250 ml with distilled water. 50 ml of this water requires 3 ml of EDTA solution of N/50 Normality with Basic buffer and EBT indicator.

b)Calculate single electrode potential for copper metal in contact with 0.15M CU^{+2} solution. E^0 for copper is 0.34V.(R=8.314JK-1mol-1,T=298K). (5M)

9.Derive the Nernst Equation and write its Applications?   (5M)

Q. No.	1	2	3	4	5	6	7	8	9
COs	CO1	CO2	CO2	CO1	CO1,2	CO2	CO2	CO1,CO2	CO1
POs	PO1	PO1,2	PO1,2,4	PO1,3,5	PO1,2,5	PO1,5,6	PO1,2	PO1,2,3	PO1,2,6,
BT									

Paper set by: R.Gangadhara,Asst.Professor of Chemistry

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STANLEY
Estd 2008

B.E (IT) I Sem Internal Examination- II,(02-03-2023)

SET-1

Chemistry

(SBS903CH)

[1.15 Hour]   **[Max Marks: 25]**

Part – A (5*2= 10 Marks)

(All Question are compulsory)

1. Write any four Applications of Conducting polymers? (2M)

2. Discuss the preparation and properties of PET(Poly Ethylene Terepthalate)? (2M)

3. Define Octane and Cetane Number ? (2M)

4. Define quantum dots and write any four Applications? (2M)

5. Calculate Gross and Net Calorific values of Coal having compositions C =80%,H =7%,O =3%,S=3.5%,N=2.1% and Ash=4%. (2M)

Part – B (3*5= 15 Marks)

(Three out of four have to be Answered)

6.Explain the Energy Level Diagram of Oxygen Molecule? (5M)

7.Write Preparation, Properties and Uses of Bakelite? (5M)

8.Explain Proximate analysis of Coal and write its Significance? (5M)

9.Explain Briefly about twelve Principles of Green Chemistry? (5M)

Q. No.	1	2	3	4	5	6	7	8	9
Cos	CO3	CO3	CO4	CO5	CO4	CO3	CO3	CO4	CO5
Pos	PO1	PO1,2	PO1,2,4	PO1,3,5	PO1,2,5	PO1,5,6	PO1,2	PO1,2,3	PO1,2,6,
BT	Application	knowledge	knowledge	Application	Analysis	knowledge	knowledge	Analysis	Knowledge

Prepared by

Md.Sajeeda

MATHEMATCS-I

COURSE HANDOUT

Duration of University Examination:	3 Hours	
University Examination:	60 Marks	
Sessionals:		40 Marks
Instruction period:	3+1 (Tutorial) hours/Week	

Course Objective:

- To introduce the concepts of sequences, series and their properties
- To provide the knowledge of curve sketching
- To introduce the concepts of functions of several variables
- To study vector differential and integral calculus
- To provide the overview of engineering problems using Numerical methods

Course Outcomes:

SBS101 MT .1 To examine the convergence or divergence of a given infinite series

SBS101 MT .2 To Evaluate the Radius of curvature,center ,evalute and envelope.

SBS101 MT.3 To explore the idea for finding the extreme values of functions

SBS101 MT .4 Apply fundamental theorems like Green's theorem , Stokes theorem and Gauss

Divergence to evaluate Integrals.

SBS101 MT .5 To provide the overview of engineering problems using Numerical methods

PEOs ,POs and PSOs of IT Dept

Program Educational Objectives (PEOs)

PEO1: Graduates shall have enhanced skills and contemporary knowledge to adapt new software and hardware technologies for professional excellence, employment and Research.

PEO2: Proficient in analyzing, developing, solving engineering problems to assist life-long learning and to develop team work.

PEO3: To inculcate self-confidence, acquire professional and ethical attitude, infuse leadership qualities, impart proficiency in soft-skills and the ability to relate engineering with social issues.

Programme Outcomes:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
2. **Problem Analysis:** Identify, formulate, research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics and natural sciences and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment & sustainability:** Understand the impact of professional engineering solutions in societal and environmental context, and demonstrate knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and Team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
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Programme Specific Outcomes:

1. **PSO1**: Acquire skills to design, analyze and implement algorithms using high-level programming languages.
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3. **PSO3**: An ability to design and implement knowledge-based discovery and machine learning by using the various concepts of mathematical models, digital system design, neural networks, internet of things.

COURSE NAME: VLSI DESIGN	COURSE CODE: PC 701 IT A.Y:2022-23	REGULATION: 2018-19
PROGRAM / YEAR / SEMESTER:BE/IV/VII	CREDITS: 4	
COURSE TYPE: INTER-DISCIPLINARY		
COURSE AREA/DOMAIN: VLSI	CONTACT HOURS: 3+1 (Tutorial) hours/Week.	
CORRESPONDING LAB COURSE NAME, CODE (IF ANY): VLSI DESIGN Lab PC 751 IT		
PRE-REQUISITE COURSES/SEM/CODE (IF ANY) :MICRO ELECTRONICS (BIT202)		

SYLLABUS:

UNIT	DETAILS	HOURS (LECTURE)	HOURS (TUTORIAL)
I	Moore's law ,VLSI Design Hierarchy, MOSFET as switches, pass characteristics, Basic logic gates and complex logic gates using CMOS, Bubble pushing, XOR and XNOR gates, AOI and OAI logic gates, Transmission gates-TG based 2-to-1 MUX, XOR, XNOR circuits.		2
	Electrical Characteristics of MOSFETs, Threshold voltage, nFET Current-Voltage equations, trans-conductance and drain characteristics of nFET, RC model of a FET, MOS capacitances, gate-source and gate- drain capacitances, junction capacitances in a MOSFET, scaling concept of MOSFETs	8	
II	Integrated Circuit definition and layers, Top and side view of IC layers, CMOS Layers-MOSFET layers in an n-well process. Silicon patterning for series and parallel connected FETs. Layouts of NOT gate, transmission gate, non-inverting buffer, NAND2, NOR2, Complex logic gate, 4 input AOI gate. Stick diagram representation of NOT, NAND2 and NOR2 .	9	1
	Fabrication of CMOS ICs, CMOS process flow, Design rules: minimum space width, minimum spacing, surround, extension		
III	Layouts of Basic Structure: nwells, active area definition, design of n^+, p^+ regions, masks for the nFET, pFET,active contact cross section and mask set, metal1 line with active contact, poly contact: cross section and layout,. Latchup and its prevention.		2
	DC characteristics of the CMOS inverter , Expression for midpoint voltage of CMOS inverter, Symmetrical inverter, Inverter switching characteristics, fan-out, input capacitance and loading due to fan-out, RC switch model equivalent for the CMOS inverter, rise time and fall time expressions, propagation delay of CMOS inverter.	10	
IV	Pseudo nMOS logic gates, tri-state inverter circuit, Clocked CMOS circuit, charge leakage in C^2MOS circuit, Dynamic CMOS logic circuits : pre-charge and evaluation modes of operation, Domino logic, Dual rail logic networks- Differential Cascade Voltage Switch Logic (DCVSL) AND/NAND, OR/NOR gates, Complementary Pass Transistor Logic (CPL) structures.	9	1
	SRAM – General SRAM cell, 4T & 6T SRAM cell design parameters, Writing to SRAM, resistor model, SRAM arrays. Dynamic RAMs: 1T DRAM cell, charge leakage and refresh in a DRAM cell		
V	VLSI Design flow, structural gate level modeling, gate primitives, gate delays, switch level modeling, behavioral and RTL operators, timing controls, blocking and non blocking assignments, conditional statements, Data flow modeling and RTL, Comparator and priority encoder , D latch and Master-Slave D flip-flop- verilog code. Arithmetic circuits: half adder, full adder, ripple carry adder, carry look ahead adder- verilog code.	9	1
	Interconnect modeling; Interconnect resistance and capacitance ,sheet resistance R_s, time delay, single and multiple rung ladder circuits, simple RC inter connect model, modeling inter connect lines with a series pass FET, Crosstalk, Floor planning and routing.		
		45	7

TEXT/REFERENCE/ADDITIONAL BOOKS:

T/R	BOOK TITLE/AUTHORS/PUBLISHER
T1	John P. Uyemura, "Introduction to VLSI circuits and Systems", John Wiley & Sons, 2002
T2	John P. Uyemura, "Chip design for submicron VLSI: CMOS layout and simulation" IE, Cengage learning, 2006.
R1	Douglas A. Pucknell, Kamran Eshraghian, "Basic VLSI Design" 3rd Edition, PHI, 2000.
R2	Jan M. Rabey and others "Digital Integrated Circuits A design perspective", Pearson Education

WEB SOURCE REFERENCES: (Detailed Topic link)

W1	nptel.ac.in/downloads/106108101/
W2	engineering**ppt**.blogspot.com/.../**vlsi**-concepts-8th-edition.h...

COURSE OUTCOMES:

SNO	DESCRIPTION	PO(1..12) MAPPING	PSO(1..3) MAPPING
PC 701 IT.1	Explain VLSI Design hierarchy and analyse logic gates using CMOS & transmission gate structures. (BLT 2)	PO1,PO2,PO3,PO4,PO12	PSO1,PSO2
PC 701 IT.2	Identify the layers in the physical structure of ICs and draw the layouts of CMOS logic gates (BLT 2,4)	PO1,PO2,PO3,PO4	PSO1,PSO2
PC 701 IT.3	Summarize the fabrication process of CMOS ICs and analyse the DC, switching characteristics of CMOS inverter. (BLT 2,4)	PO1,PO2,PO3,PO4	PSO1,PSO2
PC 701 IT.4	Analyse dynamic CMOS & pseudo nMOS structures of logic gates, SRAM & DRAM cells (BLT 4)	PO2,PO3,PO4.PO12	PSO1,PSO2
PC 701 IT.5	Develop Verilog code for logic gates, examine the effects of interconnect elements in logic cascades and Explain the floor-planning , routing techniques of VLSI circuits(BLT 6)	PO1,PO2,PO3,PO4,PO5	PSO1,PSO2

COURSE OUTCOMES VS POs MAPPING (DETAILED; HIGH:3; MEDIUM:2; LOW:1):

SNO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
PC 701 IT.1	3	3	2	2								3	2	3
PC 701 IT.2	2	3	3	3									2	3
PC 701 IT.3	3	3	3	2									2	2
PC 701 IT.4		2	3	1								3	2	3
PC 701 IT.5	3	3	3	2	3								2	2
PC 701 IT	3	2.8	2.8	2.2	3	3						3	2	2.5

For Entire Course, PO & PSO Mapping

Note: Enter correlation levels 1, 2 or 3 as defined below:

1: Slight (Low)   2: Moderate (Medium)   3: Substantial (High)

If there is no correlation, put "-"

POs & PSO REFERENCE:

PO1	Engineering Knowledge	PO6	Engineer & Society	PO11	Project Mgt. & Finance
PO2	Problem Analysis	PO7	Environment & Sustainability	PO12	Life Long Learning
PO3	Design & Development	PO8	Ethics	PSO1	……………………………
PO4	Investigations	PO9	Individual & Team Work	PSO2	……………………………
PO5	Modern Tools	PO10	Communication Skills	PSO3	…………………………..

GAPS IN THE SYLLABUS - TO MEET COs, POs & PSOs:

SNO	GAP	PROPOSED ACTIONS	PROPOSED RESOURCE	CO	PO / PSO
1	Differences b/w BJT and MOSFET,MOSFET advantages over BJT in fabrication	Lecture	Internal	PC 701 IT.1	PO1,PSO1,PSO2
2	Modelsim software	Free tutorial	Laboratory	PC 701 IT.5	PO5,PSO1,PSO2

TOPICS BEYOND SYLLABUS: Additional course material / learning material / Lab Experiments / Projects

S.No	Description	CO	PO / PSO
1	NMOS& PMOS Fabrication flow	PC 701 IT.3	PO3, PSO1,PSO2

Web Link of the Course Material: googlemeet,stanleylms.swecha.org

Innovation / Pedagogical Initiatives to cater Weak & Advanced Learners: __

INSTRUCTIONAL METHODOLOGIES:

✓	REAL WORLD EXAMPLES		COLLABORATIVE LEARNING		QUALITY LAB EXPERIMENTS		OBSERVATIONS RECORDED
	INDUSTRY INTERNSHIP		SUMMER TRAINING		EXPERT GUEST LECTURES		PROJECTS
✓	USE OF ICT		ANY OTHER (SPECIFY)				

ASSESSMENT METHODOLOGIES-DIRECT

✓	EXAM QUESTIONS	✓	TUTORIAL QUESTIONS	✓	ASSIGNMENTS		LABORATORY TESTS
	PROJECT EVALUATION		STUDENT ARTIFACTS		ORAL EXAMS		PROJECT PRESENTATIONS
✓	INTERNALLY DEVELOPED EXAMS		ANY OTHER (SPECIFY)				

ASSESSMENT METHODOLOGIES-INDIRECT

✓	STUDENT EXIT SURVEY		CO-CURRICULAR ACTIVITIES		EXTRA CURRICULAR ACTIVITIES

Prepared by   **HOD**

Mrs. Ruquia Alam
Assitant Professor ,IT

Institute Vision & Mission

Department Vision & Mission

Departmental Advisory Committee (DAC)

Draft of Department Program Educational Objectives (PEOs)

| Parent | Faculty | Employers | Alumni | Current Students |

SWOC Analysis by DAC
redefined PEOs

Draft submitted for approval

College Advisory Committee (CAC)

Approved?

No

Yes

Sent to the Department to Publish
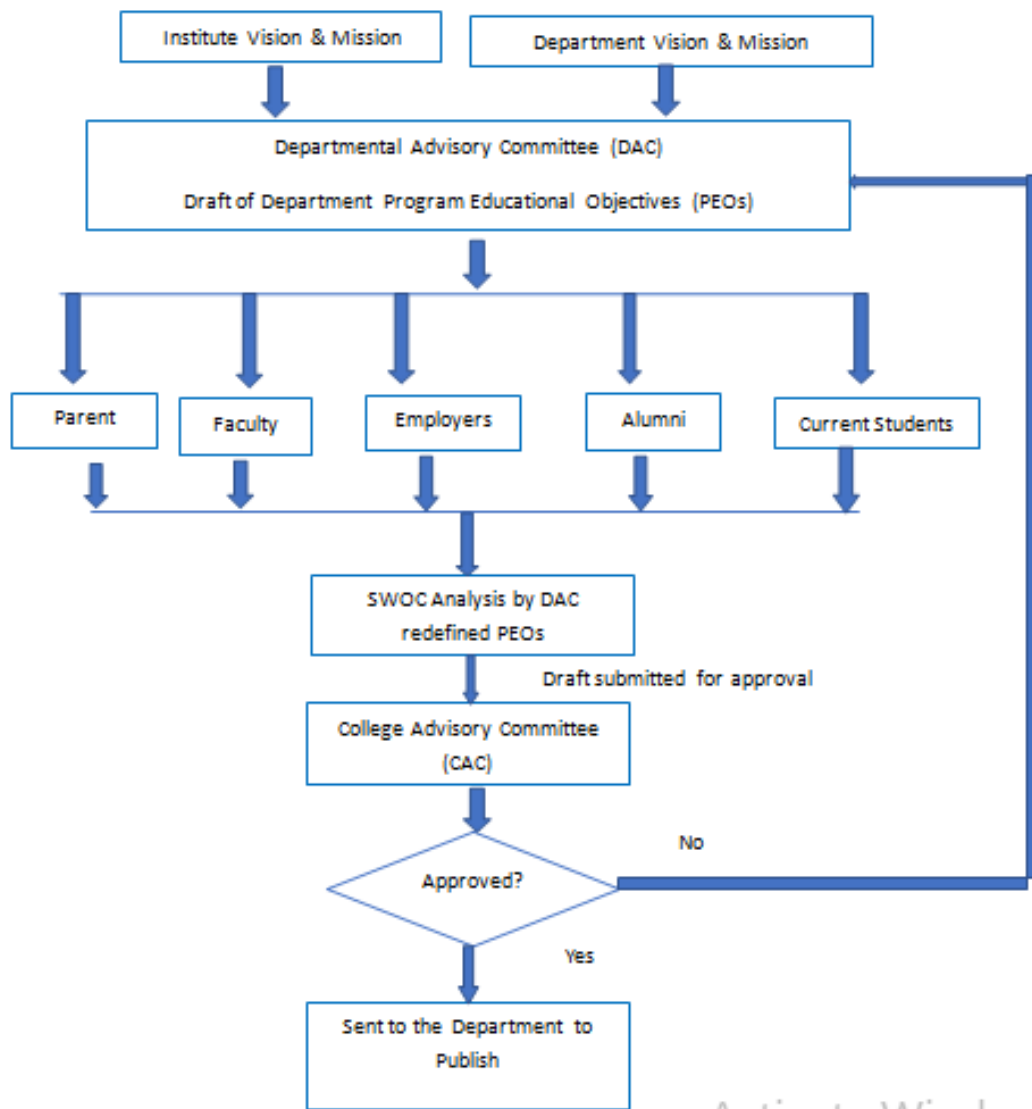
Activate Windows

Flow Chart of process for defining PEO's of the IT - department

1. **PSO1**: Acquire skills to design, analyze and implement algorithms using high-level programming languages.
2. **PSO2**: Contribute their engineering skills in information technology domains like operating systems, network design and web designing, database design, information security and cloud computing.
3. **PSO3**: An ability to design and implement knowledge-based discovery and machine learning by oncepts of mathematical models, digital system design, neural networks, internet of things

2.6 Students Performance and Learning Outcomes

2.6.1 - Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website and communicated to teachers and students.

I & II SEM

NAME OF COURSE	COURSE CODE	COURSE OUTCOMES
PROGRAMMING FOR PROBLEM SOLVING	**SES101CS**	1. Describe the concept of computer system, analyze a given problem, develop an algorithm, fundamental programming constructs, identify data representation formats, and describe operators and their precedence, associativity 2. Understand branching and loop statements. 3. Describe the concept of homogeneous derives data types, strings and functions. 4. Understand pointers and heterogeneous data types 5. Describe the concept of file system
PROGRAMMING FOR PROBLEM SOLVING LAB	**SES111CS**	1. Understand the concept of basics of C, data types and variables. 2. Understand the concept of operators, precedence of operators, conditional statements and looping statements. 3. Explore the concept of strings, functions, recursive functions and differences between call by value and call by reference 4. Explore the concept of storage classes, preprocessor directives, pointes and files. 5. Understand the concept of file handling functions, searching and sorting methods and real time applications of C.
DATA STRUCTURES USING C	**SES202IT**	1. Able to analyze the algorithms and express algorithm complexity using Asymptotic Notations, select appropriate searching and sorting technique for given problem. 2. Implement standard searching and sorting algorithms; including binary search; merge sort and quick sort; and their complexities 3. Design and implement linked lists, stacks and queues in C 4. Design and implement tree structures in C [Apply] 5. Understand the extended data structures to solve problems involving balanced binary search trees, AVL Trees, B-trees and B+ trees, hashing, and basic graphs
DATA STRUCTURES USING C LAB	**SES212IT**	1. Understand various data representation techniques in the real world. 2. Implement linear and non-linear data structures. 3. Analyze various algorithms based on their time and space complexity 4. Develop real-time applications using suitable data structure. 5. Identify suitable data structure to solve various computing problems.

III SEM

NAME OF COURSE	COURSE CODE	COURSE OUTCOMES
PROBABILITY & STATISTICS	SBS301MT	1. Apply probability theory to solve practical problems. 2. Apply various probability distributions to solve practical problems, to estimate unknown parameters and apply tests of hypothesis. 3. Perform a regression analysis and to compute and interpret the coefficient of correlation , Chi-square test for goodness o'f fit and independent attributes 4. To determine the numerical solutions of Ordinary differential equations. 5. To determine if a set of vector space is a vector space, Subspace or a basis
DISCRETE MATHEMATICS	SES202IT	1. Understand sets, functions, groups and relations 2. Apply permutation and combination to handle different types of problems. 3. Apply propositional logic and predicate logic to solve logical statements. 4. Evaluate Boolean functions and simplify expressions using the properties of Boolean Algebra 5. Develop the given problem as graph networks and solve with techniques of graph theory.
DATABASE MANAGEMENT SYSTEMS	PC302IT	1. Understand the role of database management system in an organization and learn the database concepts. 2. Construct database queries using relational algebra and SQL 3. Design databases using data modeling and Logical database design techniques 4. Evaluating the indexing, hashing techniques and transaction management. 5. Understand the concept of a database transaction and related concurrent, recovery facilities.
OOPS USING JAVA	SPC 301 IT	1. Identify classes, objects, members of a class and the relationships needed to solve a Problem 2. Use interfaces and creating user-defined packages 3. Utilize exception handling and Multithreading concepts to develop Java programs. 4. Compose programs using the Java Collection API 5. Design a GUI using GUI components with the integration of event handling.
DIGITAL ELECTRONICS	SE302EC	1. Understand the deign process of digital hardware, use Boolean algebra to minimize the logical expressions and optimize the implementation of logical functions (BLT 3) 2. Understand the number representation and design combinational circuits like adders,MUX(BLT 3) 3. Design combinational logic circuits using PLDs (BLT 5) 4. Analyze sequential circuits using flip-flops and design registers, counters (BLT 2) 5. Represent a sequential circuit using finite state machine and apply state minimization techniques to design FSM(BLT 5)
ELECTRICAL TECHNOLOGY	SAC903EE	1. Gain knowledge of construction and operation of conventional and nonconventional sources 2. Understand the working principle of single phase and three phase transformers

NAME OF COURSE	COURSE CODE	COURSE OUTCOMES
		3. Understand the Working principle of generator and motor 4. Know the working of inverter and rectifier operation 5. Understand the concept of Electrical vehicles
OOPS USING JAVA LAB	SPC311 IT	1. Understand object-oriented programming fundamental and java programming fundamentals such as classes, inheritance, abstract classes, interfaces, packages. 2. Apply exception handling, multithreading, input output basics and string handling. 3. Design and apply collection framework. 4. Design AWT and Swings concept. 5. Apply input-output operations through IO package.
DATABASE MNAGEMENT SYSTEM LAB	SPC 312IT	1. Implement the basic knowledge of SQL queries and relational databases. 2. Design and implement a database schema for a given problem. 3. Implement different constraints for refining of the databases. 4. Implement various triggers, procedures and cursors using PL/SQL. 5. Generate forms and reports.

V SEM

NAME OF COURSE	COURSE CODE	COURSE OUTCOMES
OPERATING SYSTEMS	PC 502 IT	1. Explain the fundamental concepts and functions of operating system. 2. Understand process scheduling in a multi-programming environment and implementing process scheduling algorithms 3. Write application and system calls related programs for managing processes, memory, I/O and inter-process Communication related system calls. 4. Understand memory management, disk management techniques, including virtual memory and file system structure. 5. Explain protection and security related issues of the computer system.
ARTIFICIAL INTELLIGENCE	PE 511 IT	1. Learn the fundamentals of AI. Gain Insights Characteristics of Problem with illustrations. 2. Apply problem solving through search for AI applications 3. Understand principles of knowledge representation basics and advanced methods like frames and semantic web. 4. Understand the use and applications of expert systems and Apply probability theory to draw conclusions using Naïve Bayes and Bayesian networks. 5. Understand the need of machine learning and fuzzy logic
SOFTWARE ENGINEERING	PC505IT	1. Define different software development processes and their usability in different problem domains 2. Explain the process of requirements collection, analyzing, and modelling requirements for effective understanding and communication with stakeholders 3. Design and Develop the architecture of real world problems towards developing a blueprint for implementation 4. To understand the importance of testing in software development and study various testing strategies and software quality metrics 5. Discuss the concepts related to Risk management and Software project Estimation

OBJECT ORIENTED ANALYSIS AND DESIGN	**PE511IT**	1. Understandtheactivitiesinthedifferentphasesoftheobject-orienteddevelopmentlifecycle. 2. Model a real-world application by using a UML diagram. 3. Provide a snapshot of the detailed state of a system at appoint in time using object diagram. 4. Recognize when to use a generalization, aggregation and Composition relationships. Specify different types of business rules in a class diagram.
COMPUTER NETWORKS	**PC504IT**	1. Student can able to explain the function of each layer of OSI and trace the flow of information (Understand) 2. Node to another node in the network routing (Understand) 3. Understand the principles of IP addressing and internet routing (Understand) 4. Describe the working of various networked applications such as DNS, mail, file transfer and www (Remember) 5. Implement client-server socket-based networked applications (Apply)
AUTOMATA THEORY	**PC501IT**	1. Design and use deterministic, nondeterministic, and epsilon transition finite state automata and illustrate state transition on symbols of input words and establish the corresponding language of automata 2. Analyze Regular Expressions and use Laws and establish the corresponding Regular Language. Prove a given language is regular or otherwise. Use Closure and Decision Properties of Regular Language 3. Analyze ambiguity. Develop Context Free Grammars, Parse Tees and establish Context Free Language. Use Closure and Decision Properties of Regular Language 4. Design Pushdown Automata and illustrate the working. 5. Develop deterministic Pushdown Automata and establish equivalence of language of PDA and CFG 6. Design Turing Machine and illustrate its working, implement programming techniques for Turing Machines, analyze extended and restricted Turing Machines for computational abilities, and establish the Recursively Enumerable language of Turing Machine and analyze the Undecidable problems
WEB APPLICATION DEVELOPMENT LAB	**PC533IT**	1. Design Web pages and perform form validation using HTML 5.0 inbuilt 2. Apply Styles to the web content using CSS 3. Create and process web publishing content using XML and JSON. 4. Use JQuery to perform client side Dynamics. 5. Create single page applications (Front End) using Angular JS. 6. Design Big data applications using Mean stack or SMACK stack Frameworks
ARTIFICIAL INTELLIGENCE LAB	**PC552IT**	1. Design and develop solutions for informed and uninformed search problems in AI. 2. Demonstrate reasoning in first order logic using Prolog 3. Utilize advanced package like NLTK for implementing natural language processing. 4. Demonstrate and enrich knowledge to select and apply python libraries to synthesize information and develop supervised learning models 5. Develop a case study in multidisciplinary areas to demonstrate use of AI.

NAME OF COURSE	COURSE CODE	COURSE OUTCOMES
COMPUTER NETWORKS & OPERATING SYSTEM LAB	**PC551IT**	1. Understand the usage of basic commands IPCONIG, IFCONFIG, NETSTAT, PING, ARP, TELNET, FTP, FINGER TRACE ROUTE, what is use of LINUX platform. 2. Develop and Implement Client-Server Socket based programs using TCP,and UDP sockets 3. Develop and Implement Distance Vector Routing Algorithm 4. Develop and Implement RSA Public Key algorithm 5. Construct simple network by using any modern Open Source Network Simulation Tool

VII SEM

NAME OF COURSE	COURSE CODE	COURSE OUTCOMES
CLOUD COMPUTING	**PE 713 IT**	**1.** Understand the architecture and concept of different cloud models : IaaS, PaaS, SaaS, **2.** Create virtual machine images and deploy them on cloud **3.** Identify security and compliance issues in clouds
VLSI DESIGN	**PC 701 IT**	1. Explain VLSI Design hierarchy and analyse logic gates using CMOS & transmission gate structures. 2. Identify the layers in the physical structure of ICs and draw the layouts of CMOS logic 3. Summarize the fabrication process of CMOS ICs and analyse the DC, switching Characteristics of CMOS inverter. 4. Analyse dynamic CMOS & pseudo NMOS structures of logic gates, SRAM & DRAM cells 5. Develop Verilog code for logic gates, examine the effects of interconnect elements in logic cascades and Explain the floor-planning , routing techniques of VLSI circuits
BIG DATA ANALYTICS	**PC 702 IT**	1. Demonstrate big data and use cases from selected business domains. 2. Apply the knowledge of No-SQL big data management and experiment with Install, configure, and run Hadoop and HDFS. 3. Analyze map-reduce analytics using Hadoop. 4. Adapt Hadoop related tools such as HBase, PCass 5. Develop applications in Hive and Pig
FUNDAMENTALS OF IOT	**OE 773 EC**	1. Understand the various applications of IoT and other enabling technologies 2. Comprehend various protocols and communication technologies used in IoT 3. Design simple IoT systems with requisite hardware and C programming software 4. Understand the relevance of cloud computing and data analytics to IoT 5. Comprehend the business model of IoT from developing a prototype to launching a product.

NAME OF COURSE	COURSE CODE	COURSE OUTCOMES
VLSI DESIGN LAB	**PC 751 IT**	1. Demonstrate Xilinx ISE suite to write Verilog code for logic gates, combinational circuits and sequential circuits 2. Write Verilog code for basic logic gates, complex logic gates, combinational circuits, and sequential circuits using switch level, gate level, data flow and behavioral modelling 3. Develop test bench code using Verilog and verify the simulation results. 4. Demonstrate the FPGA implementation of digital circuits and generate the synthesis report 5. Draw the layouts of basic logic gates using Micro wind
PROJECT WORK – I	**PW 761 IT**	1. Demonstrate the ability to synthesize and apply the knowledge and skills acquired in the academic Program to the real-world problems. 2. Evaluate different solutions based on economic and technical feasibility 3. Effectively plan a project and confidently perform all aspects of project management 4. Demonstrate effective written and oral communication skills

IV SEM

NAME OF COURSE	COURSE CODE	COURSE OUTCOMES
THEORY OF AUTOMATA	**SPC401IT**	1. Gain the knowledge of basic kinds of finite automata and their capabilities. 2. Understand regular and context-free languages 3. Gain the knowledge to analyze regular expressions and grammars 4. Design finite automata, push down automata 5. Constructing the Turing machine for Recursive languages.
DIGITAL IMAGE PROCESSING	**SES402EC**	1. Illustrate an image, applications of DIP, image sampling & quantization. 2. Implement basic transforms used in image processing like FFT, DCT, Slant transform etc. 3. Distinguish spatial & frequency domain enhancement, Image smoothing and sharpening operations 4. Estimate the degradation functions using image observation, experimentation and by modeling, Inverse filter. 5. Implement image segmentation techniques, identify descriptors, shape numbers. Describe types of redundancy, types of compression techniques and their compression ratio.
COMPUTER ORGANIZATION AND MICROPROCESSOR	**SPC403IT**	1. Understand the Instruction Set Architecture: Instruction format, types, various addressing modes 2. Understand the basic components of the CPU 3. Understand the parallelism both in terms of a single processor and multiple processors 4. Understand the 8085 and 8051 architectures 5. Apply interfacing with I/O Organization, Interrupt-driven I/O, DMA
SIGNALS & SYSTEMS	**SES401EC**	1. To be able to classify, describe the signals mathematically and learn how to perform mathematical operations on signals. 2. To be able to compute the Fourier series of a set of well-defined signals in different forms.

NAME OF COURSE	COURSE CODE	COURSE OUTCOMES
		3. Able to represent aperiodic signals by Fourier Transform and use Laplace transform to solve differential equations. 4. To be able analyze Discrete time signal using Fourier series and Fourier integral 5. Able to find discrete z-transform and DTFT of a given problem.
OPERATING SYSTEMS	**SPC402IT**	1. Understand System calls and evaluate process scheduling 2. Apply procedures for process synchronization 3. Understand the concepts of deadlock 4. Implement the concepts of memory management. 5. Understand file system interface and I/O systems.
MICROPROCESSORS LAB	**SPC413IT**	1. Interpret the principles of Assembly Language Programming, instruction set in 2. Developing microprocessor-based applications. Develop Applications such as: 8-bit Addition, Multiplication, Division, array 3. Operations, swapping, negative and positive numbers. 4. Analyze the interfaces like serial ports, digital-to-analog Converters and analog-to- Digital converters etc. 5. Build interfaces of Input-output and other units like stepper motor. Analyze the function of traffic light controller.
OPERATING SYSTEMS LAB	**PC412IT**	1. Execute the UNIX commands. 2. Implement CPU scheduling algorithms. 3. Implement producer-consumer problem reader-writers problem, dinning philosophers' problem. 4. Apply the Banker's algorithm for deadlock avoidance. 5. Implement page replacement and disk scheduling techniques.
PYTHON LAB	**SPC411IT**	1. Develop and execute simple programs using Python. 2. Use conditional control structures for problem 3. Solving Decompose a problem using functions. 4. Represent compound data using lists, tuples, dictionaries using Python 5. Solve the complex problems using advanced Python concepts and design GUI.

VI SEMISTER

NAME OF COURSE	COURSE CODE	COURSE OUTCOMES
EMBEDDED SYSTEMS	**PC 601 IT**	1. Study and analysis of Embedded Systems 2. Design and develop embedded systems (hardware, software and firmware) 3. Analyses real time systems using RTOS and develop applications 4. Apply knowledge to interface various sensors and its applications in Embedded systems 5. Understand principles of SOC design.
DESIGN AND ANALYSIS OF ALGORITHMS	**PC602IT**	1. Compute and analyze complexity of algorithms using asymptotic notations. 2. Write algorithms to solve various computing problems and analyze their time and space complexity. 3. Understand and apply different algorithm design techniques to solve real world problems and analyze their complexities. 4. To describe algorithmic complexities of various well known computing problems.

		5. To learn algorithm design strategies such as Divide-and-Conquer, greedy method, dynamic programming, back tracking and branch & bound technique and the concepts of NP-hard and NP-complete.
SOFTWARE TESTING AND QUALITY ASSURANCE	**PE621 IT**	1. Solve the problems using Software Testing techniques and Approaches. 2. Apply various Software testing Techniques to find bugs in software. 3. Use open source software Testing Tools 4. Apply various Software Quality Assurance Techniques to ensure the quality in software. 5. Apply several software measurements and metrics
NETWORK SECURITY AND CRYPTOGRAPHY	**PC 604 IT**	1. Understand the network security, services, attacks, mechanisms, types of attacks 2. Demonstrate the various Symmetric and Asymmetric cryptographic algorithms 3. Discuss various Authentication and Key Distribution Algorithms 4. To comprehend and apply network layer security protocols Transport layer security protocols, Web security protocols. 5. Implement Email security and IP Security mechanisms to the network.
MACHINE LEARNING	**PC603IT**	1. Extract features that can be used for a particular machine learning approach in various applications. 2. Compare and contrast pros and cons of various machine learning techniques and to get an insight when to apply particular machine learning approach. 3. Apply ensemble techniques for improvement of classifiers. 4. Understand machine learning process along with algorithms. 5. Understand how to apply machine learning in various applications.
MACHINE LEARNING LAB	**PC652 IT**	1. Apply machine learning algorithms: dataset preparation, model selection, model building etc. 2. Use Scikit-learn, Keras and Tensor-flow to apply ML techniques. 3. Design and develop solutions to real world problems using ML techniques. 4. Apply unsupervised learning and interpret the results.
EMBEDDED SYSTEMS LAB	**PC651IT**	1. Apply the basic concepts to develop an Interface for 8051 and ARM processors. 2. Demonstrate the RTOS Concepts by designing real time applications.
MOBILE APPLICATION DEVELOPMENT LAB	**PC653 IT**	1. Identify various concepts of mobile programming that make it unique from programming for other platforms. 2. Critique mobile applications on their design pros and cons, 3. Utilize rapid prototyping techniques to design and develop sophisticated mobile interfaces, 4. Program mobile applications for the Android operating system that use basic and advanced phone features, and 5. Deploy applications to the Android marketplace for distribution.
MINI PROJECTS-I	**PW654IT**	1. Able to Identify and finalize problem statement by surveying variety of domains and technologies(analyze) 2. Able to Acquire practical knowledge within the chosen area of technology for project development(Understand) 3. Able to Perform requirement analysis and identify design methodologies(analyze) 4. Able to Implement the system using SQL, data structures, C/C++, JAVA, Python and different software engineering models and present technical report by applying different visualization tools(Apply)

		5. Able to Contribute as an individual or in a team as a member in project development(Evaluate)

VIII SEM

NAME OF COURSE	COURSE CODE	COURSE OUTCOMES
CRYPTOGRAPHY AND NETWORK SECURITY	**PC 813 IT**	1. Understand the network security, services, attacks, mechanisms, types of attacks 2. Demonstrate the various Symmetric and Asymmetric cryptographic algorithms 3. Discuss various Authentication and Key Distribution Algorithms 4. To comprehend and apply network layer security protocols Transport layer security protocols, Web security protocols. 5. Implement Email security and IP Security mechanisms to the network.
ROAD SAFETY ENGINEERING	**OE801CE**	1. Prepare accident investigation reports and database. 2. Apply design principles for roadway geometrics improvement with various types of traffic safety appurtenances/tools 3. Understanding Road Signs and Traffic signals 4. Manage traffic including incident management 5. Illustrate the applications of ITS
PROJECT WORK – II	**PW 861 IT**	1. Demonstrate the ability to synthesize and apply the knowledge and skills acquired in the academic Program to the real-world problems. 2. Evaluate different solutions based on economic and technical feasibility 3. Effectively plan a project and confidently perform all aspects of project management 4. Demonstrate effective written and oral communication skills

Note: 1) Answer all questions in Part – A.
2) Answer any two questions in Part – B.

PART – A
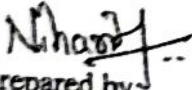
(Marks: 3×2 =6)

1. What are the different ways to construct version stamps in NoSQL?

   2   CO-3   BTL 1
        PO-1

2. Compare MapReduce1 and YARN.

   2   CO-4   BTL 2
        PO-1

3. What are the different Hive services?

   2   CO-5   BTL 1
        PO-1

PART – B

4. Answer the following: (Marks: 2×7 =14)
   a) What are the various distribution models in NoSQL? Explain.
   b) Explain the aggregate data models.

   4   CO-3   BTL 1
   3   CO-3   BTL 2
        PO-1

5. Explain anatomy of YARN Map Reduce job run.

        CO-4
   7   PO-1   BTL 2

6. Answer the following:
   a) What are four types of functions in pig?

   b) Explain Hive architecture.

   3   CO-2   BTL 1
        PO-1
   4   CO-1   BTL 2
        PO-1

Prepared by:
Mrs. N. Niharika (IT)
Asst. Prof.

2.6.1 The institution has stated learning outcomes (programme and course outcome)/graduate attributes which are integrated into the assessment process and widely publicized through the website and other documents and the attainment of the same are evaluated by the institution.

List of PO's,PSO's,PEO's

Program Outcomes as defined by NBA (PO)

Engineering Graduates will be able to:

1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2. **Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4. **Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6. **The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7. **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. **Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. **Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. **Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

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Abids, Hyderabad, Telangana – 500001

Department of Artificial Intelligence & Data Science
Department PEO's and PSO's

Program Educational Objectives: (PEO's)

PEO1: To provide graduates with the proficiency to utilize the fundamental knowledge of basic sciences, mathematics, artificial intelligence, data science and statistics to build systems that require management and analysis of large volume of data.

PEO2: To enrich graduates with necessary technical skills to pursue pioneering research in the field of AI

PEO3: To encourage students to think critically, develop innovative skills, expose them to an array of ideas and information through numerous technical events, hackathons and quality internships.

Program Specific Outcomes: (PSO's)

PSO1: To instill interest and curiosity in students in the field of AI and Data Science through project based learning.

PSO2: To provide a concrete foundation and enrich their abilities to qualify for Employment, Higher studies and pursue Research in Artificial Intelligence and Data science with ethical values.

PSO3: To promote ethical and responsible AI practices for the benefit of humanity; and to harness AI for a positive societal impact & meet global standards.

CO-PO Mapping

STANLEY COLLEGE OF ENGINEERING &TECHNOLOGY FOR WOMEN
Department of Artificial Intelligence & Data Science
Program Outcome Attainment

Name of Faculty: S.Sandhya Rani
Brach &Section: AI&DS
Course Name: DBMS
Academic Year: 2022-23
Year:III Sem: I

Course Outcome Attainment:

CO	Ist Mid	IInd Mid	Int	Univ
CO1	3		3	2
CO2	3	2	3	2
CO3	3		3	2
CO4		2	2	2
CO5		3	3	2

CO-PO MAPPING:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2				1				2			2	2	
CO2	3	2							2			2	2	1
CO3	3	2	2						2			2	2	1
CO4	3	2		1					1			2	1	1
CO5	3	2	2						2			1	2	2

PO-ATTAINMENT:

		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
INTERNAL	CO1	6				3				6			6	6	
	CO2	7.5	5							5			5	5	2.5
	CO3	9	6	6						6			6	6	3
	CO4	6	4		2					2			4	2	2
	CO5	9	6	6						6			3	6	6
UNIVERSITY	CO1	4				2				4			4	4	
	CO2	6	4							4			4	4	2
	CO3	6	4	4						4			4	4	2
	CO4	6	4		2					2			4	2	2
	CO5	6	4	4						4			2	4	4
OVERALL	CO1	2				2				2			2	2	

CO													
CO2	2	2					2			2	2	2	
CO3	2	2	2				2			2	2	2	
CO4	3	2		2			2			2	3	3	
CO5	2	2	2				2			2	2	2	
Attainment	2.1 75	2.156 25	2.2 5	3.2 2	3.2 5			2.1 75			2.17 5	2.1 75	2.156 25

Subject handler

Soonthya

S. Sandhya Rani

HOD

Sample Question paper with Bloom's Taxonomy and CO-PO Mapping

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STANLEY
COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN
(Private Un-aided Non-minority Autonomous Institution)
(All eligible UG courses are accredited by NBA & NAAC with 'A' grade)
Affiliated to Osmania University and Approved by AICTE
Estd.2008

B.E (CME, AI&DS) IV Sem Internal Examination- II, A.Y- 2022-23

Operating System (SPC402CM)

Time: 10:00-11:30   Date:28.06.23   Max Marks: 25

Part – A

(Answer all Questions)   (5*2= 10 Marks)

1. Define deadlock, starvation and Aging?   (2 M)

2. What is Belady's anomaly? Which page replacement algorithm suffers from Belady's anomaly?   (2 M)

3. What is Thrashing? Give the reasons of thrashing?   (2 M)

4. What is File? What are the attributes of a file?   (2 M)

5. Define Seek time and Rotational latency?   (2 M)

Part – B

(Answer any three out of four Questions)   (3*5= 15 Marks)
6. Write the banker's algorithm for deadlock avoidance ?   (5M)
7. Consider the following page-reference string
        1,2,3,4,2,1,5,6,2,1,2,3,7,6,3,2,1,2,3,6.
Calculate the number of page faults that would occur for the following algorithms assuming frame size as 4.   1.FIFO 2. Optimal 3. LRU   (5M)
8. Explain advantages and disadvantages of following file access methods: -
(i) Sequential Access (ii) Direct Access (iii) Indexed Access?   (5M)
9. Consider disk queue with I/O requests for the blocks on cylinders:
   95, 181, 39,123,12,124,65,68 and the disk head is initially at 57.
   Compute the total number of head movement according to SSTF, SCAN, LOOK disk scheduling algorithm.   (5M)

By Swapna. C

Q	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
C O	CO3	CO4	CO4	CO5	CO5	CO3	CO4	CO5	CO5
P O	PO1,2,3,5, 8,11,12,PS O1	PO1,2,3,4,6,8 ,9,10,12,PSO 1,2	PO1,2,3,4,6,8 ,9,10,12,PSO 1,2	PO1,2,3,5 ,7,12PSO 1,2	PO1,2,3,5 ,7,12PSO 1,2	PO1,2,3,5, 8,11,12,PS O1	PO1,2,3,4,6,8 ,9,10,12,PSO 1,2	PO1,2,3,5 ,7,12PSO 1,2	PO1,2,3,5 ,7,12PSO 1,2
B T L	1	1	1	1	2	2	5	2	5

Sample copy of a course showing all Course Objectives and Course Outcomes

2.6.1 - Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website and communicated to teachers and students.

I&II SEM

NAME OF COURSE	COURSE CODE	COURSE OUTCOMES
Programming for Problem Solving	SES101CS	1. Describe the concept of a computer system, analyze a given problem, an algorithm, fundamental programming constructs, identify data representation formats, and describe operators and their precedence, associativity. 2. Understand branching and loop statements. 3. Describe the concept of homogeneous derived data types, strings, and functions. 4. Understand pointers and heterogeneous data types. 5. Describe the concept of file system.
Programming for Problem-Solving Lab	SES111CS	1. Understand the concept of basics of C, data types and variables. 2. Understand the concept of operators, precedence of operators, conditional statements, looping statements. 3. Explore the concept of strings, functions, recursive functions and differences between call by value and call by reference. 4. Explore the concept of storage classes, preprocessor directives, pointes and files. 5. Understand the concept of file handling functions, searching and sorting methods and real time applications of C.
Data Structures using C	SES202CS	1. Carryout the analysis of a range of algorithms in terms of algorithm analysis and express algorithm complex it using the O notation (Understand). 2. Make use of recursive algorithm design technique in appropriate contexts (Apply). 3. Represent standard ADTs by means of appropriate data structures (Understand). 4. Select appropriate sorting technique for given problem (Understand). 5. Select appropriate searching technique for given problem (Understand). 6. Implement standard searching and sorting algorithms; including binary search; merge sort and quick sort; and their complexities (Apply). 7. Design and implement linked lists, stacks and queues in C (Apply). 8. Explain the use of basic data structures such as arrays, stacks, queues and linked lists in program design (Understand). 9. Extend their knowledge of data structures to more sophisticated data structures to solve problems involving

		balanced binary search trees, AVL Trees, B-trees and B+ trees, hashing, and basic graphs. 10. Design and implement tree structures in C (Apply). 11. Compare and contrast the benefits of dynamic and static data structures implementations and choose appropriate data structure for specified problem domain (Understand). 12. Quickly determine and explain how efficient an algorithm or data structure will be apply appropriate data structures for solving computing problems with respect to performance (Analyze).
Data Structures Lab	SES212CS	1. Understand the concept of data structures, C Programming and apply algorithm for solving problems like Sorting, searching, insertion and deletion of data. 2. Understand linear data structures for processing of ordered or unordered data. 3. Explore various operations on dynamic data structures like single linked list, circular linked list and doubly linked list. 4. Explore the concept of non linear data structures such as trees and graphs. 5. Understand the binary search trees, hash function, and concepts of collision and its resolution methods.

III SEM

NAME OF COURSE	COURSE CODE	COURSE OUTCOMES
Mathematics-III (ProbabilityandStat istics)	SBS301MT	1. Applyprobabilitytheoryto solvepracticalproblems. 2. Applyvariousprobabilitydistributionstosolvepracticalproblems,toes timateunknownparametersandapplytestsofhypothesis. 3. Apply continuous probability distributions like normal to solve the practical problems. 4. Perform a regression analysis and to compute and interpret the coefficient of correlation. 5. ApplyChi-squaretestforgoodnessoffitand independentattributes.
DISCRETEM ATHEMATIC S	SES301AD	1. Understandsets,functions,groupsandrelations. 2. Applypermutationand combinationtohandlodifferenttypesofproblems. 3. Apply propositional logic and predicate logic to solve logical statements. 4. Evaluate Boolean functions and simplify expressions using the properties of Boolean Algebra. 5. Develop the given problem as graph networks and solve with techniques of graph theory.
OOPS USING JAVA	SPC301AD	1. Identifyclasses, objects, members of a class and the relationships neededtosolveaproblem. 2. Useinterfacesandcreatinguser-definedpackages. 3.UtilizeexceptionhandlingandMultithreadingconceptstodevelopJava programs. 4. ComposeprogramsusingtheJavaCollectionAPI.

		developing a blueprint for implementation.
		5. Understand the concepts of testing, debugging and quality assurance.
Database Management	PC502AD	1. Understand the basics of database management system 2. Define queries for preserving the integrity of the database 3. Build ER models for database 4. Organize the data to prevent redundancy 5. Pose queries to retrieve the information from the database
Artificial Intelligence	PC503AD	1. Formalize a problem in the language/framework of different AI methods. 2. Illustrate basic principles of AI in solutions that require problem solving, search, inference. 3. Represent natural language/English using Predicate Logic to build knowledge through various representation mechanisms. 4. Demonstrate understanding of steps involved in building of Intelligent agents, expert systems, Bayesian networks. Differentiate between learning paradigms to be applied for an application.
Automata Language and Computation	PC504AD	1. Write a formal notation for strings, languages, and machines. 2. Design finite automata to accept a set of strings of a language. 3. Design context free grammars to generate strings of context free languages. 4. Understand the turing machine computation. 5. Distinguish between computability and non-computability and Decidability and undecidability.
Forecasting Techniques	PC505AD	1. Knowledge of basic concepts in time series analysis and forecasting Understanding the use of time series models for forecasting and the limitations of the methods. 2. Ability to criticize and judge time series regression models. 3. Distinguish the ARIMA modelling of stationary and non-stationary time series Compare with multivariate times series and other methods of applications
Web Technologies	PE514AD	1. Construct a basic website using HTML and Cascading Style Sheets. 2. Build dynamic web page with validation using Java Script objects and by applying different eve handling mechanisms. 3. Develop server side programs using Servlets and JSP. 4. Construct simple web pages in PHP and represent data in XML format. 5. Utilize AJAX and web services to develop interactive web applications.
Artificial Intelligence Lab	PC551AD	1. Explain artificial intelligence, its characteristics and its application areas. 2. Formulate real-world problems as state space problems, optimization problems or constraint satisfaction problems. 3. Select and apply appropriate algorithms and AI techniques to solve complex problems. 4. Design and develop an expert system by using appropriate tools and techniques
DBMS Lab	PC552AD	1. Design database for any real world problem 2. Implement PL/SQL programs 3. Define SQL queries 4. Decide the constraints

Incharge

Joseph

HOD-ADCE

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List of POs, PSOs PEOs

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(Approved by AICTE, Accredited by NBA, NAAC 'A', UGC Autonomous)
Abids, Hyderabad, Telangana – 500001

Department of Computer Engineering
Department PSO's and PEO's

Program educational objectives: (PEOs)

PEO1: Our graduates shall have enhanced skills and comprehensive knowledge in software and hardware, networking technologies for professional excellence, towards successful self-employment, advanced learning, entrepreneurship and research.

PEO2: Our graduates shall have life-long learning attitude, innovation and creativity to master the state of the art technologies with inclination towards research, devising pragmatic solutions for realistic and social issues in the society.

PEO3: Our graduates shall have optimistic attitude and vibrant personality skills, high ethical values, individuality, excellent teamwork, leadership and entrepreneurial skills towards computer professionalism and ethical practices within the organization and the society.

Program specific outcomes: (PSOs)

PSO1: Problem-Solving Skills: The ability to apply industry standard practices and pragmatic strategies in software and hardware and network project development using open-ended programming environments to deliver a quality product within time and budget for the benefit of students.

PSO2: Design, Implement, Test and Evaluate a computer system, software, hardware, networks, component or innovative algorithm to meet desired needs and to solve a computational problem within time and space.

COPO Mapping

Name of Faculty: R.Sirisha

Branch&Section:CME

Academic Year:2022-23

Year:III Sem:V

Course Name: Design and Analysis of Algorithms

Course Outcome Attainment:

CO	Ist Mid	IInd Mid	Int	Univ
CO1	3		3	3
CO2	1	3	2	3
CO3	3		3	3
CO4		3	3	3
CO5		3	3	3

CO-PO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	3	3	1					1			1	3	3
CO2	2	3	2	1					1			1	3	3
CO3	2	3	3	1					1			1	3	3
CO4	2	3	3	1					1			1	3	3
CO5	2	2	2	1					1			1	3	3
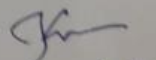
PO ATTAINMENT:

		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
INTERNAL	CO1	3	9	9	3					3			3	9	9
	CO2	4	6	4	2					2			2	6	6
	CO3	6	9	9	3					3			3	9	9
	CO4	6	9	9	3					3			3	9	9
	CO5	6	6	6	3					3			3	9	9
UNIVERSITY	CO1	3	9	9	3					3			3	9	9
	CO2	6	9	6	3					3			3	9	9
	CO3	6	9	9	3					3			3	9	9
	CO4	6	9	9	3					3			3	9	9
	CO5	6	6	6	3					3			3	9	9
OVERALL	CO1	3	3	3	3					3			3	3	3
	CO2	3	3	3	3					3			3	3	3
	CO3	3	3	3	3					3			3	3	3
	CO4	3	3	3	3					3			3	3	3
	CO5	3	3	3	3					3			3	3	3
	Attainment	3	3	3	3					3			3	3	3

Subject Handler

R.Sirisha

HOD-ADCE

Sample Question paper with Bloom's Taxonomy and CO-PO Mapping

STANLEY
COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN
(Private Un-aided Non-minority Autonomous Institution)
(All eligible UG courses are accredited by NBA & NAAC with 'A' grade)
Affiliated to Osmania University and Approved by AICTE
Estd.2008

B.E (CME, AI&DS) IV Sem Internal Examination- II, A.Y- 2022-23

Operating System (SPC402CM)

Time: 10:00-11:30   Date:28.06.23   Max Marks: 25

Part – A

(Answer all Questions)   (5*2= 10 Marks)

1. Define deadlock, starvation and Aging?   (2 M)

2. What is Belady's anomaly? Which page replacement algorithm suffers from Belady's anomaly?   (2 M)

3. What is Thrashing? Give the reasons of thrashing?   (2 M)

4. What is File? What are the attributes of a file?   (2 M)

5. Define Seek time and Rotational latency?   (2 M)

Part – B

(Answer any three out of four Questions)   (3*5= 15 Marks)
6. Write the banker's algorithm for deadlock avoidance ?   (5M)
7. Consider the following page-reference string
     1,2,3,4,2,1,5,6,2,1,2,3,7,6,3,2,1,2,3,6.
Calculate the number of page faults that would occur for the following algorithms assuming frame size as 4.   1.FIFO 2. Optimal 3. LRU   (5M)
8. Explain advantages and disadvantages of following file access methods: -
(i) Sequential Access (ii) Direct Access (iii) Indexed Access?   (5M)
9. Consider disk queue with I/O requests for the blocks on cylinders:
     95, 181, 39,123,12,124,65,68 and the disk head is initially at 57.
     Compute the total number of head movement according to SSTF, SCAN, LOOK
     disk scheduling algorithm.   (5M)

By Swapna. C

Q	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
C O	CO3	CO4	CO4	CO5	CO5	CO3	CO4	CO5	CO5
P O	PO1,2,3,5, 8,11,12,PS O1	PO1,2,3,4,6,8 ,9,10,12,PSO 1,2	PO1,2,3,4,6,8 ,9,10,12,PSO 1,2	PO1,2,3,5 ,7,12PSO 1,2	PO1,2,3,5 ,7,12PSO 1,2	PO1,2,3,5, 8,11,12,PS O1	PO1,2,3,4,6,8 ,9,10,12,PSO 1,2	PO1,2,3,5 ,7,12PSO 1,2	PO1,2,3,5 ,7,12PSO 1,2
B T L	1	1	1	1	2	2	5	2	5

Sample copy of a course showing all Course Objectives and Course Outcomes

2.6 Students Performance and Learning Outcomes

2.6.1 - Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website and communicated to teachers and students.

NAME OF COURSE	COURSE CODE	COURSE OUTCOMES
Mathematics-III (Probability and Statistics)	SBS301MT	1. Apply probability theory to solve practical problems. 2. Apply various probability distributions to solve practical problems, to estimate unknown parameters and apply tests of hypothesis. 3. Apply continuous probability distributions like normal to solve the practical problems. 4. Perform a regression analysis and to compute and interpret the coefficient of correlation. 5. Apply Chi-square test for goodness of fit and independent attributes.
DISCRETE MATHEMATICS	SES301AD	1. Understand sets, functions, groups and relations. 2. Apply permutation and combination to handle different types of problems. 3. Apply propositional logic and predicate logic to solve logical statements. 4. Evaluate Boolean functions and simplify expressions using the properties of Boolean Algebra. 5. Develop the given problem as graph networks and solve with techniques of graph theory.
OOPS USING JAVA	SPC301AD	1. Identify classes, objects, members of a class and the relationships needed to solve a problem. 2. Use interfaces and creating user-defined packages. 3. Utilize exception handling and Multithreading concepts to develop Java programs. 4. Compose programs using the Java Collection API. 5. Design a GUI using GUI components with the integration of event handling.
Digital Electronics	SES302EC	1. Understand the deign process of digital hardware, use Boole an algebra to minimize the logical expressions and optimize the implementation of logical functions. 2. Understand the number representation and design combinational circuits like adders, MUX etc. 3. Design Combinational circuits using PLDS and write VerilogHDL code for basic gates and combinational circuits. 4. Analyze sequential circuits using flip-flops and design registers, counters. 5. Represent a sequential circuit using Finite State machine and apply state minimization techniques to design a FSM.
CONCEPTS IN COMPUTER ORGANIZATION AND MICROPROCESSOR	SPC303AD	1. Understand the Instruction Set Architecture: Instruction format, types, various addressing modes 2. Understand the basic components of the CPU 3. Understand the parallelism both in terms of a single processor and multiple processors 4. Understand the 8085 and 8051 architectures

		5. Apply interfacing with I/O Organization, Interrupt-driven I/O, DMA.
Electrical Technology	SAC902EE	1. Gain knowledge of construction and operation of conventional and non-conventional sources of energy 2. Understand the working principle of single phase and three phase transformers 3. Understand the Working principle of generator and motor 4. Know the working of inverter and rectifier operation 5. Understand the concept of Electrical vehicles.
Python Programming Lab	SES311CM	1. Develop and execute simple programs using Python. 2. Use conditional control structures for problem solving 3. Decompose a problem using functions. 4. Represent compound data using lists, tuples, dictionaries using Python 5. Solve the complex problems using advanced Python concepts and design GUI.
OOPS USING JAVA LAB	SPC311CM	1. Understand object-oriented programming fundamental and java programming fundamentals such as classes, inheritance, abstract classes, interfaces, packages. 2. pply exception handling, multithreading, input output basics and string handling 3. Design and apply collection framework. 4. Design AWT and Swings concept. 5. Apply input-output operations through IO package.
CONCEPTS IN COMPUTER ORGANIZA TION AND MICROPRO CESSOR LAB	SPC312CM	1.Interpret the principles of Assembly Language Programming, instruction set indeveloping microprocessor based applications. 2.Develop Applications such as: 8-bit Addition, Multiplication, Division, array operations,swapping, negative and positive numbers. 3.Analyse the interfaces like serial ports, digital-to-analog Converters and analog-to-digitalconverters etc 4.Build interfaces of Input-output and other units like stepper motor. 5.Analyse the function of traffic light controller.

Incharge

HOD - ADCE

Stanley College of Engineering & Technology for Women
Department of Electronics & Communication Engineering
COURSE OUTCOMES

VII Semester

COURSE	COURSE CODE	COs	DESCRIPTION
Embedded Systems	PC 701EC	1	Understand the fundamentals of the embedded system design (BLT 1)
		2	Demonstrate the Programming model and instruction set of ARM Processor(BLT 5)
		3	Acquire knowledge on the serial, parallel and network communication
		4	Model the embedded system design life cycle and co-design issues.(BLT 5)
		5	Illustrate about the various embedded software development tools.(BLT 2)
VSLI Design	PC702 EC	1	Understand the modes of operation of MOS transistor and its basic electrical properties [BLT 2]
		2	Draw and understand stick diagrams and layouts rules for any MOS transistors and calculate the parasitic R&C [BLT 1, 2]
		3	Understand the operation of various arithmetic circuits. [BLT 2]
		4	Analyze the sequential logic circuits using CMOS transistors [BLT 4]
		5	Understand the small signal model and characteristics of CMOS amplifiers. [BLT 2]
Microwave Techniques	PC 703EC	1	Define parameters like waves, wave propagation ,wave attenuation and wave impedance[BLT1]
		2	Describing the wave guides,cavity resonators[BLT1]
		3	Illustrate and analyse the MW components-E,H,EH plane tees[BLT2]
		4	Analyse and categorize the microwave tubes.[BLT4]
		5	Summarize the Microwave solid state devices and striplines[BLT2]
Industrial Administration and Financial Management	HS 707 ME	1	Students can demonstrate various organization structures and design various plant and product layouts.
		2	Student will be able to analyze the principles of work study, method study, and importance of performance appraisal in the work place for improving productivity in the firm.
		3	Students can demonstrate quality of work and quality control systems through SQC tools.
		4	Students will be able to find the most optimal solutions for the respective systems.
		5	Student will be able to analyze the cost of a project, break even of a firm, and time value of money.
Data Science using R Programming (OE-II)	OE 772CS	1	Understand the mathematical background for Data science
		2	Assess and analyze the statistics of the data
		3	Use linear, non-linear regression models, and classification techniques for data analysis.
		4	Develop R codes for data science solutions
		5	Assess the solutions, Use K-means clustering and K-NN classification methods, Reading data from MySQL and NoSQL databases.
(Professional Elective -II) Mobile and Cellular Communications	PE 721 EC	1	Understand the method of selection and reuse of a set of frequency channels, Base station requirement, signals required for communication and hand over between
		2	Appreciate and understand the methods of electromagnetic wave propagation in cellular communication. The evaluation of the electromagnetic energy reaching the
		3	Identify different a methods of mobile access technologies and which of them suitable for mobile cellular solutions. Understand process used for Bluetooth, ZigBee like low power devices (BLT2)
		4	Explain features, authentication, operational details of GSM and CDMA mobile cellular systems along with data frame structure details (BLT4)
		5	Understand the development and limitation of the preliminary and advanced generation of mobile systems and the present trends in Cellular communications and the future communication requirements (BLT3)

Course	Code	No.	Course Outcome
(Open Elective - III) Software Engineering	OE 782 IT	1	Acquire knowledge about different software development processes and their usability in different problem domains.
		2	Understand the process of requirements collection, analyzing, and modeling requirements for effective understanding and communication with stakeholders.
		3	Design and develop the architecture of real world problems towards developing a blueprint for implementation.
		4	Use the UML language to design various models during software development lifecycle.
		5	Understand the concepts of software quality, testing and maintenance.
Microwave Lab	PC 751EC	1	Define parameters like waves, wave propagation ,wave attenuation and wave impedance[BLT1]
		2	Describing the wave guides,cavity resonators[BLT1]
		3	Illustrate and analyse the MW components-E,H,EH plane tees[BLT2]
		4	Analyse and categorize the microwave tubes, Summarize the Microwave solid state devices and striplines[BLT4]
		5	How to Create, Simulate and Analyze the different types of Microstrip Antennas by using HFSS simulation software. [BLT3,4]
Electronic Design and Automation Lab	PC752 EC	1	Familiarize with the usage of IDE tools and program using various on chip like LCD,Temperature sensor, Buzzer, Stepper Motor by interfacing them to ARM Processor.
		2	Design the digital logic circuits in various modelling styles using Verilog HDL.
		3	Familiarize with VLSI CAD tools like Mentor Graphics /Cadence
		4	Implement basic gates at transistor level.
		5	Implement the digital circuits at transistor level
Project Work - 1	PW 761 EC	1	Demonstrate the ability to synthesize and apply the knowledge and skills acquired in the academic program to the real-world problems.
		2	Evaluate different solutions based on economic and technical feasibility.
		3	Effectively plan a project and confidently perform all aspects of project
		4	Demonstrate effective written and oral communication skills.

Prepared by
SWETHA V.

HOD, ECE   2/9/22