

SRK INSTITUTE OF TECHNOLOGY, ENIKEPADU, VIJAYAWADA -521108 Approved by AICTE, Affiliated to JNTUK, Kakinada ISO 9001:2015 Certified Institution Accredited with NAAC 'A' grade DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

TENTATIVE LESSON PLAN

Course/Code: Mathematics - III / R202101

Year / Semester : II/I A.Y: 2022-23

Tear / Semester : 11/1		A.	Y: 2022-23
No. of Periods	ТОРІС	Date	Mode of Delivery
CO1: To Interp divergence. Est	TOR CALCULUS oret the physical meaning of different operators timate the work done against a field, circulation ing Mathematics", Dr. T.K.V.Iyengar; S.Chano	and flux using ve	
1	Vector Differentiation:Introduction	a to see that bears	
2	Properties of vectors and scalars		
3	Derivative of vector – definition		
4	Vector differential operator		
5	Gradient of a vector		Lecture interspersed with discussions
6	Divergence of a vector	THE STREET	
7	Curl of a vector	13/118/12/23	
8	Properties of gradient		
9	Vector identities	From:	
10	Vector identities	05/09/2022	
11	Problems on application of gradient	To	
12	Problems on divergence and curl	22/09/2022	
13	Vector Integration: Introduction		
14	Problems on line integral		
15	Problems on line integral		
16	Problems on surface integrals		
17	Problems on volume integrals	Harris Carlot Charles	
18	Problems on Greens theorem		
19	Problems on Green theorem		
20	Problems on Gauss divergence theorem		
21	Problems on stokes theorem		
CO2: To apply	PLACE TRANSFORMS the Laplace transform for solving differential ng Mathematics", Dr. T.K.V.Iyengar; S.Chano		
22	Laplace Transforms: Definitions, Existence		
23	Laplace Transform of standard functions		

24	Linearity property; Shifting properties Change of scale property	From	Lecture	
25	Laplace Transforms of derivatives; Integrals	23/09/2022	interspersed with discussions	
26	$L(t^n f(t))$	То		
27	Laplace Transforms of division by t	12/10/2022		
28	Evaluation of integrals	SATSONS AND		
29	Laplace Transforms of periodic functions; unit step functions; Unit impulse functions			
30	Inverse Laplace Transforms: Finding L^{-1} using partial fractions			
31	Properties of inverse transform			
32	Convolution theorem			
33	Solutions of Difference Equations			

UNIT - III: FOURIER SERIES AND FOURIER TRANSFORMS

CO3: Find or compute the Fourier series of periodic signals. Know and be able to apply integral expressions for the forwards and inverse Fourier transform to a range of non-periodic waveforms.

TB: "Engineering Mathematics", Dr. T.K.V. Iyengar; S. Chand publications

34	Introduction		
35	Periodic functions		
36	Fourier series of periodic function		
37	Dirchlets conditions		
38	Even and odd functions	From	Lecture interspersed with discussions
39	Change of interval	13/10/2022	
40	Half range sine and cosine series	То	
41	Fourier transforms	22/10/2022	
42	Fourier integral theorem	&	
43	Fourier sine and cosine integrals	From	
44	Sine and cosine transforms	31/10/2022 To	
45	Properties		
46	Inverse transforms	12/11/2022	
47	Finite Fourier transforms		

UNIT - IV: PDE OF FIRST ORDER

CO4:To identify solution methods for partial differential equations that model physical processs.

TB: "Engineering Mathematics", Dr. T.K.V.Iyengar; S.Chand publications

48	Introduction		
49	Formation of PDE by eliminating arbitrary constants		
50	Formation of PDE by eliminating arbitrary functions		
51	Solutions of PDE		Lecture
52	Method of grouping	From	interspersed

53	Method of multipliers	To 26/11/2022	with
54	Nonlinear PDE $f(p,q) = 0$		discussions
55	Nonlinear PDE $f(p,q,z) = 0$		
56	Nonlinear PDE $f(p,x) = g(q,y)$		
57	Clairaut's equation		
58	PDE reducible to standard form		
59	$f(px^m,qy^n)=0$		
60	$f(pz^m,qz^m)=0$		

UNIT – V: SECOND ORDER PARTIAL DIFFERENTIAL EQUATIONS AND APPLICATIONS

CO5: Identify solution methods for partial differential equations that model physical processes.

TB: Engineering	Mathematics".	Dr. T.K.V.Iyengar;	S.Chand	publications
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61	Introduction; Homogeneous Linear P.D.E with constant coefficients; finding CF Finding PI: RHS term of the type $e^{(ax+by)}$	From 28/11/2022 To 17/12/2022	Lecture
62	$\sin(ax + by); \cos(ax + by)$		with
63	$x^m y^n$		
64	Method of separation of variables		
65	Solution of one dimensional wave equation		
66	Heat equation		
67	Two dimensional Laplace equation		

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TENTATIVE LESSONPLAN:R2021422

Course Title: OD IF	CT ORIENTED PROGRAMMING WITH	C++
The State of the S	Date :05/9/2022	Page No : 01 of 03
Section: CSE -A		Approved by : HOD
Revision No: 00	Prepared by: Dr.K.CHAITANYA	Approved by . 1102

Tools: Black board, PPTs

UNIT I: Introduction to C++

CO1: Able to realize the concept of Object Oriented Programming using C++

TB: Programming in C++, Ashok N.Kamthane

No. of periods	TOPIC	Date	Mode of Delivery
1.	Introduction to C++: Difference between C and C++	5/9/2022	
2.	Evolution of C++	5/9/2022	Lecture
3.	The Object Oriented Technology	5/9/2022	interspersed
4.	Disadvantage of Conventional Programming	6/9/2022	with
5.	Key Concepts of Object Oriented Programming	7/9/2022	discussions&&
6.	Advantage of OOP	9/9/2022	BB
7.	Object Oriented Language	10/9/2022	
8.	TUTORIAL CLASS	12/9/2022	

UNIT II: Classes and Objects & Constructors and Destructor

CO 2: Able to describe the basic concepts of C++ such as classes, objects, Overloading member Function, Constructors and Destructors.

TB: Programming in C++, Ashok N.Kamthane

9.	Classes and Objects & Constructors and Destructor: Classes in C++	13/9/2022	
10.	Declaring Objects	14/9/2022	
11.	Access Specifiers and their Scope	16/9/2022	
12.	Defining Member Function	16/9/2022	Lecture
13.	Overloading Member Function	17/9/2022	interspersed
14.	Programs on Member Function	19/9/2022	with
15.	Nested class	20/9/2022	discussions&&
16.	Constructors and Destructors Introduction	21/9/2022	BB
17.	Characteristics of Constructor and Destructor	23/9/2022	
18.	Application with Constructor	24/9/2022	
19.	Programs on Constructors	26/9/2022	
20.	Constructor with Arguments parameterized Constructor	27/9/2022	
21.	Destructors,	28/9/2022	
22.	Anonymous Objects	30/9/2022	
23.	Programs on Destructor and Anonymous objects	1/10/2022	
24.	TUTORIAL CLASS	10/10/2022	

UNIT III: Operator Overloading and Type Conversion & Inheritance:

CO 3: Apply the concept of Inheritance.

TB: Programming in C++, Ashok N.Kamthane

25. Overloading Unary Operator 11/10//2022

26.	Operator Return Type	12/10/2022	
27.	Overloading Binary operator	13/10/2022	
28.	Program on binary overloading	14/10/2022	
29.	Overloading Assignment Operator (=)	17/10/2022	Lecture
30.	Rules for Overloading Operators	18/10/2022	interspersed
31.	Inheritance, Reusability	19/10/2022	with
32.	Types of Inheritance	21/10/2022	discussions&&
33.	Programs of Single Inheritance	22/10/2022	BB
34.	Programs of Multi-level Inheritance	24/10/2022	
35.	Programs of Multiple Inheritance	25/10/2022	
36.	Programs of Hybrid Inheritance	28/10/2022	
37.	Programs of Hierarchical Inheritance	29/10/2022	
38.	Virtual Base Classes- Object as a Class	1/11/2022	
	Member		
39.	Programs of virtual base class	2/11/2022	
40.	Abstract Classes	4/11/2022	
41.	Advantages of Inheritance	5/11/2022	
42.	Disadvantages of Inheritance	7/11/2022	
43.	TUTORIAL CLASS	8/11/2022,9/11/2022	
0 4: A	V: Pointers & Binding Polymorphisms and Virtual able to implement the programs on pointers and gramming in C++, Ashok N.Kamthane	Functions d virtual function	

44.	Pointers & Binding Polymorphisms and Virtual Functions: Pointer	12/11/2022	
45.	Features of Pointers	14/11/2022	1
46.	Pointer Declaration	15/11/2022	Lecture
47.	Pointer to Class	16/11/2022	interspersed
48.	Pointer Object	18/11/2022	with discussions&&
49.	Program on Pointers	19/11/2022	BB
50.	The this Pointer	21/11/2022	DD
51.	Program on this Pointer	22/11/2022	
52.	Pointer to Derived Classes and Base Class	23/11/2022	
53.	Program on derived and base classes	25/11/2022	
54.	Binding Polymorphisms and Virtual Functions	26/11/2022	
55.	Introduction, Binding in C++	28/11/2022	1
56.	Virtual Functions	29/11/2022	1
57.	Rules for Virtual Function	30/11/2022	
58.	Program on virtual function	2/12/2022	1
59.	Virtual Destructor	3/12/2022	
60.	Tutorial class	5/12/2022,6/12/2022	

UNIT V: Generic Programming with Templates & Exception Handling

CO 5: Able to apply object oriented or non-object-oriented techniques to solve bigger computing problems

TB: Programming in C++, Ashok N.Kamthane

61.	Generic Programming with Templates & Exception Handling: Definition of class Templates	7/12/2022	
62.	Normal Function Templates	9/12/2022	Lecture
	Programs on templates	10/12/2022	interspersed
63.	Over Loading of Template Function	12/12/2022	with
64.	Over Loading of Template Function	13/12/2022	discussions&&
65.	Programs on Template overloading	14/12/2022	BB
66.	Bubble Sort Using Function Templates	16/12/2022	
67.	Difference between Templates and Macros	17/12/2022	
68.	Linked Lists with Templates	19/12/2022	
69.	Programs on linked list using Templates	20/12/2022	
70.	Exception Handling	21/12/2022	
71.	Principles of Exception Handling		
72.	Tutorial class	23/12/2022	

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TENTATIVE LESSON PLAN: R2021052

Course Title: OPE	RATING SYSTEMS	
Section :CSE-A	Date :5/9/2022	Page No : 01 of 03
Revision No: 01	Prepared by: K. Jyothi	Approved by : HOD

Tools: Black board, PPTs

UNIT 1: Operating Systems Overview, System Structures.

CO1: To understand the internal operation of modern operating systems from different views and system calls generated inside the system from user and kernel.

TB:Silberschatz A, Galvin P B, and Gagne G, "Operating System Concepts", 9th edition, Wiley, 2013.

No. of periods	TOPIC	Expected Date	Mode of Delivery
1.	Introduction to Operating Systems and Overview,		Black Board & PPT
2.	Operating system functions	FROM: 5-09-2022	
3.	Operating system structure,		
4.	Operating systems operations,		
5.	Computing environments, Open-Source Operating Systems.		
6.	System Structures: Operating System Services,		
7.	User and Operating-System Interface,		
8.	Systems calls,	то	
9.	Types of System Calls,	20-09-2022	
10.	system programs,	20-07-2022	
11.	operating system structure,	1	
12.	operating system debugging,	With the second	
13.	System Boot, Tutorial		

UNIT 2: Process Concept, Process Scheduling, IPC.

CO2: To define, explain, processes, threads, CPU scheduling algorithms, Inter Process Communication between processes, and IPC Problems.

TB: Tanenbaum A S, "Modern Operating Systems", 3rd edition, Pearson Education, 2008. (forInterprocess Communication and File systems.)

No. of periods	TOPIC	Date	Mode of Delivery
14.	Process Concept: Process scheduling	FROM: 21-09-2022	
15.	Operations on processes,		
16.	Inter-process communication,		
17.	Communication in client server systems.	7	
18.	Multithreaded Programming: Multithreading models,	TO:	
19.	Thread libraries, Threading issues.	12-10-2022	



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20.	Process Scheduling: Basic concepts,	
21.	Scheduling criteria,	10000000
22.	Scheduling algorithms,	Black Board
23.	Multiple processor scheduling, Thread scheduling.	& PPT
24.	Inter-process Communication: Race conditions, Critical Regions,	
25.	Mutual exclusion with busy waiting, Sleep and wakeup,	
26.	Semaphores,	
27.	Mutexes, Monitors,	
28.	Message passing, Barriers,	1000 Miles
29.	Classical IPC Problems - Dining philosophers problem,	
30.	Classical IPC Problems -Readers and writers problem.	
31.	Tutorial	

UNIT 3: Memory-Management Strategies, Virtual Memory Management.

CO 3: To understand the memory management, how to create dynamic memory and different memory allocation techniques.

TB: Silberschatz A, Galvin P B, and Gagne G, "Operating System Concepts", 9th edition, Wiley, 2013

No. of periods	TOPIC	Date	Mode of Delivery
32.	Memory-Management Strategies: Introduction,	Date	100000000000000000000000000000000000000
33.	Swapping,	FROM: 13-10-2022	Black Board & PPT
34.	Contiguous memory allocation,		
35.	Paging,		
36.	Segmentation.		
37.	Virtual Memory Management: Introduction, Demand paging,		
38.	Copy on-write,		
39.	Page replacement,	TO:	
40.	Page replacement algorithms	11-11-2022	
41.	Frame allocation, Thrashing,		
42.	Memory-mapped files, Kernel memory allocation.		
43.	Tutorial		

UNIT 4: Deadlocks, File Systems, Secondary-Storage Structure.

CO4: To understand Deadlock and recovery, Input Output Management in file system and use of Device Driver and Secondary Storage (Disk) Mechanism.

TB: Silberschatz A, Galvin P B, and Gagne G, "Operating System Concepts", 9th edition, Wiley, 2013



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No. of periods	TOPIC	Date	Mode of Delivery
44.	Deadlocks: Resources, Conditions for resource deadlocks,	FROM:	
45.	Deadlock avoidance		
46.	Deadlock prevention		Black Board & PPT
47.	Deadlock detection and recovery and Ostrich algorithm,		
48.	Deadlock prevention.		
49.	File Systems: Files,		
50.	Directories,		
51.	File system implementation,		
52.	File- Management and optimization.	то.	
53.	Secondary-Storage Structure: Overview of disk structure,	TO: 30-11-2022	
54.	Disk Attachment, Disk scheduling	30-11-2022	
55.	Disk scheduling algorithms		
56.	RAID Structure,		
57.	Stable storage implementation.		
58.	Tutorial		

UNIT 5: System Protection, System Security

CO5: To analyze Security and Protection Mechanism in Operating System from various views.

TR: Silberschatz A. Galvin P B, and Gagne G, "Operating System Concepts", 9th edition, Wiley, 2013

No. of periods	TOPIC	Date	Mode of Delivery
59.	System Protection: Goals of protection,		Black Board & PPT
60.	Principles and domain of protection,		
61.	Access matrix,		
62.	Access control, Revocation of access rights.	FROM:	
63.	System Security: Introduction,	1-12-2022	
64.	Program threats	1122022	
65.	System and network threats,		
66.	Cryptography for security,	TO:	
67.	User authentication,	17-12-2022	
68.	Implementing security defenses,		
69.	Firewall to protect systems and networks,		
70.	Computer security classification,		
71.	Tutorial		

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TENTATIVE LESSON PLAN: R2021053

Section : CSE-A	Date :05/09/2022	Page No : 01 of 03
Revision No : 01	Prepared by:D.Sailaja	Approved by : HOD

UNIT 1: Software Engineering Overview, Process Models

CO1: Giveexposuretophasesof Software Development, common process models including Waterfall, and the Unified Process, and hands-on experience with elements of the agile process.

TB: "SoftwareEngineeringapractitioner'sapproach", RogerS. Pressman, SeventhEdition, McGraw HillHigherEducation.

No. of periods	TOPIC	Expected Date	Mode of Delivery
1.	TheNatureofSoftware		Black Board & PPT
2.	TheUniqueNatureofWebApps		
3.	Software Engineering- A Layered Technology		
4.	The Software Process		
5.	Software Engineering Practice	FROM:	
6.	Software Myths	05-09-2022	
7.	A Generic Process Model		
8.	Process Assessment and Improvement	то	
9.	Prescriptive Process Models	22-09-2022	
10.	Specialized Process Models		
11.	The Unified Process		
12.	Personal and Team Process Models		
13.	Process Technology		

UNIT 2: Agile Process, Requirements Engineering

CO2: Give exposure to a variety of Software Engineering practices such as requirementsanalysis and specification, code analysis, code debugging, testing, traceability, andversioncontrol.

TB: "SoftwareEngineering", IanSommerville, NinthEdition, Pearson.

No. of periods	ТОРІС	Date	Mode of Delivery
14.	Agility, Agility and the Cost of Change		Black Board



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15.	Agile Process		& PPT
16.	Extreme Programming(XP)		
17.	Other Agile Process Models		
18.	A toolset for the Agile Process	FROM:	
19.	Software Engineering Knowledge	23-09-2022	
20.	Core Principles	то:	
21.	Principles that Guide Each Framework Activity	11-10-2022	
22.	Requirements Engineering		
23.	Establishing the Groundwork		
24.	Eliciting Requirements	10.000	
25.	Developing Use Cases	86.63.8902	
26.	Building the Requirements Model		
27.	Negotiating Requirements	100	
28.	Validating Requirements	15-14-29-5	

UNIT 3: Requirements Model, Requirements Modeling Strategies

CO 3: GiveexposuretoSoftwareDesigntechniques

TB: "SoftwareEngineeringapractitioner'sapproach", RogerS. Pressman, Seventh Edition, McGraw HillHigherEducation.

No. of periods	TOPIC	Date	Mode of Delivery
29.	Requirements Analysis		
30.	Scenario-Based Modeling	Constitution of the last	
31.	UML Models that Supplement the Use Case	FROM:	
32.	Data Modeling Concepts	12-10-2022	
33.	Class-Based Modeling		Black Board
34.	Requirements Modeling Strategies		& PPT
35.	Flow-Oriented Modeling	TO:	
36.	Creating a Behavioral Model	31-10-2022	
37.	Patterns for Requirements Modeling		
38.	Requirements Modeling for WebApps		

UNIT 4: Design, Architectural Mapping using Data Flow

CO4: Give exposure to Design concepts, Architectural Designs through the components and componentbased development.



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TB: "SoftwareEngineering",lan	Sommerville, NinthEdition, Pearson.
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No. of periods	TOPIC	Date	Mode of Delivery
39.	Design within the context of the Software Engineering		
40.	The Design Process		
41.	Design Concepts		
42.	The Design Model		
43.	Software Architecture		
44.	Architectural Genres	FROM:	
45.	Architectural Styles	01-11-2022	Black Board
46.	Assessing Alternative Architectural Designs		& PPT
47.	Architectural Mapping using Data Flow	TO:	arri
48.	Components	25-11-2022	
49.	Designing Class Based Components		
50.	Conducting Component-Level Design		
51.	Component-Level Design for WebApps		
52.	Designing Traditional Components		
53.	Component-Based Development		

UNIT 5: The Golden Rules, SQA, Strategic Approaches

CO5: To analyzeInterfaces, Webapp Interface Design and SQA for Test Strategies such as internal and externa views of testing.

TB: "SoftwareEngineeringapractitioner'sapproach", RogerS. Pressman, Seventh Edition, McGraw

HillHigherEducation.

No. of periods	TOPIC	Date	Mode of Delivery		
54.	The Golden Rules				
55.	User Interface Analysis and Design				
56.	Interface Analysis				
57.	Interface Design Steps				
58.	WebApp Interface Design	FROM:			
59.	Design Evaluation	26-11-2022	Black Board		
60.	Elements of Software Quality Assurance		& PPT		
61.	SQA Tasks		arri		
62.	Goals and Metrics				
63.	Statistical SQA				
64.	Software Reliability				
65.	A Strategic approach to Software Testing				
66.	Strategic Issues	TO:			



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67.	Test Strategies for Conventional Software	17-12-2022
68.	Test Strategies for Object Oriented Software	
69.	Test Strategies for WebApps	
70.	Validation Testing	
71.	System Testing	
72.	The Art of Debugging	
73.	Software Testing Fundamentals	
74.	Internal and External views of Testing	
75.	White-Box Testing	
76.	Basis Path Testing	

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TENTATIVE LESSON PLAN: R2021054

MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE

Course Title: MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE

Section: C		Date: 05-09-2022		Page N	o: 01 of 03
Revision N	-	repared By: V.V.M.Sriv	vidya	Appro	ved By : HOD
	ck board. PPT				
No. of		ГОРІС	DATI	E	Mode of Deliver
Periods					
CO1: Stud		AL LOGIC demonstrate skills in solar applications to computer			
1.	Statements, Notat defined Formulas	ions, Connectives, Well	05-09-20)22	
2.	Truth tables, Taut	cologies	06-09-20	22	
			06-09-20	22	
3.	Equivalence of fo		07-09-20	22	T
4.	Duality law, Tautological Implications		09-09-20	22	Lecture interspersed
5.	Normal forms	particles entry	12-09-20	22	with
	Frage Soberto	Abrilan Securi	13-09-20	22	discussions
6.	Tutorial class		14-09-20	22	
7.	Theory of inference calculus	ce for statement	16-09-20	22	
8.	Consistency of pre	emises	17-09-20	22	
9.	Indirect method of	fproof	19-09-20	22	
10.	Predicative Logic,	statement functions	20-09-20	22	
11.	Tutorial class		20-09-202	22	
12.	Variables and Qua variables	intifiers, free & bound	21-09-202	22	
13.	Inference theory o Formulas	f predicate calculus	23-09-202		
INIT II. S	ET THEODY & AT	LGEBRAIC STRUCTU			

CO2: Student will be able to demonstrate knowledge of mathematical modeling and proficiency in using mathematical software. Students will be able to manipulate and analyze data numerically using Appropriate software.

TB: Discrete mathematics with applications to computer science, J.P.Trembly,p.Manohar, Tata mc graw hill

14.	Introduction to sets, operations on Binary sets	26-09-2022	
15.	Principle of Inclusion and Exclusion	27-09-2022	
16.	Relations, Properties of binary relations	27-09-2022	
17.	Relation matrix and Digraph	28-09-2022	
18.	Partition and covering, transitive closure	30-09-2022	
19.	Tutorial class	01-10-2022	
20.	Equivalence relations, compatibility relations,	03-10-2022	
21.	Partial ordering relations, Hasse diagram	04-10-2022	Lecture
22.	Bijective Functions and composition of functions	04-10-2022	interspersed with discussions
23.	Inverse functions, recursive functions, permutation functions	07-10-2022	
24.	Equivalence relations, compatibility relations,	10-10-2022	
25.	Algebraic structures: algebraic systems, examples and properties	11-10-2022	
26.	Semi groups and monoids, group definitions, examples.	11-10-2022	
27.	Homomorphism, Isomorphism	12-10-2022	
28.	groups, sub group definitions, examples		
29.	Group, Subgroup, Abelian Group, Homomorphism, Isomorphism	14-10-2022	
30.	Tutorial class	15-10-2022	

UNIT-3: COMBINATORICS & NUMBER THEORY

CO3: Student will be able to communicate effectively mathematical ideas results verbally or in Wrting

TB: Discrete mathematics with applications to computer science, J.P.Trembly,p.Manohar,Tata mc graw hill

31.	Basics of counting, permutations	17-10-2022	
32.	Permutations with Repetitions	18-10-2022	
33.	Circular Permutations, Restricted Permutations	18-10-2022	
34.	Combinations, Restricted Combinations	19-10-2022	Lecture
35.	Tutorial Class	21-10-2022	interspersed with discussions
36.	Generating functions of permutations and combinations	22-10-2022	
37.	Binomial and multinomial coefficients	25-10-2022	
38.	Binomial and multinomial theorems	25-10-2022	
39.	Coloring and chromatic numbers	26-10-2022	
40.	Pigeonhole Principle and its allpications	28-10-2022	
41.	Revision	29-10-2022	
		THE RESERVE OF THE PERSON NAMED IN COLUMN 2 IN COLUMN	

42.	Number Theory: Properties of integers, division	31-10-2022	
	theorem	01-11-2022	
43.	in 12 Will be office at more included which will	01-11-2022	
	GCD, Euclidean algorithm	02-11-2022	egy Nation State Con-
44.		03-11-2022	
	LCM, Testing for prime numbers	04-11-2022	
45.		05-11-2022	
	The fundamental theorem of Arithmetic	07-11-2022	
46.	Tigurisat pitato sersocias	08-11-2022	
	Modular Arithmetic, Euler and Fermat's theorems	08-11-2022	
	Populationally Electron and Hamiltonian	09-11-2022	
47.	Tutorial class	11-11-2022	

UNIT-4: RECURRENCE RELATIONS

CO4: Student will be able to manipulate and analyze data generatically and recurrencingly

TB: Discrete mathematics with applications to computer science, J.P.Trembly,p.Manohar,Tata mc graw hill

48.	Generating Functions	14-11-2022	
49.	Function of Sequences	15-11-2022	
50.	Partial Fractions	15-11-2022	
51.	Coefficient of generating functions	16-11-2022	
52.	Recurrence relations	18-11-2022	
53.	Formulation as recurrence relations	19-11-2022	
54.	Recurrence relations by substitution	21-11-2022	Lecture interspersed with
55.	Recurrence relations by Generating functions	22-11-2022	discussions
56.	Tutorial class	22-11-2022	
57.	Recurrence relations by method of	23-11-2022	
	characteristics roots	25-11-2022	
58.	Inhomogeneous Recurrence relations	26-11-2022	
		28-11-2022	
59.	Recurrence relations by Generating	29-11-2022	
	functions	29-12-2022	

30-11-2022

UNIT-5: GRAPH THEORY

CO5: Student will be able to manipulate and analyze data graphically using Appropriate

TB: Discrete mathematics with applications to computer science, J.P.Trembly,p.Manohar, Tata mc graw hill

60.	Basic concepts of graphs, sub graphs	02-12-2022	
61.	Representation of graphs: Adjacency, Incidence matrices	03-12-2022	
62.	Isomorphic graphs	05-12-2022	
63.	Paths.circuits, Elerian and Hamiltonian graphs	06-12-2022 06-12-2022	Lecture interspersed with discussions
64.	Multi graphs, Problems	07-12-2022	
65.	Tutorial class	09-12-2022	
66.	Planar graphs, Euler's formula	12-12-2022	
69.	Chromatic numbers	13-12-2022	
70.	Spanning trees, Algorithms for spanning trees.	13-12-2022	
71.	Breadth first search algorithms	14-12-2022	
72.	Depth first search algorithm	16-12-2022	
73.	Krushkal,s algorithm	17-12-2022	
74.	Prims algorithm	17-12-2022	

V.V.M. Srividya.

Signature of Faculty



SRK INSTITUTE OF TECHNOLOGY, ENIKEPADU, VIJAYAWADA -521108

Approved by AICTE, Affiliated to JNTUK, Kakinada
ISO 9001:2015 Certified Institution
Accredited with NAAC 'A' grade
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

TENTATIVE LESSON PLAN

Course/Code: Mathematics - III / R202101

Year / Semester : 11/1 A.Y: 2022-23

rear / Semester ; II/I		A.Y: 2022-2	
No. of Periods	ТОРІС	Date	Mode of Delivery
CO1: To Interp divergence. Est	CTOR CALCULUS pret the physical meaning of different operator timate the work done against a field, circulationing Mathematics", Dr. T.K.V.Iyengar; S.Chand Vector Differentiation:Introduction	n and flux neing vo	curl and ctor calculus.
2	Properties of vectors and scalars		Lecture interspersed with discussions
3	Derivative of vector – definition		
4	Vector differential operator		
5	Gradient of a vector		
6	Divergence of a vector		
7	Curl of a vector		
8	Properties of gradient		
9	Vector identities	From:	
10	Vector identities	05/09/2022	
11	Problems on application of gradient	То	
12	Problems on divergence and curl	22/09/2022	
13	Vector Integration: Introduction		
14	Problems on line integral		
15	Problems on line integral		
16	Problems on surface integrals		
17	Problems on volume integrals		
18	Problems on Greens theorem		
19	Problems on Green theorem		
20	Problems on Gauss divergence theorem		
21	Problems on stokes theorem		
	LACE TRANSFORMS		
O2: To apply	the Laplace transform for solving differential	equations	
B:" Engineering	ig Mathematics", Dr. T.K.V.Iyengar; S.Chand	publications	
22	Laplace Transforms: Definitions, Existence		
23	Laplace Transform of standard functions		

24	Linearity property; Shifting properties Change of scale property	From	Lecture interspersed with discussions
25	Laplace Transforms of derivatives; Integrals	23/09/2022	
26	$L(t^n f(t))$	To	
27	Laplace Transforms of division by t	12/10/2022	
28	Evaluation of integrals		
29	Laplace Transforms of periodic functions; unit step functions; Unit impulse functions		
30	Inverse Laplace Transforms: Finding L^{-1} using partial fractions		
31	Properties of inverse transform		
32	Convolution theorem		
33	Solutions of Difference Equations		

UNIT - III: FOURIER SERIES AND FOURIER TRANSFORMS

CO3: Find or compute the Fourier series of periodic signals. Know and be able to apply integral expressions for the forwards and inverse Fourier transform to a range of non-periodic waveforms.

TB: "Engineering Mathematics", Dr. T.K.V.Iyengar; S.Chand publications

III. LINGING			
34	Introduction		
35	Periodic functions		
36	Fourier series of periodic function		
37	Dirchlets conditions	F	Lecture
38	Even and odd functions	From	interspersed
39	Change of interval	13/10/2022 To	with
40	Half range sine and cosine series	22/10/2022	discussions
41	Fourier transforms	& 22/10/2022	discussions
42	Fourier integral theorem	From	
43	Fourier sine and cosine integrals	31/10/2022	
44	Sine and cosine transforms	To	
45	Properties	12/11/2022	
46	Inverse transforms	12/11/2022	
47	Finite Fourier transforms		

UNIT - IV: PDE OF FIRST ORDER

CO4:To identify solution methods for partial differential equations that model physical processs.

TB: "Engineering Mathematics", Dr. T.K.V.Iyengar; S.Chand publications

48	Introduction		
49	Formation of PDE by eliminating arbitrary constants		
50	Formation of PDE by eliminating arbitrary functions		
51	Solutions of PDE		Lecture
52	Method of grouping	From	interspersed

53	Method of multipliers	14/11/2022	with
54	Nonlinear PDE $f(p,q) = 0$	To discu	discussions
55	Nonlinear PDE $f(p,q,z) = 0$	26/11/2022	
56	Nonlinear PDE $f(p, x) = g(q, y)$		
57	Clairaut's equation		
58	PDE reducible to standard form		
59	$f(px^m,qy^n)=0$	$f(px^m,qy^n)=0$	
60	$f(pz^m,qz^m)=0$		

UNIT - V: SECOND ORDER PARTIAL DIFFERENTIAL EQUATIONS AND APPLICATIONS

CO5: Identify solution methods for partial differential equations that model physical processes.

TB: "Engineering Math	ematics", Dr.	T.K.V.Ivengar;	S.Chand	publications
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61	Introduction; Homogeneous Linear P.D.E with constant coefficients; finding CF Finding PI: RHS term of the type $e^{(ax+by)}$	From	Lecture	
62	$\sin(ax + by)$; $\cos(ax + by)$	28/11/2022	interspersed with discussions	
63	$x^m y^n$	То		
64	Method of separation of variables	17/12/2022		
65	Solution of one dimensional wave equation			
66	Heat equation			
67	Two dimensional Laplace equation			

S. Simon.

Signature of Faculty

Signature of HOD

TENTATIVE LESSONPLAN:R2021422

Out	Tid. OD TECT ON THE		processor and the second second second second second
Section	ee Title: OBJECT ORIENTED PROGRAMMIN		
Revie	And a second control of the second control o		No: 01 of 02
Tools	on No: 00 Prepared by: Dr.K.CHAITA	ANYA Appr	oved by : HOD
UNITI	Black board, PPTs Introduction to C++		
COLA	has to marking the		
TB: Pro	ble to realize the concept of Object Oriented Progra ogramming in C++, Ashok N.Kamthane	imming using C++	
No. of		T	Mode of
periods	TOPIC	Date	Delivery
1.	Introduction to C++: Difference between C and C++	5/9/2022	200.00
2.	Evolution of C++	5/9/2022	
3.	The Object Oriented Technology	5/9/2022	Lecture
4.	Disadvantage of Conventional Programming	6/9/2022	interspersed
5.	Key Concepts of Object Oriented Programming	6/9/2022	with
6.	Advantage of OOP	6/9/2022	discussions&&
7.	Object Oriented Language	6/9/2022	BB
8.	TUTORIAL CLASS	7/9/2022	
Function TB: Pro	Able to describe the basic concepts of C++ such and Constructors and Destructors. gramming in C++, Ashok N.Kamthane	as classes, objects,	Overloading member
9.	Classes and Objects & Constructors and Destructor: Classes in C++	8/9/2022	
10.	Destructor: Classes in C++ Declaring Objects	8/9/2022 8/9/2022	
10.	Destructor: Classes in C++ Declaring Objects Access Specifiers and their Scope		
10. 11. 12.	Destructor: Classes in C++ Declaring Objects Access Specifiers and their Scope Defining Member Function	8/9/2022	Lecture
10.	Destructor: Classes in C++ Declaring Objects Access Specifiers and their Scope Defining Member Function Overloading Member Function	8/9/2022 8/9/2022	Lecture interspersed
10. 11. 12.	Destructor: Classes in C++ Declaring Objects Access Specifiers and their Scope Defining Member Function	8/9/2022 8/9/2022 9/9/2022	
10. 11. 12. 13.	Destructor: Classes in C++ Declaring Objects Access Specifiers and their Scope Defining Member Function Overloading Member Function	8/9/2022 8/9/2022 9/9/2022 9/9/2022	interspersed
10. 11. 12. 13.	Destructor: Classes in C++ Declaring Objects Access Specifiers and their Scope Defining Member Function Overloading Member Function Programs on Member Function	8/9/2022 8/9/2022 9/9/2022 9/9/2022 12/9/2022	interspersed with
10. 11. 12. 13. 14.	Destructor: Classes in C++ Declaring Objects Access Specifiers and their Scope Defining Member Function Overloading Member Function Programs on Member Function Nested class	8/9/2022 8/9/2022 9/9/2022 9/9/2022 12/9/2022 13/9/2022	interspersed with discussions&&
10. 11. 12. 13. 14. 15.	Destructor: Classes in C++ Declaring Objects Access Specifiers and their Scope Defining Member Function Overloading Member Function Programs on Member Function Nested class Constructors and Destructors Introduction	8/9/2022 8/9/2022 9/9/2022 9/9/2022 12/9/2022 13/9/2022 14/9/2022	interspersed with discussions&&
10. 11. 12. 13. 14. 15. 16.	Destructor: Classes in C++ Declaring Objects Access Specifiers and their Scope Defining Member Function Overloading Member Function Programs on Member Function Nested class Constructors and Destructors Introduction Characteristics of Constructor and Destructor	8/9/2022 8/9/2022 9/9/2022 9/9/2022 12/9/2022 13/9/2022 14/9/2022 15/9/2022	interspersed with discussions&&
10. 11. 12. 13. 14. 15. 16. 17.	Destructor: Classes in C++ Declaring Objects Access Specifiers and their Scope Defining Member Function Overloading Member Function Programs on Member Function Nested class Constructors and Destructors Introduction Characteristics of Constructor and Destructor Application with Constructor	8/9/2022 8/9/2022 9/9/2022 9/9/2022 12/9/2022 13/9/2022 14/9/2022 15/9/2022 16/9/2022	interspersed with discussions&&
10. 11. 12. 13. 14. 15. 16. 17. 18.	Destructor: Classes in C++ Declaring Objects Access Specifiers and their Scope Defining Member Function Overloading Member Function Programs on Member Function Nested class Constructors and Destructors Introduction Characteristics of Constructor and Destructor Application with Constructor Programs on Constructors Constructor with Arguments parameterized	8/9/2022 8/9/2022 9/9/2022 9/9/2022 12/9/2022 13/9/2022 14/9/2022 15/9/2022 16/9/2022 19/9/2022	interspersed with discussions&&
10. 11. 12. 13. 14. 15. 16. 17. 18. 19.	Destructor: Classes in C++ Declaring Objects Access Specifiers and their Scope Defining Member Function Overloading Member Function Programs on Member Function Nested class Constructors and Destructors Introduction Characteristics of Constructor and Destructor Application with Constructor Programs on Constructors Constructor with Arguments parameterized Constructor	8/9/2022 8/9/2022 9/9/2022 9/9/2022 12/9/2022 13/9/2022 14/9/2022 15/9/2022 16/9/2022 20/9/2022	interspersed with discussions&&
10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20.	Destructor: Classes in C++ Declaring Objects Access Specifiers and their Scope Defining Member Function Overloading Member Function Programs on Member Function Nested class Constructors and Destructors Introduction Characteristics of Constructor and Destructor Application with Constructor Programs on Constructors Constructor with Arguments parameterized Constructor Destructors,	8/9/2022 8/9/2022 9/9/2022 9/9/2022 12/9/2022 13/9/2022 14/9/2022 15/9/2022 16/9/2022 20/9/2022 21/9/2022	interspersed with discussions&&
10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20.	Destructor: Classes in C++ Declaring Objects Access Specifiers and their Scope Defining Member Function Overloading Member Function Programs on Member Function Nested class Constructors and Destructors Introduction Characteristics of Constructor and Destructor Application with Constructor Programs on Constructors Constructor with Arguments parameterized Constructor Destructors, Anonymous Objects Programs on Destructor and Anonymous	8/9/2022 8/9/2022 9/9/2022 9/9/2022 12/9/2022 13/9/2022 14/9/2022 16/9/2022 19/9/2022 20/9/2022 21/9/2022 23/9/2022 26/9/2022	interspersed with discussions&& BB
10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23.	Destructor: Classes in C++ Declaring Objects Access Specifiers and their Scope Defining Member Function Overloading Member Function Programs on Member Function Nested class Constructors and Destructors Introduction Characteristics of Constructor and Destructor Application with Constructor Programs on Constructors Constructor with Arguments parameterized Constructor Destructors, Anonymous Objects Programs on Destructor and Anonymous objects TUTORIAL CLASS	8/9/2022 8/9/2022 9/9/2022 9/9/2022 12/9/2022 13/9/2022 14/9/2022 15/9/2022 16/9/2022 20/9/2022 21/9/2022 26/9/2022 27/9/2022, 28/9/202	interspersed with discussions&& BB
10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. UNIT II CO 3: A	Destructor: Classes in C++ Declaring Objects Access Specifiers and their Scope Defining Member Function Overloading Member Function Programs on Member Function Nested class Constructors and Destructors Introduction Characteristics of Constructor and Destructor Application with Constructor Programs on Constructors Constructor with Arguments parameterized Constructor Destructors, Anonymous Objects Programs on Destructor and Anonymous objects	8/9/2022 8/9/2022 9/9/2022 9/9/2022 12/9/2022 13/9/2022 14/9/2022 15/9/2022 16/9/2022 20/9/2022 21/9/2022 26/9/2022 27/9/2022, 28/9/202	interspersed with discussions&& BB

26.	Operator Return Type	30/9/2022	
27.	Overloading binary operator	10/10/2022	
28.	Program on binary operator	11/10/2022	
29.	Overloading Assignment Operator (=)	12/10/2022	Lecture
30.	Rules for Overloading Operators	13/10/2022	interspersed
31.	Inheritance, Reusability	14/10/2022	with
32.	Types of Inheritance	17/10/2022	discussions&&
	Programs of Single Inheritance	18/10/2022	BB
33.	Programs of Multi-level Inheritance	19/10/2022	
34.	Programs of Multiple Inheritance	20/10/2022	
35.	Programs of Hybrid Inheritance	21/10/2022	
36.	Programs of Hierarchical Inheritance	1/11/2022	
37.	Virtual Base Classes- Object as a Class	2/11/2022	
38.			
20	Member Programs of virtual base class	3/11/2022	
39.	Abstract Classes	4/11/2022	
40.	11001111	7/11/20222	
4.1			
41.	Advantages of Inheritance	9/11/2022	
42. 43. UNIT IV	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundable to implement the programs on pointers and vir	8/11/2022 9/11/2022,10/11/2022 ctions tual function	
42. 43. UNIT IV CO 4: A TB: Pro	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundble to implement the programs on pointers and virgramming in C++, Ashok N.Kamthane	9/11/2022,10/11/2022 ctions	
42. 43. UNIT IV	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundable to implement the programs on pointers and virgramming in C++, Ashok N.Kamthane Pointers & Binding Polymorphisms and	9/11/2022,10/11/2022 ctions tual function	
42. 43. UNIT IV CO 4: A TB: Pro	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundble to implement the programs on pointers and virgramming in C++, Ashok N.Kamthane Pointers & Binding Polymorphisms and Virtual Functions: Pointer	9/11/2022,10/11/2022 ctions tual function	
42. 43. UNIT IV CO 4: A TB: Pro 44.	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundble to implement the programs on pointers and virtual gramming in C++, Ashok N.Kamthane Pointers & Binding Polymorphisms and Virtual Functions: Pointer Features of Pointers	9/11/2022,10/11/2022 ctions tual function	Lecture
42. 43. UNIT IV CO 4: A TB: Pro 44. 45. 46.	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundable to implement the programs on pointers and virtual gramming in C++, Ashok N.Kamthane Pointers & Binding Polymorphisms and Virtual Functions: Pointer Features of Pointers Pointer Declaration	9/11/2022,10/11/2022 ctions tual function 11/11/2022	interspersed
42. 43. UNIT IV CO 4: A TB: Pro 44. 45. 46. 47.	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundable to implement the programs on pointers and virgramming in C++, Ashok N.Kamthane Pointers & Binding Polymorphisms and Virtual Functions: Pointer Features of Pointers Pointer Declaration Pointer to Class	9/11/2022,10/11/2022 ctions tual function 11/11/2022 14/11/2022 15/11/2022	interspersed with
42. 43. UNIT IV CO 4: A TB: Pro 44. 45. 46. 47. 48.	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundable to implement the programs on pointers and virgramming in C++, Ashok N.Kamthane Pointers & Binding Polymorphisms and Virtual Functions: Pointer Features of Pointers Pointer Declaration Pointer to Class Pointer Object	9/11/2022,10/11/2022 ctions tual function 11/11/2022 14/11/2022 15/11/2022 16/11/2022	interspersed with discussions&&
42. 43. UNIT IV CO 4: A TB: Pro 44. 45. 46. 47. 48. 49.	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundable to implement the programs on pointers and virgramming in C++, Ashok N.Kamthane Pointers & Binding Polymorphisms and Virtual Functions: Pointer Features of Pointers Pointer Declaration Pointer to Class Pointer Object Program on Pointers	9/11/2022,10/11/2022 ctions tual function 11/11/2022 14/11/2022 15/11/2022 16/11/2022 17/11/2022	interspersed with
42. 43. UNIT IV CO 4: A TB: Pro 44. 45. 46. 47. 48. 49. 50.	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundable to implement the programs on pointers and virgramming in C++, Ashok N.Kamthane Pointers & Binding Polymorphisms and Virtual Functions: Pointer Features of Pointers Pointer Declaration Pointer to Class Pointer Object Program on Pointers The this Pointer	9/11/2022,10/11/2022 ctions tual function 11/11/2022 14/11/2022 15/11/2022 16/11/2022 17/11/2022 18/11/2022	interspersed with discussions&&
42. 43. UNIT IV CO 4: A TB: Pro 44. 45. 46. 47. 48. 49.	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundable to implement the programs on pointers and virgramming in C++, Ashok N.Kamthane Pointers & Binding Polymorphisms and Virtual Functions: Pointer Features of Pointers Pointer Declaration Pointer to Class Pointer Object Program on Pointers	9/11/2022,10/11/2022 ctions tual function 11/11/2022 14/11/2022 15/11/2022 16/11/2022 18/11/2022 21/11/2022 22/11/2022 23/11/2022	interspersed with discussions&&
42. 43. UNIT IV CO 4: A TB: Pro 44. 45. 46. 47. 48. 49. 50.	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundable to implement the programs on pointers and virgramming in C++, Ashok N.Kamthane Pointers & Binding Polymorphisms and Virtual Functions: Pointer Features of Pointers Pointer Declaration Pointer to Class Pointer Object Program on Pointers The this Pointer Program on this Pointer Pointer to Derived Classes and Base Class	9/11/2022,10/11/2022 ctions tual function 11/11/2022 14/11/2022 15/11/2022 16/11/2022 18/11/2022 21/11/2022 22/11/2022 23/11/2022 24/11/2022	interspersed with discussions&&
42. 43. UNIT IV CO 4: A TB: Pro 44. 45. 46. 47. 48. 49. 50. 51. 52.	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundable to implement the programs on pointers and virgramming in C++, Ashok N.Kamthane Pointers & Binding Polymorphisms and Virtual Functions: Pointer Features of Pointers Pointer Declaration Pointer to Class Pointer Object Program on Pointers The this Pointer Program on this Pointer Pointer to Derived Classes and Base Class Program on derived and base classes	9/11/2022,10/11/2022 ctions tual function 11/11/2022 14/11/2022 15/11/2022 16/11/2022 17/11/2022 21/11/2022 22/11/2022 23/11/2022 24/11/2022 25/11/2022	interspersed with discussions&&
42. 43. UNIT IV CO 4: A TB: Pro 44. 45. 46. 47. 48. 49. 50. 51.	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundable to implement the programs on pointers and virgramming in C++, Ashok N.Kamthane Pointers & Binding Polymorphisms and Virtual Functions: Pointer Features of Pointers Pointer Declaration Pointer to Class Pointer Object Program on Pointers The this Pointer Program on this Pointer Pointer to Derived Classes and Base Class	9/11/2022,10/11/2022 ctions tual function 11/11/2022 14/11/2022 15/11/2022 16/11/2022 18/11/2022 21/11/2022 22/11/2022 23/11/2022 24/11/2022	interspersed with discussions&&
42. 43. UNIT IV CO 4: A TB: Pro 44. 45. 46. 47. 48. 49. 50. 51. 52. 53.	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundble to implement the programs on pointers and virtual gramming in C++, Ashok N.Kamthane Pointers & Binding Polymorphisms and Virtual Functions: Pointer Features of Pointers Pointer Declaration Pointer to Class Pointer Object Program on Pointers The this Pointer Program on this Pointer Pointer to Derived Classes and Base Class Program on derived and base classes Binding Polymorphisms and Virtual Functions	9/11/2022,10/11/2022 ctions tual function 11/11/2022 14/11/2022 15/11/2022 16/11/2022 17/11/2022 21/11/2022 22/11/2022 23/11/2022 24/11/2022 25/11/2022 28/11/2022 28/11/2022 29/11/2022	interspersed with discussions&&
42. 43. UNIT IV CO 4: A TB: Pro 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54.	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundable to implement the programs on pointers and virgramming in C++, Ashok N.Kamthane Pointers & Binding Polymorphisms and Virtual Functions: Pointer Features of Pointers Pointer Declaration Pointer to Class Pointer Object Program on Pointers The this Pointer Program on this Pointer Program on derived Classes and Base Class Program on derived and base classes Binding Polymorphisms and Virtual Functions Introduction, Binding in C++	9/11/2022,10/11/2022 ctions tual function 11/11/2022 14/11/2022 15/11/2022 16/11/2022 17/11/2022 21/11/2022 22/11/2022 23/11/2022 24/11/2022 28/11/2022 28/11/2022 28/11/2022 30/11/2022 30/11/2022	interspersed with discussions&&
42. 43. UNIT IV CO 4: A TB: Pro 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55.	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundable to implement the programs on pointers and virgramming in C++, Ashok N.Kamthane Pointers & Binding Polymorphisms and Virtual Functions: Pointer Features of Pointers Pointer Declaration Pointer to Class Pointer Object Program on Pointers The this Pointer Program on this Pointer Program on derived Classes and Base Class Program on derived and base classes Binding Polymorphisms and Virtual Functions Introduction, Binding in C++ Virtual Functions	9/11/2022,10/11/2022 ctions tual function 11/11/2022 14/11/2022 15/11/2022 16/11/2022 18/11/2022 21/11/2022 22/11/2022 23/11/2022 24/11/2022 28/11/2022 28/11/2022 29/11/2022 30/11/2022 1/12/2022	interspersed with discussions&&
42. 43. UNIT IV CO 4: A TB: Pro 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57.	Disadvantages of Inheritance TUTORIAL CLASS V: Pointers & Binding Polymorphisms and Virtual Fundable to implement the programs on pointers and virgramming in C++, Ashok N.Kamthane Pointers & Binding Polymorphisms and Virtual Functions: Pointer Features of Pointers Pointer Declaration Pointer to Class Pointer Object Program on Pointers The this Pointer Program on this Pointer Program on derived Classes and Base Class Program on derived and base classes Binding Polymorphisms and Virtual Functions Introduction, Binding in C++ Virtual Functions Rules for Virtual Function	9/11/2022,10/11/2022 ctions tual function 11/11/2022 14/11/2022 15/11/2022 16/11/2022 17/11/2022 21/11/2022 22/11/2022 23/11/2022 24/11/2022 28/11/2022 28/11/2022 28/11/2022 30/11/2022 30/11/2022	interspersed with discussions&&

UNIT V: Generic Programming with Templates & Exception Handling

CO 5: Able to apply object oriented or non-object-oriented techniques to solve bigger computing problems

TB: Programming in C++, Ashok N.Kamthane

61.	Generic Programming with Templates & Exception Handling: Definition of class Templates	7/12/2022	
62.	Normal Function Templates	8/12/2022	Lecture
63.	Programs on templates	9/12/2022	interspersed
64.	Over Loading of Template Function	12/12/2022	with
65.	Programs on Template overloading	9/12/2022	discussions&&
66.	Bubble Sort Using Function Templates	12/12/2022	BB
67.	Difference between Templates and Macros	13/12/2022	
68.	Linked Lists with Templates	14/12/2022	
69.	Programs on linked list using Templates	15/12/2022	
70.	Exception Handling	16/12/2022	
71.	Principles of Exception Handling	19/12/2022	
72.	Tutorial class	20/12/2022,21/12/2022	

Signature of the Faculty

Bignature of the HOD



Enikepadu, Vijayawada 521108
Department of Computer Science Engineering
TENTATIVE LESSONPLAN

TENTATIVE LESSON PLAN: R2021052

Course Title: OPE	RATING SYSTEMS	
Section :CSE-B	Date : 5/9/2022	Page No : 01 of 03
Revision No : 01	Prepared by:K. Jyothi	Approved by : HOD

Tools: Black board, PPTs

UNIT 1: Operating Systems Overview, System Structures.

CO1: To understand the internal operation of modern operating systems from different views and system calls generated inside the system from user and kernel.

TB:Silberschatz A, Galvin P B, and Gagne G, "Operating System Concepts", 9th edition, Wiley, 2013.

No. of periods	TOPIC	Expected Date	Mode of Delivery
1.	Introduction to Operating Systems and Overview,		
2.	Operating system functions		
3.	Operating system structure,		
4.	Operating systems operations,	EDOM.	
5.	Computing environments, Open-Source Operating Systems.	FROM: 5-09-2022	
6.	System Structures: Operating System Services,	3-09-2022	
7.	User and Operating-System Interface,		Black Board & PPT
8.	Systems calls,	то	
9.	Types of System Calls,	20-09-2022	
10.	system programs,	20-07-2022	
11.	operating system structure,		
12.	operating system debugging,		
13.	System Boot, Tutorial		



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UNIT 2: Process Concept, Process Scheduling, IPC.

CO2: To define, explain, processes, threads, CPU scheduling algorithms, Inter Process Communication between processes, and IPC Problems.

TB: Tanenbaum A S, "Modern Operating Systems", 3rd edition, Pearson Education, 2008. (forInterprocess Communication and File systems.)

No. of periods	торіс	Date	Mode of Delivery
14.	Process Concept: Process scheduling		
15.	Operations on processes,	FROM:	
16.	Inter-process communication,	21-09-2022	
17.	Communication in client server systems.		
18.	Multithreaded Programming: Multithreading models,	то:	
19.	Thread libraries, Threading issues.	12-10-2022	
20.	Process Scheduling: Basic concepts,	-	
21.	Scheduling criteria,		
22.	Scheduling algorithms,		Black Board
23.	Multiple processor scheduling, Thread scheduling.		& PPT
24.	Inter-process Communication: Race conditions, Critical Regions,		
25.	Mutual exclusion with busy waiting, Sleep and wakeup,		
26.	Semaphores,		
27.	Mutexes, Monitors,		
28.	Message passing, Barriers,		
29.	Classical IPC Problems - Dining philosophers problem,		
30.	Classical IPC Problems -Readers and writers problem.		
31.	Tutorial		



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UNIT 3: Memory-Management Strategies, Virtual Memory Management.

CO 3: To understand the memory management, how to create dynamic memory and different memory allocation techniques.

TB: Silberschatz A, Galvin PB, and Gagne G, "Operating System Concepts", 9th edition, Wiley, 2013

No. of periods	TOPIC	Date	Mode of Delivery
32.	Memory-Management Strategies: Introduction,		
33.	Swapping,		
34.	Contiguous memory allocation,		
35.	Paging,	FROM:	
36.	Segmentation.	13-10-2022	Black Board
37.	Virtual Memory Management: Introduction, Demand paging,		& PPT
38.	Copy on-write,		
39.	Page replacement,	то:	
40.	Page replacement algorithms	11-11-2022	
41.	Frame allocation, Thrashing,		
42.	Memory-mapped files, Kernel memory allocation.		
43.	Tutorial		

UNIT 4: Deadlocks, File Systems, Secondary-Storage Structure.

CO4: To understand Deadlock and recovery, Input Output Management in file system and use of Device Driver and Secondary Storage (Disk) Mechanism.

TB: Silberschatz A, Galvin PB, and Gagne G, "Operating System Concepts", 9th edition, Wiley, 2013

No. of periods	TOPIC	Date	Mode of Delivery
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Department of Computer Science Engineering TENTATIVE LESSONPLAN

VUAY	AWADA		Name and Address of the Owner, where the Park of the Owner, where the Owner, which is the Owner,
44.	Deadlocks: Resources, Conditions for resource deadlocks,		
45.	Deadlock avoidance		
46.	Deadlock prevention		
47.	Deadlock detection and recovery and Ostrich algorithm,		
48.	Deadlock prevention.		
49.	File Systems: Files,	FROM:	
50.	Directories,	PROM.	Black Board
51.	File system implementation,	14-11-2022	& PPT
52.	File- Management and optimization.	14112022	
53.	Secondary-Storage Structure: Overview of disk structure,	то:	
54.	Disk Attachment, Disk scheduling	30-11-2022	
55.	Disk scheduling algorithms		
56.	RAID Structure,		
57.	Stable storage implementation.		
58	. Tutorial		
	. C. tom Commits		

UNIT 5: System Protection, System Security

CO5: To analyze Security and Protection Mechanism in Operating System from various views.

TB: Silberschatz A, Galvin P B, and Gagne G, "Operating System Concepts", 9th edition, Wiley, 2013

No. of periods	TOPIC	Date	Mode of Delivery
59.	System Protection: Goals of protection,		
60.	Principles and domain of protection,		
61.	Access matrix,		
62.	Access control, Revocation of access rights.		
63.	System Security: Introduction,	FROM:	Black Board



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64.	Program threats	1-12-2022	& PPT
65.	System and network threats,		
66.	Cryptography for security,		
67.	User authentication,	TO:	
68.	Implementing security defenses,	1/-12-2022	
69.	Firewall to protect systems and networks,		
70.	Computer security classification,		
71.	Tutorial		

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Signature of the HOD



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TENTATIVE LESSONPLAN

TENTATIVE LESSON PLAN: R2021053

Course Title: SOF	TWARE ENGINEERING	
Section :CSE-B	Date:05/09/2022	Page No : 01 of 03
Revision No : 01	Prepared by: D. Sailaja	Approved by : HOD

Tools: Black board, PPTs

UNIT 1: Software Engineering Overview, Process Models

CO1: GiveexposuretophasesofSoftwareDevelopment,commonprocessmodelsincluding Waterfall, and the Unified Process, and hands-on experience with elementsoftheagileprocess.

TB: "SoftwareEngineeringapractitioner'sapproach",RogerS.Pressman,SeventhEdition,McGraw HillHigherEducation.

No. of periods	TOPIC	Expected Date	Mode of Delivery
1.	TheNatureofSoftware		Black Board & PPT
2.	TheUniqueNatureofWebApps		
3.	Software Engineering- A Layered Technology		
4.	The Software Process	FROM	
5.	Software Engineering Practice	FROM: 05-09-2022	
6.	Software Myths	05-09-2022	
7.	A Generic Process Model		
8.	Process Assessment and Improvement	то	
9.	Prescriptive Process Models	22-09-2022	
10.	Specialized Process Models		
11.	The Unified Process		
12.	Personal and Team Process Models		
13.	Process Technology		

UNIT 2: Agile Process, Requirements Engineering

CO2: Give exposure to a variety of Software Engineering practices such as requirements analysis and specification, code analysis, code debugging, testing, traceability, and version control.

TB: "SoftwareEngineering", IanSommerville, NinthEdition, Pearson.

No. of periods	TOPIC	Date	Mode of Delivery
14.	Agility, Agility and the Cost of Change		Black Board



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15.	Agile Process	FROM: 23-09-2022 TO: 11-10-2022	& PPT
16.	Extreme Programming(XP)		
17.	Other Agile Process Models		
18.	A toolset for the Agile Process		
19.	Software Engineering Knowledge		
20.	Core Principles		
21.	Principles that Guide Each Framework Activity		
22.	Requirements Engineering		
23.	Establishing the Groundwork		
24.	Eliciting Requirements		
25.	Developing Use Cases		
26.	Building the Requirements Model		
27.	Negotiating Requirements		
28.	Validating Requirements		

UNIT 3: Requirements Model, Requirements Modeling Strategies

CO 3: GiveexposuretoSoftwareDesigntechniques

TB: "SoftwareEngineeringapractitioner'sapproach", RogerS. Pressman, Seventh Edition, McGraw HillHigherEducation.

No. of periods	TOPIC	Date	Mode of Delivery
29.	Requirements Analysis	FROM: 12-10-2022 TO: 31-10-2022	Black Board & PPT
30.	Scenario-Based Modeling		
31.	UML Models that Supplement the Use Case		
32.	Data Modeling Concepts		
33.	Class-Based Modeling		
34.	Requirements Modeling Strategies		
35.	Flow-Oriented Modeling		
36.	Creating a Behavioral Model		
37.	Patterns for Requirements Modeling		
38.	Requirements Modeling for WebApps		

UNIT 4: Design, Architectural Mapping using Data Flow

CO4: Give exposure to Design concepts, Architectural Designs through the components and component-based development.



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TB: "SoftwareEngineering", IanSommerville, NinthEdition, Pearson.

No. of periods	TOPIC	Date	Mode of Delivery
39.	Design within the context of the Software Engineering		Black Board & PPT
40.	The Design Process		
41.	Design Concepts		
42.	The Design Model		
43.	Software Architecture	FROM: 01-11-2022	
44.	Architectural Genres		
45.	Architectural Styles		
46.	Assessing Alternative Architectural Designs	то:	
47.	Architectural Mapping using Data Flow	25-11-2022	
48.	Components		
49.	Designing Class Based Components		
50.	Conducting Component-Level Design		
51.	Component-Level Design for WebApps		
52.	Designing Traditional Components		
53.	Component-Based Development		

UNIT 5: The Golden Rules, SQA, Strategic Approaches

CO5: To analyzeInterfaces, Webapp Interface Design and SQA for Test Strategies such as internal and externa views of testing.

 $TB: "Software Engineering a practitioner's approach", Roger S. Pressman, Seventh \ Edition, McGraw \ Annual Management \ Management \$

HillHigherEduc No. of periods	TOPIC	Date	Mode of Delivery
54.	The Golden Rules		
55.	User Interface Analysis and Design		
56.	Interface Analysis		
57.	Interface Design Steps		
58.	WebApp Interface Design	FROM:	
59.	Design Evaluation	26-11-2022	Black Board
60.	Elements of Software Quality Assurance		& PPT
61.	SQA Tasks		w 111
62.	Goals and Metrics		
63.	Statistical SQA		
64.	Software Reliability		
65.	A Strategic approach to Software Testing		
66.	Strategic Issues	TO:	



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67.	Test Strategies for Conventional Software	17-12-2022
68.	Test Strategies for Object Oriented Software	
69.	Test Strategies for WebApps	
70.	Validation Testing	
71.	System Testing	
72.	The Art of Debugging	
73.	Software Testing Fundamentals	
74.	Internal and External views of Testing	
75.	White-Box Testing	
76.	Basis Path Testing	

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Signature of the HOD

TENTATIVE LESSON PLAN: R2021054

MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE

Section: CSE -B	THEMATICAL FOUNDATION Date: 05-09-2022		Page	No: 01 of 03	
Revision No :00	Prepared By: V.V.N	Prepared By: V.V.M.Srividya		Approved By : HOD	
Tools: Black board	. PPT				
No. of Periods	TOPIC	DA	ATE	Mode of Delivery	

CO1: Student will be able to demonstrate skills in solving mathematical problems.

TB: Discrete mathematics with applications to computer science, J.P.Trembly, p.Manohar ,Tata mc graw hill

1.	Statements, Notations, Connectives, Well defined Formulas	05-09-2022	
2.	Truth tables, Tautologies	06-09-2022	
		06-09-2022	
3.	Equivalence of formulas	07-09-2022	Lecture
4.	Duality law, Tautological Implications	09-09-2022	interspersed
5.	Normal forms	12-09-2022	with discussions
		13-09-2022	and a document
6.	Tutorial class	14-09-2022	
7.	Theory of inference for statement calculus	16-09-2022	
8.	Consistency of premises	17-09-2022	
9.	Indirect method of proof	19-09-2022	
10.	Predicative Logic, statement functions	20-09-2022	
11.	Tutorial class	20-09-2022	-
12.	Variables and Quantifiers, free & bound variables	21-09-2022	
13.	Inference theory of predicate calculus Formulas	23-09-2022	
		24-09-2022	

UNIT-II: SET THEORY & ALGEBRAIC STRUCTURES

CO2: Student will be able to demonstrate knowledge of mathematical modeling and proficiency in using mathematical software. Students will be able to manipulate and analyze data numerically using Appropriate software.

TB: Discrete mathematics with applications to computer science, J.P.Trembly,p.Manohar, Tata mc graw hill

14.	Introduction to sets, operations on Binary sets	26-09-2022	
15.	Principle of Inclusion and Exclusion	27-09-2022	
16.	Relations, Properties of binary relations	27-09-2022	
17.	Relation matrix and Digraph	28-09-2022	
18.	Partition and covering, transitive closure	30-09-2022	
19.	Tutorial class	01-10-2022	
20.	Equivalence relations, compatibility relations,	03-10-2022	
21.	Partial ordering relations, Hasse diagram	04-10-2022	Lecture
22.	Bijective Functions and composition of functions	04-10-2022	interspersed with
23.	Inverse functions, recursive functions, permutation functions	07-10-2022	discussions
24.	Equivalence relations, compatibility relations,	10-10-2022	
25.	Algebraic structures: algebraic systems, examples and properties	11-10-2022	
26.	Semi groups and monoids, group definitions, examples.	11-10-2022	
27.	Homomorphism, Isomorphism	12-10-2022	
28.	groups, sub group definitions, examples		
29.	Group, Subgroup, Abelian Group, Homomorphism, Isomorphism	14-10-2022	
30.	Tutorial class	15-10-2022	

UNIT-3: COMBINATORICS & NUMBER THEORY

CO3: Student will be able to communicate effectively mathematical ideas results verbally or in Wrting

TB: Discrete mathematics with applications to computer science, J.P.Trembly,p.Manohar, Tata mc graw hill

31.	Basics of counting, permutations	17-10-2022	Lecture interspersed with discussions
32.	Permutations with Repetitions	18-10-2022	
33.	Circular Permutations, Restricted Permutations	18-10-2022	
34.	Combinations, Restricted Combinations	19-10-2022	
35.	Tutorial Class	21-10-2022	
36.	Generating functions of permutations and combinations	22-10-2022	
37.	Binomial and multinomial coefficients	25-10-2022	
38.	Binomial and multinomial theorems	25-10-2022	
39.	Coloring and chromatic numbers	26-10-2022	
40.	Pigeonhole Principle and its allpications	28-10-2022	
41.	Revision	29-10-2022	

42.	Number Theory: Properties of integers, division	31-10-2022	
	theorem	01-11-2022	
43.		01-11-2022	
	GCD, Euclidean algorithm	02-11-2022	
44.		03-11-2022	
	LCM, Testing for prime numbers	04-11-2022	
45.		05-11-2022	
	The fundamental theorem of Arithmetic	07-11-2022	
46.		08-11-2022	
40.	Modular Arithmetic, Euler and Fermat's	08-11-2022	
	theorems	09-11-2022	
47.	Tutorial class	11-11-2022	

UNIT-4: RECURRENCE RELATIONS

CO4: Student will be able to manipulate and analyze data generatically and recurrencingly

TB: Discrete mathematics with applications to computer science, J.P.Trembly,p.Manohar, Tata mc graw hill

1 55 44 11111			
48.	Generating Functions	14-11-2022	
49.	Function of Sequences	15-11-2022	
50.	Partial Fractions	15-11-2022	
51.	Coefficient of generating functions	16-11-2022	
52.	Recurrence relations	18-11-2022	
53.	Formulation as recurrence relations	19-11-2022	
			Lecture
54.	Recurrence relations by substitution	21-11-2022	interspersed with
55.	Recurrence relations by Generating	22-11-2022	discussions
	functions		
56.	Tutorial class	22-11-2022	
57.	Recurrence relations by method of	23-11-2022	
	characteristics roots	25-11-2022	
58.	Inhomogeneous Recurrence relations	26-11-2022	
50.	Infoliogeneous recuiremes returned		
		28-11-2022	
59.	Recurrence relations by Generating	29-11-2022	
	functions	29-12-2022	

30-11-2022

UNIT-5: GRAPH THEORY

CO5: Student will be able to manipulate and analyze data graphically using Appropriate

TB: Discrete mathematics with applications to computer science, J.P.Trembly,p.Manohar, Tata mc graw hill

60.	Basic concepts of graphs, sub graphs	02-12-2022	
61.	Representation of graphs: Adjacency, Incidence matrices	03-12-2022	
	Isomorphic graphs	05-12-2022	
62.			
	Paths.circuits, Elerian and Hamiltonian	06-12-2022	Lecture
		06-12-2022	interspersed with
63.	graphs		discussions
		07-12-2022	
64.	Multi graphs, Problems	09-12-2022	
65.	Tutorial class	12-12-2022	
66.	Planar graphs, Euler's formula	13-12-2022	
69.	Chromatic numbers Spanning trees, Algorithms for spanning	13-12-2022	
70.	trees	14-12-2022	
71.	Breadth first search algorithms	16-12-2022	
72.	Depth first search algorithm		
73.	Krushkal,s algorithm	17-12-2022	
74.	Prims algorithm		

V.V.H. Srividya Signature of Faculty

Signature of HOD



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Department of Computer Science Engineering TENTATIVE LESSONPLAN

TENTATIVE LESSON PLAN: R2031051

Course Title: COMPUTER NETWORKS		
Section : CSE-A	Date :05/09/2022	Page No : 01 of 04
Revision No: 01	Prepared by: J.Siva Naga Jyothi	Approved by : HOD

Tools: Black board, PPTs

UNIT 1:Introduction And Physical Layer

CO1: Demonstrate different network models for networking links OSI, TCP/IP, B-ISDN, N-BISDN and getknowledge about various communication techniques, methods and protocol standards.

Discuss different transmission media and different switching networks.

TB:Computer Networks — Andrew S Tanenbaum, Fifth Edition. Pearson Education/PHI.

No. of periods	TOPIC	Expected Date	Mode of Delivery
1.	Network Types,		
2.	LAN, MAN, WAN,		
3.	Network Topologies		
4.	The OSIReference Model		
5.	The TCP/IP Reference Model		
6.	A Comparison of the OSI and TCP/IP Reference Models	FROM: 04-08-2022	Black Board & PPT
7.	OSI Vs TCP/IP,		
8.	Lack of OSI models success,	то	
9.	Internet History.	22-08-2022	
10.	Introduction to Guided Media		
11.	Twisted-pair cable	10 TO S. A. O	
12.	Coaxial cable and Fiber optic cable		
13.	unguided media: Wireless-Radio waves,		
14.	microwaves, infrared.		Section 1

UNIT 2:Data link layer

CO2: Discuss different transmission media and different switching networks. Data link layer services, functions and protocols like HDLC and PPP.

TB:Computer Networks — Andrew S Tanenbaum, Fifth Edition. Pearson Education/PHI.



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Department of Computer Science Engineering TENTATIVE LESSONPLAN

No. of periods	TOPIC	Date	Mode of Delivery
15.	Design issues,		
16.	Framing: fixed size framing,		
17.	variable size framing,		
18.	flow control, errorcontrol,		
19.	Error detection and correction codes		
20.	CRC, Checksum: idea, one's complement internet checksum		
21.	services provided to Network Layer,		
22.	Elementary Data Link Layer protocols: simplex protocol,	FROM: 23-08-2022	Black Board & PPT
23.	Simplex stop and wait, Simplex protocol for Noisy Channel.	TO: 11-09-2022	
24.	Sliding window protocol: One bit,	11-07-2022	
25.	Go back N, Selective repeat-Stop and wait protocol,	1	
26.	Data link layer in HDLC: configuration and transfer modes, frames, control field,		
27.	point to point protocol (PPP): framing transition phase		
28.	Multiplexing		
29.	Multiplexing PPP	1	

UNIT 3: Media Access Control

CO 3: Compare and Classify medium access control protocols like ALOHA, CSMA, CSMA/CD, CSMA/CA, Polling, Token passing, FDMA, TDMA, CDMA protocols

TB: Data Communications and Networks - Behrouz A. Forouzan, Fifth Edition TMH.

No. of periods	TOPIC	Date	Mode of Delivery
30.	Media Access Control: Random Access: ALOHA	FROM:	
31.	Carrier sense multiple access (CSMA), CSMA with Collision Detection, CSMA with Collision Avoidance,	FROM: 12-09-2022	Black Board & PPT
32.	Controlled Access: Reservation, Polling, Token Passing	TO:	
33.	Channelization: frequency division multiple Access(FDMA),	24-09-2022	



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34.	TDMA	
35.	CDMA	
36.	Ethernet, Ethernet Protocol,	
37.	Standard Ethernet, Fast Ethernet(100 Mbps	
38.	Gigabit Ethernet,	
39.	10Gigabit Ethernet,	

UNIT 4: The Network Layer Design Issues

CO4: Determine Various Routing Algorithms and Congestion Control Algorithms.

TB: Data Communications and Networks – Behrouz A. Forouzan, Fifth Edition TMH.

No. of periods	TOPIC	Date	Mode of Delivery
40.	Store and Forward Packet Switching-Services Provided to the Transport layer		
41.	Implementation of Connectionless Service		
42.	Implementation of Connection Oriented Service		
43.	Comparison of Virtual Circuit and Datagram Networks,		
44.	Routing Algorithms-The Optimality principle-Shortest path, Flooding,		Sant Sant I
45.	Distance vector, Link state, Hierarchical,	FROM:	10000
46.	Congestion Control Algorithms	10-10-2022	Black Board & PPT
47.	General principles of congestion control, Congestion prevention polices,		
48.	Approaches to Congestion Control-Traffic Aware Routing	15-97-39-5	
49.	Admission Control-Traffic Throttling	1	
50.	Load Shedding.		
51.	TrafficControl Algorithm- Leaky bucket& Token bucket	TO: 04-11-2022	
52.	Tunnelling, internetwork routing	J 4-11-2022	
53.	Fragmentation, network layer in the internet		
54.	IP protocols-IP Version 4		
55.	IPV4 Header Format, IP addresses, Class full Addressing		dark to
56.	CIDR, NAT		



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57.	Subnets-IP Version 6	
58.	The main IPV6 header,	
59.	Transition from IPV4 to IPV6	
60.	Comparison of IPV4 & IPV6	

UNIT 5: The Transport Layer And Application Layer

CO5: Determine application layer services and client server protocols working with the client server paradigms like WWW, HTTP, FTP, e-mail and SNMP etc.

TB: Data Communications and Networks - Behrouz A. Forouzan, Fifth Edition TMH.

No. of periods	TOPIC	Date	Mode of Delivery
61.	Transport layer protocols: Introduction-services		
62.	port number-User data gram protocol-		
63.	User datagram		
64.	UDP services-UDP applications		
65.	Transmission control protocol: TCP services		
66.	TCP features- Segment		
67.	A TCP connection- windows in TCP	FROM:	
68.	flow control, Error control, Congestion control in TCP.	05-11-2022	Black Board
69.	World Wide Web: HTTP		
70.	Electronic mail-Architecture-		& PPT
71.	web based mail		
72.	Email security		
73.	TELENET-local versus remote Logging		
74.	Domain Name System: Name Space, DNS in Internet	TO:	
75.	Resolution-Caching	16-11-2022	
76.	- Resource Record		
77.	DNS messages		
78.	Registrars-security of DNS Name Servers, SNMP.		

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Signature of the HOD

TENTATIVE LESSON PLAN: R1932053 DESIGN AND ANALYSIS OF ALGORITHMS

	DESIGN AND ANALYSIS OF ALGORITHMS	Page No:	1 to 3	
Section : CSE -A Date : 01/08/2022			ed By : HOD	
Revision No : 0		Approved	ву: пор	
Tools: Black bo		D. t.	Mode of	
S.NO.	TOPIC	Date	Delivery	
CO1 Analyze th TB1: Ellis Horo	uction of Algorithm ne performance of algorithm and denote its time com witz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fu d Edition, Universities Press	plexity using the asym ndamentals of Comp	ptotic notation. uter	
1	Introduction: Algorithm Definition			
2	Algorithm Specification	From:		
3	performance Analysis	01/08/2022	Lecture	
4	Performance measurement	To:	interspersed	
5	Asymptotic notation	22/08/2022	with	
6	Randomized Algorithms		discussions	
7	Sets & Disjoint set union		and about the	
8	Tutorial class			
TB1: : Ellis Ho	describe various algorithmic approaches rowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "F ad Edition, Universities Press	Sundamentals of Com	puter	
TB1: : Ellis Ho	rowitz, Sartaj Sahni, Sanguthevar Rajasekaran, " F ad Edition, Universities Press Divide and Conquer	Fundamentals of Com	puter	
TB1: : Ellis Ho Algorithms", 2n	rowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "F ad Edition, Universities Press	Fundamentals of Com	puter	
TB1: : Ellis Ho Algorithms", 2n 9 10	rowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fad Edition, Universities Press Divide and Conquer General Method Defective chessboard	Sundamentals of Com	puter	
TB1: : Ellis Ho Algorithms", 2n 9 10	rowitz, Sartaj Sahni, Sanguthevar Rajasekaran, " F ad Edition, Universities Press Divide and Conquer General Method	From	puter	
TB1: : Ellis Ho Algorithms", 2n 9 10	rowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fad Edition, Universities Press Divide and Conquer General Method Defective chessboard		puter	
TB1: : Ellis Ho Algorithms", 2n 9 10	rowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fad Edition, Universities Press Divide and Conquer General Method Defective chessboard Binary Search	From 23/08/2022	puter	
TB1: : Ellis Ho Algorithms", 2n 9 10 11 12	rowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fad Edition, Universities Press Divide and Conquer General Method Defective chessboard Binary Search Finding the maximum and minimum Merge sort Quick sort	From 23/08/2022 To	Lecture	
TB1: : Ellis Ho Algorithms", 2n 9 10 11 12 13	rowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fad Edition, Universities Press Divide and Conquer General Method Defective chessboard Binary Search Finding the maximum and minimum Merge sort Quick sort Greedy Method, knapsack problem	From 23/08/2022 To	Lecture	
TB1: : Ellis Ho Algorithms", 2n 9 10 11 12 13 14 15	rowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fad Edition, Universities Press Divide and Conquer General Method Defective chessboard Binary Search Finding the maximum and minimum Merge sort Quick sort	From 23/08/2022 To		
TB1: : Ellis Ho Algorithms", 2n 9 10 11 12 13 14 15 16	rowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fad Edition, Universities Press Divide and Conquer General Method Defective chessboard Binary Search Finding the maximum and minimum Merge sort Quick sort Greedy Method, knapsack problem	From 23/08/2022 To	Lecture interspersed with	
TB1: : Ellis Ho Algorithms", 2n 9 10 11 12 13 14 15 16 17	rowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fad Edition, Universities Press Divide and Conquer General Method Defective chessboard Binary Search Finding the maximum and minimum Merge sort Quick sort Greedy Method, knapsack problem Minimum Cost Spanning Tree	From 23/08/2022 To	Lecture interspersed with	

UNIT-III Dynamic Programming

CO3: Solve problems using dynamic programming, backtracking and branch and bound algorithmic approaches

TB1: : Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer

Algorithms", 2nd Edition, Universities Press

21	Dynamic Programming, The general method	From 20/09/2022	Lecture interspersed with discussions
22	multistage graphs		
23	Single source shortest paths	То	
24	All pairs-shortest paths	24/09/2022	
25	Optimal Binary search trees	And From	
26	0/1 knapsack	10/10/2022	
27	The traveling salesperson problem	To 31/10/2022	
28	Tutorial class		

UNIT-IV Backtracking

CO4: Apply graph search algorithms to real world problems

TB1:: Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer

Algorithms", 2nd Edition, Universities Press

29	Backtracking, The General Method	F	
30	The 8-Queens problem		
31	sum of subsets	From	Lecture Interspersed with discussions
32	Graph coloring	01/11/2022 To	
33	Hamiltonian cycles	14/11/2022	
34	knapsack problem, Traveling salesperson problem		
35	Tutorial class		

UNIT-V NP-Hard and NP-Complete problems

CO5: Demonstrate an understanding of NP- Completeness theory and lower bound theory

TB1: : Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer

Algorithms", 2nd Edition, Universities Press

36	NP-Hard and NP-Complete problems, Basic concepts	From: Le	Lecture
37	Nondeterministic algorithm		interspersed
38	NP-Complete Classes	То:	with
39	Cooks Theorem	26/11/2022	discussions
40	Tutorial class		

TB1: Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Universities Press

TB2: Introduction to Algorithms Thomas H. Cormen, PHI Learning

TB2: Harsh Bhasin, "Algorithms Design & Analysis", Oxford University Press.

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TENTETIVELESSON PLAN-R203105E OPTIMIZATION IN OPERATIONS RESEARCH



SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Department of Computer Science Engineering TENTATIVE LESSONPLAN

TENTATIVE LESSON PLAN: R2031053

Course Title: DATA	WAREHOUSING AND DATAMINING	(R2031053)
Section : CSE-A	Date :05/09/2022	Page No : 01 of 04
Revision No: 01	Prepared by:R.Lakshmi	Approved by : HOD

Tools: Black board, PPTs

UNIT 1: Data warehousing and online analytical processing:

CO1: The main objective of the course is to

☐ Introduce basic concepts and techniques of data warehousing and data mining .

Discuss different transmission media and different switching networks.

TB: Introduction to Data Mining: Pang-Ning Tan & Michael Steinbach, Vipin Kumar,

Pearson,2012.

No. of periods	TOPIC	Expected Date	Mode of Delivery
1.	☐ Introduce basic concepts and techniques of data warehousing and data mining.		
2.	Data Warehouse Modelling: Data Cube and OLAP.	FROM:	Black Board & PPT
3.	Data Warehouse Design and Usage, Data Warehouse Implementation.	04-08-2022	
4.	Introduction: Why and What is data mining.	1	
5.	What kinds of data need to be mined and patterns can be mined.	TO 23-08-2022	
6.	Which technologies are used.		
7.	Which kinds of applications are targeted.		

UNIT 2: Data Pre-processing:

CO2: Examine the types of the data to be mined and apply pre-processing methods on raw data.

TR: Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head of the Data Mining Techniques and Applications: An Introduction Head Mining Techniques and Applications: An Introduction Head Mining Techniques and Applications and Appl

No. of periods	TOPIC	Date	Mode of Delivery
8.	An Overview, Data Cleaning.	FROM:	
9.	Data Integration.	24-08-2022	
10.	Data Reduction.		
11.	DataTransformation and Data Discretization.	TO: 12-09-2022	Black Board & PPT
	The second secon		

UNIT 3: Classification:



Enikepadu, Vijayawada 521108 Department of Computer Science Engineering TENTATIVE LESSONPLAN

CO 3: Illustrate the importance of Data Warehousing, Data Mining and its functionalities and Design schema for real time data warehousing applications

TB: Data Mining: VikramPudi and P. Radha Krishna, Oxford Publisher.

TOPIC	Date	Mode of
Basic Concepts, General Approach to solving a classification problem.	EDOM.	Delivery
Decision Tree Induction: Attribute Selection Measures	13-09-2022	
Tree Pruning		
		Black Board
Visual	TO:	& PPT
	Basic Concepts, General Approach to solving a classification problem. Decision Tree Induction: Attribute Selection Measures. Tree Pruning Scalability and Decision Tree Induction.	Basic Concepts, General Approach to solving a classification problem. Decision Tree Induction: Attribute Selection Measures. Tree Pruning Scalability and Decision Tree Induction. Visual TO:

UNIT 4: Association Analysis:

CO4: Demonstrate on various Data Preprocessing Techniques viz. data cleaning, data integration, data transformation and data reduction and Process raw data to make it suitable for various data mining algorithms. TB:. Data Mining and Analysis - Fundamental Concepts and Algorithms; Mohammed J. Zaki, Wagner Meira, Jr, Oxford.

No. of periods	TOPIC	Date	Mode of
17.	Problem Definition		Delivery
18.	Frequent Item set Generation.		
19.	Rule Generation:Confident Based Pruning.		Black Board & PPT
20.	Rule Generation in Apriori Algorithm.	FROM:	
21.	Compact Representation of frequent item sets.	27-10-2022	4111
22.	FP- Growth Algorithm.	TO: 09-11-2022	
23.	IPV4 Header Format, IP addresses, Class full Addressing		

UNIT 5: Cluster Analysis:

CO5: Identify and apply various clustering algorithm (with open source tools), interpret, evaluate and report the result.

TB: Data Warehousing Data Mining & OLAP, Alex Berson, Stephen Smith, TMH.

No. of periods	TOPIC	Date	Mode of Delivery
24.	Cluster Analysis: Overview.		
25.	Clustering techniques.		Black Board
26.	Different Types of Clusters	FROM:	& PPT



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Department of Computer Science Engineering
TENTATIVE LESSONPLAN

7.	Basics and Importance of Cluster Analysis.	10-11-2022
	K-means: The Basic K-means Algorithm.	
	K-means Additional Issues.	то:
	Bi-secting K Means.	23-11-2022

Signature of the faculty

Signature of the HOD

TENTETIVELESSON PLAN-R203105E OPTIMIZATION IN OPERATIONS RESEARCH

Course Title: OPTIMIZATION IN OPERATIONS RESEARCH		
Section: CSE A	Date: 01-08-2022	Page No: 01 of 04
Revision No: 00	Prenared Ry : G Koteswaramma	Approved By : HOD

Tools: Black board, PPT

No. of	TOPIC	Date	Mode of Delivery
Periods			

UNIT- I: INTRODUCTION AND CLASSICAL OPTIMIZATION TECHNIQUES

CO1: To define an objective function and constraint functions in terms of design variables, and then statethe optimization problem. To state single variable and multi variable optimization Problems, without and with constraints.

TB1: ENGINEERING OPTIMIZATION – THEORY AND PRACTICE, S.S.RAO, NEW AGE INTERNATIONAL (P) LIMITED, 3RD EDITION,1998.
TB2:OPERATIONS RESEARCH By S.D. SHARMA – KEDARNATH.

1.	Introduction: Statement of an Optimization problem, design vector	01-08-2022	
2.	Design constraints, constraint surface	02-08-2022	
3.	Objective function, objective function surfaces	04-08-2022	
4.	Classification of Optimization problems.	05-08-2022	
5.	Classical Optimization Techniques: Single variable Optimization- Algorithm, Problems	06-08-2022	
6.	Multi variable Optimization without constraints - Algorithm, Problems	06-08-2022	
7.	Tutorial Class	08-08-2022	
8.	Necessary and Sufficient conditions for minimum/maximum	09-08-2022	
9.	Multivariable Optimization with equality constraints - Algorithm, Problems	11-08-2022 12-08-2022	Lecture
10.	Solution by method of Lagrange multipliers - Algorithm, Problems	16-08-2022 18-08-2022 19-08-2022	interspersed with discussions
11.	Multivariable Optimization with inequality constraints—One Constraint Algorithm, Problems	20-08-2022 20-08-2022	
12.	Tutorial Class	22-08-2022	
13.	Multivariable Optimization with inequality constraints – Two Constraint Algorithm, Problems	23-08-2022 25-08-2022	
14.	Kuhn – Tucker conditions–one constraint Algorithm, Problems	26-08-2022 26-08-2022	
15.	Kuhn – Tucker conditions – Two constraint Algorithm, Problems	27-08-2022 27-08-2022	

UNIT-II: LINEAR PROGRAMMING

CO2: To explain linear programming technique to an optimization problem, define slack and surplusvariables, by using Simplex method, Dual Simplex method, Big-M method, Two Phase Method.

B1 : ENGINEERING OPTIMIZATION – THEORY AND PRACTICE, S.S.RAO, NEW AGE INTERNATIONAL (P) LIMITED, 3RD EDITION, 1998.

TB2: OPERATIONS RESEARCH By S.D. SHARMA - KEDARNATH.

16,	Standard form of a linear programming problem	29-08-2022	
17.	Geometry of linear programming problems	30-08-2022	
18,	Definitions and Theorems	01-09-2022	
19.	Solution of a system of linear simultaneous equations	02-09-2022	
20.	Pivotal reduction of a general system of equations	03-09-2022	
21.	Tutorial Class	03-09-2022	and the second
22.	Motivation to the Simplex method	05-09-2022	
23.	Simplex Algorithm - Problems	06-09-2022	Lecture
24.	Problems	08-09-2022	interspersed with discussions
25.	Duality in Linear Programming	09-09-2022	uracusaions
26.	Dual Simplex method		
27.	Big -M method	12-09-2022	
28.	Problems	13-09-2022	
29.	Two - Phase method	15-09-2022	
30,	Problems	16-09-2022	
31.	Tutorial Class	17-09-2022	

UNIT III- TRANSPORTATION PROBLEM

CO3: To state transportation and assignment problem as a linear programming problem to determineSimplex method.

TB1 : ENGINEERING OPTIMIZATION – THEORY AND PRACTICE, S.S.RAO, NEW AGE INTERNATIONAL (P) LIMITED, 3RD EDITION,1998.

TB2: OPERATIONS RESEARCH By S.D. SHARMA – KEDARNATH.

32.	Introduction to Transportation Problem	17-09-2022	
33.	Finding initial basic feasible solution by north west corner rule - Problems	19-09-2022	
34.	Least Cost Method - Problems	20-09-2022	
35.	Vogel's Approximation Method - Problems	19-09-2022 22-09-2022	Lecture interspersed with
36.	Tutorial Class	23-09-2022	discussions
37.	Testing for optimality in Balanced Transportation Problem	24-09-2022	
38.	MODI Method - Problems	24-09-2022 26-09-2022	
39.	Special cases in Transportation Problem- Unbalanced Transportation Problem	26-09-2022 27-09-2022	
40.	Degeneracy on Transportation Problem	29-09-2022 30-09-2022	

41.	Assignment Problems- Balanced Assignment Problems	01-10-2022
42.	Assignment Problems - Unbalanced Assignment Problems	01-10-2022
43.	Problems	03-10-2022
44.	Travelling Salesman Problems	06-10-2022 07-10-2022
45.	Problems	10-10-2022
46.	Tutorial Class	11-10-2022

UNIT - IV NON-LINEAR PROGRAMMING

CO4: To study and explain nonlinear programming techniques, unconstrained or constrained, and define exterior and interior penalty functions for optimization problems.

TB1 : ENGINEERING OPTIMIZATION – THEORY AND PRACTICE, S.S.RAO, NEW AGE INTERNATIONAL (P) LIMITED, 3RD EDITION,1998.

TB2: OPERATIONS RESEARCH By S.D. SHARMA - KEDARNATH.

47.	Unconstrained cases, One dimensional minimization methods	13-10-2022 14-10-2022	
48.	Classifications	15-10-2022	
49.	Fibonacci Method	15-10-2022	
50.	Quadratic Interpolation Method	17-10-2022	
51.	Univariate Method	18-10-2022	
52.	Powell's Method	20-10-2022	
53.	Steepest descent method	21-10-2022	Lecture
54.	Tutorial Class	22-10-2022	interspersed with discussions
55.	Constrained cases Characteristics of a constrained problem	24-10-2022	discussions
56.	Classification	25-10-2022	
57.	Basic approach of PenaltyFunction method	27-10-2022	
58.	Basic approaches of Interior and Exterior penalty function methods	28-10-2022 29-10-2022	
59.	Introduction to Convex Programming Problem	29-10-2022	
60.	Tutorial Class	01-11-2022	

UNIT -V DYNAMIC PROGRAMMING

CO 5: To understand the optimal control problem for dynamic systems using Bellman's principle of Optimality.

TB1: ENGINEERING OPTIMIZATION – THEORY AND PRACTICE, S.S.RAO, NEW AGE INTERNATIONAL (P) LIMITED, 3RD EDITION,1998.

TB2: OPERATIONS RESEARCH By S.D. SHARMA - KEDARNATH.

61.	Dynamic programming multistage decision processes, types	03-11-2022 04-11-2022	Lecture interspersed with
62.	Problems	05-11-2022	discussions

53.	Conceptof sub optimization and the principle of optimality	05-11-2022
4.	Problems	07-11-2022
55.	Computational procedure in dynamic programming	08-11-2022 10-11-2022
66.	Problems	11-11-2022 14-11-2022
67.	Examples illustrating the calculus method of solution	15-11-2022 17-11-2022 18-11-2022
8.	Problems	19-11-2022 19-11-2022
9.	Examples illustrating the tabular method of solution	21-11-2022 22-11-2022 24-11-2022
70.	Problems	25-11-2022 26-11-2022
71.	Tutorial Class	26-11-2022

G. Koteswaramma Signature of the Faculty Signature of the HOD



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Department of Computer Science and Engineering

TENTATIVE LESSON PLAN: R203105B

Course Title: Softwar	e Project Management (R203105E	3)
Section: III CSE-A	Date:01/08/2022	Page No: 01 of 04
Revision No:	Prepared By: Ch.Ambedkar	Approved By: HOD

Tools: Black Board, PowerPoint Presentations

No. of Periods	Topic	Date	Mode of Delivery
UNITI	: Conventional Software Managem Economics, Improving Software		
CO 1	 understand why majority of the sfailure probability can be reduced 	effectively	
	ok : Software Project Management, W	lalker Royce: Pear	rson Education
1	Conventional Software Management:	1-8-2022	
2,3	The waterfall model - In theory - In practice	2,3-8-2022	
4	Conventional Software Management performance	4-8-2022	
5	Evolution of Software Economics:	5-8-2022	
6	Software Economics	6-8-2022	
7	Pragmatic software cost Estimation	8-8-2022	Lecture
8	Improving Software Economics:	9-8-2022	interspersed
9	Reducing Software product size	10-8-2022	discussions
10	Improving software Processes	11-8-2022	
11	Improving team effectiveness	12-8-2022	
12	Improving automation through software environments	13-8-2022	
13	Achieving required Quality	16-8-2022	
14	The old way and the new:	17-8-2022	
15,16	The principles of conventional software Engineering	18,20-8-2022	



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17,18	Principles of modern software management	22,23-8-2022		
19	Tutorial	24-8-2022		
No. of Periods	Topic	Date	Mode of Delivery	
UNIT II CO 2 Text Bo	 Life cycle phases, Artifacts of t Apply software metrics and attain understand conventional and models Software Project Management, 	economics in a pro- dern software engin	eering principles	
20	Life cycle phases:	25-8-2022		
21	Engineering and Production stages	26-8-2022		
22	Inception Phase	27-8-2022		
23	Elaboration Phase	29-8-2022		
24	Construction Phase	30-8-2022	Lecture	
25	Transition Phase	1-9-2022	interspersed with	
26	The artifact sets	2-9-2022	discussions	
27	Management artifacts	3-9-2022		
28	Engineering Artifacts	5-9-2022		
29	Pragmatic artifacts	6-9-2022		
30	Tutorial	7-9-2022		
No. of Periods	Topic	Date	Mode of Delivery	
UNIT III CO 3 Text Bo	: Model based software architectural Iterative Process Planning : Will have good knowledge of various management and artifacts of process architecture perspectives ok: Software Project Management, I	us phases in moder ess and Understan	n software d the software	
31	A Management perspective	8-9-2022		
32	A Technical Perspective	9-9-2022	Lecture	
33	Software process workflows	10-9-2022	interspersed with	
			discussion	
34	Iteration workflows.	12-9-2022		



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Department of Computer Science and Engineering

36	Minor Milestones	14-9-2022	
37	Periodic status Assessments	15-9-2022	
38	Iterative Process Planning	16-9-2022	
39	Work breakdown structures Conventional WBS Issues	17-9-2022	Lecture
40	Evolutionary WBS	19-9-2022	
41	Planning guidelines	20-9-2022	with discussions
42	The cost &Schedule estimating process	21-9-2022	
43	The Iteration planning process	23-9-2022	
44	Pragmatic planning.	10-10-2022	
45	Tutorial	11-10-2022	
No. of Periods UNIT IV	Process instrumentation		
Periods UNIT IV CO 4	: Project Organizations and Res Process instrumentation : Understand the Project Organiza	ponsibilities, Project tions and Responsibilect planning and Pro	Delivery t Control and lities of teams ject Scheduling
Periods UNIT IV CO 4 Text Bo	: Project Organizations and Res Process instrumentation : Understand the Project Organiza Understand the milestones ,Project ok : Software Project Management	ponsibilities, Project tions and Responsibilect planning and Pro	Delivery t Control and lities of teams ject Scheduling
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Periods UNIT IV CO 4 Text Bo 46 47,48 49 50	: Project Organizations and Res Process instrumentation : Understand the Project Organiza Understand the milestones ,Project : Software Project Management Line-of-Business Organizations Project Organizations Evolution of Organizations Tools-Automation Building blocks	ponsibilities, Project tions and Responsibilities and Project planning a	Delivery t Control and lities of teams ject Scheduling rson Education Lecture
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Periods UNIT IV CO 4 Text Bo 46 47,48 49 50 51	: Project Organizations and Resprocess instrumentation : Understand the Project Organizations Understand the milestones, Project : Software Project Management Line-of-Business Organizations Project Organizations Evolution of Organizations Tools-Automation Building blocks The Project Environment Project Control and Process	ponsibilities, Project tions and Responsibilities and Project ect planning and Project , Walker Royce: Pea 14-10-2022 15,17-10-2022 18-10-2022 19-10-2022 20-10-2022	Delivery t Control and lities of teams ject Scheduling rson Education Lecture interspersed
Periods UNIT IV CO 4 Text Bo 46 47,48 49 50 51 52	: Project Organizations and Resprocess instrumentation : Understand the Project Organizations Understand the milestones, Project : Software Project Management Line-of-Business Organizations Project Organizations Evolution of Organizations Tools-Automation Building blocks The Project Environment Project Control and Process instrumentation:	ponsibilities, Project tions and Responsibilities and Project tions and Responsibilities and Project planning and	Delivery t Control and lities of teams ject Scheduling rson Education Lecture interspersed with
Periods UNIT IV CO 4 Text Bo 46 47,48 49 50 51 52 53,54	: Project Organizations and Resprocess instrumentation : Understand the Project Organizations Understand the milestones, Project : Software Project Management Line-of-Business Organizations Project Organizations Evolution of Organizations Tools-Automation Building blocks The Project Environment Project Control and Process instrumentation: The seven core Metrics	ponsibilities, Project tions and Responsibilities and Project tect planning and Project plann	Delivery t Control and lities of teams ject Scheduling rson Education Lecture interspersed with
Periods UNIT IV CO 4 Text Bo 46 47,48 49 50 51 52 53,54 55	: Project Organizations and Resprocess instrumentation : Understand the Project Organizations Understand the milestones, Project : Software Project Management Line-of-Business Organizations Project Organizations Evolution of Organizations Tools-Automation Building blocks The Project Environment Project Control and Process instrumentation: The seven core Metrics Management Indicators	ponsibilities, Project tions and Responsibilities, Project tions and Project tions a	Delivery t Control and lities of teams ject Scheduling rson Education Lecture interspersed with



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Department of Computer Science and Engineering

59	Metrics automation	2-11-2022			
60	Tutorial	3-11-2022	merce .		
No. of Periods	Topic	Date	Mode of Delivery		
UNIT V CO 4	: Agile Methodology, Fundamentals of : Understand the Agile Project Managem planning, management and control Understand best practices in Continuou Management, Continuous Integration, a Monitoring of software throughout its de	nent process that as Development, and finally, Cont	Configuration inuous		
61	Agile Methodology	4-11-2022			
62	ADAPTing to Scrum	5-11-2022			
63	Patterns for Adopting Scrum	8-11-2022			
64	Iterating towards Agility	10-11-2022			
65	Fundamentals of DevOps: Architecture	11-11-2022			
66	Deployments, Orchestration	14-11-2022	Lecture		
67	Need, Instance of applications, DevOps delivery pipeline	15-11-2022	interspersed with discussions		
68	DevOps eco system. DevOps adoption in projects	18-11-2022	discussions		
69	Technology aspects, Agiling capabilities	21-11-2022			
70	Tool stack implementation, People aspect, processes	23-11-2022			
71	Tutorial	25-11-2022			
72	Tutorial	26-11-2022			

Signature of Faculty

Signature of HOD



Enikepadu, Vijayawada 521108
Department of Computer Science Engineering
TENTATIVE LESSONPLAN

TENTATIVE LESSON PLAN: R2031051

Course Title: COMPUTER NETWORKS			
Section : CSE-B	Date :05/09/2022	Page No : 01 of 04	
Revision No: 01	Prepared by: J. Siva Naga Jyothi	Approved by : HOD	

Tools: Black board, PPTs

UNIT 1:Introduction And Physical Layer

CO1: Demonstrate different network models for networking links OSI, TCP/IP, B-ISDN, N-BISDN and getknowledge about various communication techniques, methods and protocol standards.

Discuss different transmission media and different switching networks.

TB:Computer Networks — Andrew S Tanenbaum, Fifth Edition. Pearson Education/PHI.

No. of periods	TOPIC	Expected Date	Mode of Delivery
1.	Network Types,		
2.	LAN, MAN, WAN,		
3.	Network Topologies		
4.	The OSIReference Model		
5.	The TCP/IP Reference Model		Black Board & PPT
6.	A Comparison of the OSI and TCP/IP Reference Models	FROM: 04-08-2022	
7.	OSI Vs TCP/IP,		
8.	Lack of OSI models success,	то	
9.	Internet History.	22-08-2022	
10.	Introduction to Guided Media		
11.	Twisted-pair cable		
12.	Coaxial cable and Fiber optic cable		
13.	unguided media: Wireless-Radio waves,		
14.	microwaves, infrared.		

UNIT 2:Data link layer

CO2: Discuss different transmission media and different switching networks. Data link layer services, functions and protocols like HDLC and PPP.

TB:Computer Networks — Andrew S Tanenbaum, Fifth Edition. Pearson Education/PHI.



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Department of Computer Science Engineering TENTATIVE LESSONPLAN

No. of periods	TOPIC	Date	Mode of Delivery
15.	Design issues,		
16.	Framing: fixed size framing,		
17.	variable size framing,		
18.	flow control, errorcontrol,		
19.	Error detection and correction codes		
20.	CRC, Checksum: idea, one's complement internet checksum		
21.	services provided to Network Layer,	FROM:	
22.	Elementary Data Link Layer protocols: simplex protocol,	23-08-2022	Black Board & PPT
23.	Simplex stop and wait, Simplex protocol for Noisy Channel.	TO: 11-09-2022	
24.	Sliding window protocol: One bit,		
25.	Go back N, Selective repeat-Stop and wait protocol,		
26.	Data link layer in HDLC: configuration and transfer modes, frames, control field,		
27.	point to point protocol (PPP): framing transition phase		
28.	Multiplexing		
29.	Multiplexing PPP		

UNIT 3: Media Access Control

CO 3: Compare and Classify medium access control protocols like ALOHA, CSMA, CSMA/CD, CSMA/CA, Polling, Token passing, FDMA, TDMA, CDMA protocols

TB: Data Communications and Networks – Behrouz A. Forouzan, Fifth Edition TMH.

No. of periods	TOPIC	Date	Mode of Delivery
30.	Media Access Control: Random Access: ALOHA	FROM:	
31.	Carrier sense multiple access (CSMA), CSMA with Collision Detection, CSMA with Collision Avoidance,	12-09-2022 Black B TO: & PP	DI 1 D 1
32.	Controlled Access: Reservation, Polling, Token Passing		& PPT
33.	Channelization: frequency division multiple Access(FDMA),	24-09-2022	



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No. of periods	TOPIC	Date	Mode of Delivery	
15.	Design issues,			
16.	Framing: fixed size framing,			
17.	variable size framing,			
18.	flow control, errorcontrol,			
19.	Error detection and correction codes			
20.	CRC, Checksum: idea, one's complement internet			
	checksum			
21.	services provided to Network Layer,	FROM:		
22.	Elementary Data Link Layer protocols: simplex	23-08-2022		
	protocol,		Black Board	
23.	Simplex stop and wait, Simplex protocol for Noisy	TO:	& PPT	
	Channel.	11-09-2022		
24.				
25.				
26.				
	HDLC: configuration and transfer modes, frames, control field,			
27.	point to point protocol (PPP): framing	ocol (PPP): framing		
	transition phase			
28.				
29.	Multiplexing PPP			

UNIT 3: Media Access Control

CO 3: Compare and Classify medium access control protocols like ALOHA, CSMA, CSMA/CD, CSMA/CA, Polling, Token passing, FDMA, TDMA, CDMA protocols

TB: Data Communications and Networks - Behrouz A. Forouzan, Fifth Edition TMH.

No. of periods	TOPIC	Date	Mode of Delivery
30.	Media Access Control: Random Access: ALOHA	FROM:	
31.	Carrier sense multiple access (CSMA), CSMA with Collision Detection, CSMA with Collision Avoidance,		Black Board
32.	Controlled Access: Reservation, Polling, Token Passing		& PPT
33.	Channelization: frequency division multiple Access(FDMA),		



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34.	TDMA	
35.	CDMA	
36.	Ethernet, Ethernet Protocol,	
37.	Standard Ethernet, Fast Ethernet(100 Mbps	
38.	Gigabit Ethernet,	
39.	10Gigabit Ethernet,	

UNIT 4: The Network Layer Design Issues

CO4: Determine Various Routing Algorithms and Congestion Control Algorithms.

TB: Data Communications and Networks – Behrouz A. Forouzan, Fifth Edition TMH.

1	No. of periods	TOPIC	Date	Mode of Delivery
1	40.	Store and Forward Packet Switching-Services		
1		Provided to the		
		Transport layer		
1	41.	Implementation of Connectionless Service		
1	42.	Implementation of Connection Oriented		
		Service		
-	43.	Comparison of Virtual Circuit and Datagram		
		Networks,		
	44.	Routing Algorithms-The Optimality		
		principle-Shortest path, Flooding,	TROIT	
	45.	Distance vector, Link state, Hierarchical,	FROM: 10-10-2022	
	46.	Congestion Control	10-10-2022	Black Board
		Algorithms		& PPT
	47.	General principles of congestion control, Congestion		
-		prevention polices,		
1	48.	Approaches to		
		Congestion Control-Traffic Aware Routing		
	49.	Admission Control-Traffic Throttling		
	50.	Load Shedding.		
	51.	TrafficControl Algorithm- Leaky bucket& Token	TO:	
		bucket	04-11-2022	
	52.	Tunnelling, internetwork		
		routing	-	
	53.	Fragmentation, network layer in the internet		
	54.	IP protocols-IP Version 4		
	55.	IPV4 Header		
		Format, IP addresses, Class full Addressing		
	56.	CIDR, NAT		



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57.	Subnets-IP Version 6	
58.	The main IPV6 header,	
59.	Transition from IPV4 to IPV6	
60.	Comparison of IPV4 & IPV6	

UNIT 5: The Transport LayerAnd Application Layer

COS: Determine application layer services and client server protocols working with the client server paradigms like WWW, HTTP, FTP, e-mail and SNMP etc.

TB: Data Communications and Networks - Behrouz A. Forouzan, Fifth Edition TMH.

No. of periods	TOPIC	Date	Mode of Delivery		
61.	Transport layer protocols: Introduction-services				
62.	port number-User data gram				
	protocol-				
63.	User datagram				
64.	UDP services-UDP applications				
65.	Transmission control protocol: TCP services				
66.	TCP features- Segment				
67.	A TCP connection- windows in TCP	FROM:			
68.	flow control, Error control, Congestion	05-11-2022			
	control in TCP.		Black Board		
69.	World Wide Web: HTTP		& PPT		
70.	Electronic mail-Architecture-				
71.	web based mail				
72.	Email security				
73.	TELENET-local versus remote Logging				
74.	Domain Name System: Name Space, DNS in Internet	TO:			
75.	Resolution-Caching	16-11-2022			
76.	- Resource Record				
77.	DNS messages				
78.	Registrars-security of DNS Name Servers, SNMP.				

Signature of the faculty

Signature of the HOD

TENTATIVE LESSON PLAN: R1932053 DESIGN AND ANALYSIS OF ALGORITHMS

Course Title: Section : CS	SE-B	Date: 01/08/2022	Page No:	1 to 3
Revision No : 00		Prepared By : Dr.A.Radhika	Approved	By: HOD
Tools: Black	board			
S.NO.		TOPIC	Date	Mode of Delivery
UNIT-I Intro	duction of Algori	ithm		
		of algorithm and denote its time comp	lexity using the asyn	nptotic notation.
		ni, Sanguthevar Rajasekaran, "Funda	damentals of Comp	puter
Algorithms",	2nd Edition, Unive			
1		Algorithm Definition		
2	Algorithm Sp		From:	
3	performance A	Analysis	01/08/2022	Lastura
4	Performance i		To:	Lecture
5	Asymptotic ne		22/08/2022	with
6	Randomized A	Algorithms		discussions
7	Sets & Disjoin	nt set union		discussions
8	Tutorial class			
UNIT-II Div CO2: List and TB1: : Ellis I	ide and Conquer d describe various Horowitz, Sartaj Sa 2nd Edition, Unive	algorithmic approaches hni, Sanguthevar Rajasekaran, "Fu ersities Press	ndamentals of Con	nputer
UNIT-II Div CO2: List and TB1: : Ellis I	d describe various lorowitz, Sartaj Sa 2nd Edition, Unive	hni, Sanguthevar Rajasekaran, "Fu ersities Press	ndamentals of Con	nputer
UNIT-II Div CO2: List and TB1: : Ellis I Algorithms",	d describe various Horowitz, Sartaj Sa	thni, Sanguthevar Rajasekaran, "Fu ersities Press onquer	ndamentals of Con	nputer
UNIT-II Div CO2: List and TB1: : Ellis I Algorithms",	d describe various lorowitz, Sartaj Sa 2nd Edition, University Divide and Co	thni, Sanguthevar Rajasekaran, "Fu ersities Press onquer od	ndamentals of Con	nputer
UNIT-II Div CO2: List and TB1: : Ellis I Algorithms", 9	d describe various Horowitz, Sartaj Sa 2nd Edition, University Divide and Co General Meth	ahni, Sanguthevar Rajasekaran, "Fu ersities Press onquer od essboard	ndamentals of Con	nputer
UNIT-II Div CO2: List and TB1: : Ellis I Algorithms", 9 10	d describe various Horowitz, Sartaj Sa 2nd Edition, University Divide and Co General Meth Defective che Binary Search	ahni, Sanguthevar Rajasekaran, "Fu ersities Press onquer od essboard	ndamentals of Con	nputer
UNIT-II Div CO2: List and TB1: : Ellis I Algorithms", 9 10 11 12	d describe various Horowitz, Sartaj Sa 2nd Edition, University Divide and Co General Meth Defective che Binary Search	ahni, Sanguthevar Rajasekaran, "Fu ersities Press onquer od essboard	From 23/08/2022	Lecture interspersed
UNIT-II Div CO2: List and TB1: : Ellis I Algorithms", 9 10 11 12	d describe various Horowitz, Sartaj Sa 2nd Edition, University Divide and Co General Meth Defective che Binary Search	ahni, Sanguthevar Rajasekaran, "Fu ersities Press onquer od essboard	From	Lecture interspersed with
UNIT-II Div CO2: List and TB1: : Ellis I Algorithms", 9 10 11 12	d describe various Horowitz, Sartaj Sa 2nd Edition, University Divide and Co General Meth Defective che Binary Search Finding the m	ahni, Sanguthevar Rajasekaran, "Fu ersities Press onquer od essboard	From 23/08/2022 To	Lecture interspersed
UNIT-II Div CO2: List and TB1: : Ellis I Algorithms", 9 10 11 12	d describe various Horowitz, Sartaj Sa 2nd Edition, University Divide and Co General Meth Defective che Binary Search Finding the m Merge sort Quick sort	ahni, Sanguthevar Rajasekaran, "Fu ersities Press onquer od essboard	From 23/08/2022 To	Lecture interspersed with
UNIT-II Div CO2: List and TB1: : Ellis I Algorithms", 9 10 11 12 13	d describe various Horowitz, Sartaj Sa 2nd Edition, University Divide and Co General Meth Defective che Binary Search Finding the m Merge sort Quick sort Greedy Metho	chni, Sanguthevar Rajasekaran, "Fu ersities Press conquer od essboard naximum and minimum	From 23/08/2022 To	Lecture interspersed with
UNIT-II Div CO2: List and TB1: : Ellis I Algorithms", 9 10 11 12 13 14 15 16	d describe various Horowitz, Sartaj Sa 2nd Edition, University Divide and Co General Meth Defective che Binary Search Finding the m Merge sort Quick sort Greedy Metho	ahni, Sanguthevar Rajasekaran, "Fu ersities Press onquer od essboard aximum and minimum od, knapsack problem	From 23/08/2022 To	Lecture interspersed with
UNIT-II Div CO2: List and TB1: : Ellis I Algorithms", 9 10 11 12 13 14 15 16	d describe various Horowitz, Sartaj Sa 2nd Edition, Univide and Co General Meth Defective che Binary Search Finding the m Merge sort Quick sort Greedy Metho Minimum Co Optimal Merg	ahni, Sanguthevar Rajasekaran, "Fu ersities Press onquer od essboard aximum and minimum od, knapsack problem	From 23/08/2022 To	Lecture interspersed with

UNIT-III Dynamic Programming

CO3: Solve problems using dynamic programming, backtracking and branch and bound algorithmic approaches

TB1: : Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer

Algorithms", 2nd Edition, Universities Press

21	Dynamic Programming, The general method	From	
22	multistage graphs	20/09/2022 To	
23	Single source shortest paths		
24	All pairs-shortest paths	24/09/2022	
25	Optimal Binary search trees	From 10/10/2022	Lecture interspersed
26	0/1 knapsack	То	with
27	The traveling salesperson problem	31/10/2022	discussions
28	Tutorial class		

UNIT-IV Backtracking

CO4: Apply graph search algorithms to real world problems

TB1:: Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer

Algorithms", 2nd Edition, Universities Press

29	Backtracking, The General Method		
30	The 8-Queens problem	From 01/11/2022 To	
31	sum of subsets		Lecture Interspersed
32	Graph coloring		
33	Hamiltonian cycles	14/11/2022	with
34	knapsack problem, Traveling salesperson problem		discussions
35	Tutorial class		

UNIT-V NP-Hard and NP-Complete problems

CO5: Demonstrate an understanding of NP- Completeness theory and lower bound theory

TB1: : Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer

Algorithms", 2nd Edition, Universities Press

36	NP-Hard and NP-Complete problems, Basic concepts	From:	Lecture
37	Nondeterministic algorithm	15/11/2022	interspersed
38	NP-Complete Classes	To:	with
39	Cooks Theorem	26/11/2022	discussions
40	Tutorial class		

TB1: Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, "Fundamentals of Computer Algorithms", 2nd Edition, Universities Press

TB2: Introduction to Algorithms Thomas H. Cormen, PHI Learning

TB2: Harsh Bhasin, "Algorithms Design & Analysis", Oxford University Press.

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Department of Computer Science Engineering
TENTATIVE LESSONPLAN

TENTATIVE LESSON PLAN: R2031053

Course Title: DAT	AWAREHOUSING AND DATAMINING (R2031053)	
Section :CSE-B	Date:05/09/2022	Page No : 01 of 04
Revision No : 01	Prepared by:R.Lakshmi	Approved by : HOD

Tools: Black board, PPTs

UNIT 1: Data warehousing and online analytical processing:

CO1: The main objective of the course is to

Introduce basic concepts and techniques of data warehousing and data mining.

Discuss different transmission media and different switching networks.

TB: Introduction to Data Mining: Pang-Ning Tan & Michael Steinbach, Vipin Kumar,

Pearson_2012.

No. of periods	TOPIC	Expected Date	Mode of Delivery
. 1.	Introduce basic concepts and techniques of data warehousing and data mining.		Black Board & PPT
2	Data Warehouse Modelling: Data Cube and OLAP.	FROM: 04-08-2022	
3.	Data Warehouse Design and Usage, Data Warehouse Implementation.		
4.	Introduction: Why and What is data mining,		
5.	What kinds of data need to be mined and patterns can be mined.	TO 23-08-2022	
6.	Which technologies are used.		
7.	Which kinds of applications are targeted.		

ENIT 2: Data Pre-processing:

CO2: Examine the types of the data to be mined and apply pre-processing methods on raw data. TB: Data Mining Techniques and Applications: An Introduction, Hongbo Du, Cengage Learning.

No. of Mode of TOPIC Date periods Delivery 8. An Overview, Data Cleaning. 9 Data Integration. 10. Data Reduction. FROM: Data Transformation and Data Discretization. 24-08-2022 Black Board 12-09-2022 & PPT



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UNIT 3: Classification:

CO 3: Illustrate the importance of Data Warehousing, Data Mining and its functionalities and Design schema for real time data warehousing applications

TB: Data Mining: VikramPudi and P. Radha Krishna, Oxford Publisher.

No. of periods	TOPIC	Date	Mode of Delivery
12.	Basic Concepts, General Approach to solving a classification problem.	FROM: 13-09-2022	Black Board
13.	Decision Tree Induction: Attribute Selection Measures.		
14.	Tree Pruning.		
15.	Scalability and Decision Tree Induction.	TO:	& PPT
16.	Visual Mining for Decision Tree Induction.	26-09-2022	

UNIT 4: Association Analysis:

CO4: Demonstrate on various Data Preprocessing Techniques viz. data cleaning, data integration, data transformation and data reduction and Process raw data to make it suitable for various data mining

TB:. Data Mining and Analysis - Fundamental Concepts and Algorithms; Mohammed J. Zaki, Wagner

Meira Jr. Oxford

Meira, Jr, No. of periods	TOPIC	Date	Mode of Delivery
17.	Problem Definition	FROM: 27-10-2022	
18.	Frequent Item set Generation.		Black Board & PPT
19.	Rule Generation:Confident Based Pruning.		
20.	Rule Generation in Apriori Algorithm.		
21.	Compact Representation of frequent item sets.	09-11-2022	
22.	FP- Growth Algorithm.		
23.	IPV4 Header Format, IP addresses, Class full Addressing		

UNIT 5: Cluster Analysis:

CO5: Identify and apply various clustering algorithm (with open source tools), interpret, evaluate and report the result.

TB: Data Warehousing Data Mining & OLAP, Alex Berson, Stephen Smith, TMH.

No. of periods	TOPIC	Date	Mode of Delivery
24.	Cluster Analysis: Overview.		



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25.	Clustering techniques.		
26.	Different Types of Clusters	FROM: 10-11-2022 TO: 23-11-2022	Black Board
27.	Basics and Importance of Cluster Analysis.		
28.	K-means: The Basic K-means Algorithm.		
29.	K-means Additional Issues.		& PPT
30.	Bi-secting K		
	Means.		

Signature of the faculty

Signature of the HOD

TENTETIVELESSON PLAN-R203105E OPTIMIZATION IN OPERATIONS RESEARCH

Course Title: OPT	IMIZATION IN OPERATIONS RESEA	RCH
Section : CSE B	Date: 01-08-2022	Page No: 01 of 04
Revision No: 00	Prepared By :G.Koteswaramma	Approved By : HOD

Tools: Black board, PPT

No. of	TOPIC	Date	Mode of Delivery
Periods		Date	Mode of Denvery

UNIT-1: INTRODUCTION AND CLASSICAL OPTIMIZATION TECHNIQUES

CO1: To define an objective function and constraint functions in terms of design variables, and then statethe optimization problem. To state single variable and multi variable optimization Problems, without and with constraints.

TB1 : ENGINEERING OPTIMIZATION – THEORY AND PRACTICE, S.S.RAO, NEW AGE INTERNATIONAL (P) LIMITED, 3RD EDITION,1998.
TB2:OPERATIONS RESEARCH By S.D. SHARMA – KEDARNATH.

1.	Introduction:Statement of an Optimization problem, design vector	01-08-2022	
2.	Design constraints, constraint surface	01-08-2022	
3.	Objective function, objective function surfaces	02-08-2022	
4.	Classification of Optimization problems.	03-08-2022	
5.	Classical Optimization Techniques: Single variable Optimization- Algorithm, Problems	04-08-2022	
6.	Multi variable Optimization without constraints - Algorithm, Problems	05-08-2022	
7.	Tutorial Class	08-08-2022	
8.	Necessary and Sufficient conditions for minimum/maximum	08-08-2022	
9.	Multivariable Optimization with equality constraints	09-08-2022	Lecture
 	- Algorithm, Problems	10-08-2022	
10	Solution by method of Lagrange multipliers - Algorithm, Problems	11-08-2022	interspersed with discussions
10.		12-08-2022	discussions
 		16-08-2022	
11.	Multivariable Optimization with inequality	17-08-2022	
 	constraints-One Constraint Algorithm, Problems	18-08-2022	
12.	Tutorial Class	19-08-2022	
	Multivariable Optimization with inequality	22-08-2022	
13.	constraints – Two Constraint Algorithm, Problems	23-08-2022	
14.	Kuhn - Tucker conditions-one constraint Algorithm,	25-08-2022	
	Problems	26-08-2022	
15.	Kuhn – Tucker conditions – Two constraint	29-08-2022	
15.	Algorithm, Problems	29-08-2022	

UNIT- II: LINEAR PROGRAMMING

CO2: To explain linear programming technique to an optimization problem, define slack and surplusvariables, by using Simplex method, Dual Simplex method, Big-M method, Two Phase Method.

ENGINEERING OPTIMIZATION - THEORY AND PRACTICE, S.S.RAO, NEW AGE INTERNATIONAL (P) LIMITED, 3RD EDITION,1998.

1B2: OPERATIONS RESEARCH By S.D. SHARMA - KEDARNATH.

16.	Standard form of a linear programming problem	30-08-2022	
17.	Geometry of linear programming problems	01-09-2022	
18.	Definitions and Theorems	02-09-2022	
19.	Solution of a system of linear simultaneous equations	05-09-2022	
20.	Pivotal reduction of a general system of equations	05-09-2022	
21.	Tutorial Class	06-09-2022	
22.	Motivation to the Simplex method	07-09-2022	
23.	Simplex Algorithm - Problems	08-09-2022	Lecture interspersed with
24.	Problems	09-09-2022	
25.	Duality in Linear Programming		discussions
26.	Dual Simplex method	12-09-2022	
27.	Big –M method	12-09-2022	-
28.	Problems	13-09-2022	-
29.	Two – Phase method	14-09-2022	-
30.	Problems	15-09-2022	
31.	Tutorial Class	16-09-2022	

UNIT III-TRANSPORTATION PROBLEM

CO3: To state transportation and assignment problem as a linear programming problem to determineSimplex method.

TB1 : ENGINEERING OPTIMIZATION – THEORY AND PRACTICE, S.S.RAO, NEW AGE INTERNATIONAL (P) LIMITED, $3^{\rm RD}$ EDITION,1998.

TB2: OPERATIONS RESEARCH By S.D. SHARMA - KEDARNATH.

32.	Introduction to Transportation Problem	19-09-2022	
33.	Finding initial basic feasible solution by north west corner rule - Problems	19-09-2022	
34.	Least Cost Method - Problems	20-09-2022	
35.	Vogel's Approximation Method - Problems	21-09-2022 22-09-2022	Lecture interspersed with discussions
36.	Tutorial Class	23-09-2022	
37.	Testing for optimality in Balanced Transportation Problem	26-09-2022	
38.	MODI Method - Problems	27-09-2022 28-09-2022	
39.	Special cases in Transportation Problem- Unbalanced Transportation Problem	29-09-2022 30-09-2022	
40.	Degeneracy on Transportation Problem	03-10-2022 03-10-2022	

41.	Assignment Problems- Balanced Assignment Problems	04-10-2022
42.	Assignment Problems - Unbalanced Assignment Problems	05-10-2022
43.	Problems	06-10-2022
44.	Travelling Salesman Problems	07-10-2022 10-10-2022
45.	Problems	10-10-2022
46.	Tutorial Class	11-10-2022

UNIT - IV NON-LINEAR PROGRAMMING

CO4: To study and explain nonlinear programming techniques, unconstrained or constrained, and define exterior and interior penalty functions for optimization problems.

TB1 : ENGINEERING OPTIMIZATION – THEORY AND PRACTICE, S.S.RAO, NEW AGE INTERNATIONAL (P) LIMITED, 3RD EDITION,1998.

TB2: OPERATIONS RESEARCH By S.D. SHARMA – KEDARNATH.

47.	Unconstrained cases, One dimensional minimization methods	12-10-2022 13-10-2022	
48.	Classifications	14-10-2022	
49.	Fibonacci Method	15-10-2022	
50.	Quadratic Interpolation Method	17-10-2022	
51.	Univariate Method	17-10-2022	
52.	Powell's Method	18-10-2022	
53.	Steepest descent method	19-10-2022	Lecture
54.	Tutorial Class	20-10-2022	interspersed with
55.	Constrained cases Characteristics of a constrained problem	21-10-2022	discussions
56.	Classification	24-10-2022	
57.	Basic approach of PenaltyFunction method	24-10-2022	
58.	Basic approaches of Interior and Exterior penalty function methods	25-10-2022 26-10-2022	
59.	Introduction to Convex Programming Problem	27-10-2022	
60.	Tutorial Class	28-10-2022	

UNIT -V DYNAMIC PROGRAMMING

CO 5: To understand the optimal control problem for dynamic systems using Bellman's principle of Optimality.

TB1 : ENGINEERING OPTIMIZATION – THEORY AND PRACTICE, S.S.RAO, NEW AGE INTERNATIONAL (P) LIMITED, 3RD EDITION,1998.

TB2: OPERATIONS RESEARCH By S.D. SHARMA – KEDARNATH.

61.	Dynamic programming multistage decision processes, types	31-10-2022 31-10-2022	Lecture interspersed with
62.	Problems	01-11-2022	discussions

/	Conceptof sub optimization and the principle of	02-11-2022	
1	optimality	03-11-2022	
64.	Problems	04-11-2022	
04.	Troblems	07-11-2022	
65.	Computational procedure in dynamic programming	07-11-2022	
03.	Computational procedure in dynamic programming	08-11-2022	
66.	Problems	09-11-2022	
00.	Fronteins	10-11-2022	
		11-11-2022	
67.	Examples illustrating the calculus method of	14-11-2022	
	solution	14-11-2022	
	n II	15-11-2022	
68.	Problems	16-11-2022	
		17-11-2022	
69.	Examples illustrating the tabular method of solution	18-11-2022	
		21-11-2022	
		22-11-2022	
70.	Problems	23-11-2022	
, 0.		24-11-2022	
71.	Tutorial Class	25-11-2022	

C. Koteswaranna Signature of the Faculty Signature of the HOD



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TENTATIVE LESSON PLAN: R203105B

Course Title: Software	Project Management (R203105E	3)
Section: III CSE-B	Date: 01/08/2022	Page No: 01 of 04
Revision No:	Prepared By: Ch.Ambedkar	Approved By: HOD

Tools: Black Board, PowerPoint Presentations

No. of Periods	Topic	Date	Mode of Delivery
UNIT I	: Conventional Software Manageme Economics, Improving Software I new : Understand why majority of the se	Economics, The	Software old way and the
	failure probability can be reduced of	effectively	
Text Boo	ok : Software Project Management, W Conventional Software Management:		rson Education
2,3	The waterfall model - In theory - In practice	1-8-2022 2,3-8-2022	
4	Conventional Software Management performance	4-8-2022	
5	Evolution of Software Economics:	5-8-2022	
6	Software Economics	6-8-2022	
7	Pragmatic software cost Estimation	8-8-2022	Lecture
8	Improving Software Economics:	9-8-2022	interspersed
9	Reducing Software product size	10-8-2022	with discussions
10	Improving software Processes	11-8-2022	
11	Improving team effectiveness	12-8-2022	
12	Improving automation through software environments	13-8-2022	
13	Achieving required Quality	16-8-2022	
14	The old way and the new:	17-8-2022	
15,16	The principles of conventional software Engineering	18,20-8-2022	1902



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Department of Computer Science and Engineering

17,18	Principles of modern software management 22,2				
19	Tutorial	24-8-2022			
No. of Periods	Tonic		Mode of Delivery		
UNIT II CO 2 Text Boo	 Life cycle phases, Artifacts of the second se	n economics in a pro dern software engin	eering principles		
20	Life cycle phases:	25-8-2022			
21	Engineering and Production stages	26-8-2022			
22	Inception Phase	27-8-2022			
23	Elaboration Phase	29-8-2022			
24	Construction Phase	30-8-2022	Lecture		
25	Transition Phase The artifact sets Management artifacts	1-9-2022	interspersed with		
26		2-9-2022	discussions		
27		3-9-2022			
28	Engineering Artifacts	5-9-2022			
29	Pragmatic artifacts	6-9-2022			
30	Tutorial	7-9-2022			
No. of Periods	Topic	Date	Mode of Delivery		
CO 3 Text Bo	: Model based software architecture Iterative Process Planning : Will have good knowledge of various management and artifacts of process architecture perspectives ok: Software Project Management,	ous phases in moder cess and Understan	n software d the software		
31	A Management perspective	8-9-2022			
32	A Technical Perspective	9-9-2022	Lecture		
33	Software process workflows	10-9-2022	interspersed		
34	Iteration workflows.	12-9-2022	discussions		
	Major mile stones				



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Department of Computer Science and Engineering

		1	
36	Minor Milestones	14-9-2022	
37	Periodic status Assessments	15-9-2022	
38	Iterative Process Planning	16-9-2022	
39	Work breakdown structures Conventional WBS Issues	17-9-2022	
40	Evolutionary WBS	19-9-2022	Lecture
41	Planning guidelines	20-9-2022	with discussions
42	The cost &Schedule estimating process	21-9-2022	
43	The Iteration planning process	23-9-2022	
44	Pragmatic planning.	10-10-2022	
45	Tutorial 11-10-2022		
No. of Periods UNIT IV		12-10-2022 ponsibilities, Projec	Mode of Delivery t Control and
Periods UNIT IV CO 4	: Project Organizations and Res Process instrumentation : Understand the Project Organiza Understand the milestones, Project	ponsibilities, Project tions and Responsibilect planning and Pro	Delivery t Control and lities of teams ject Scheduling
Periods UNIT IV CO 4	: Project Organizations and Res Process instrumentation : Understand the Project Organiza Understand the milestones ,Project ok : Software Project Management	ponsibilities, Project tions and Responsibilect planning and Pro	Delivery t Control and lities of teams ject Scheduling
Periods UNIT IV CO 4 Text Bo	: Project Organizations and Res Process instrumentation : Understand the Project Organiza Understand the milestones, Project	ponsibilities, Projections and Responsibilities and Project planning and Project, Walker Royce: Pea	Delivery t Control and lities of teams ject Scheduling
Periods UNIT IV CO 4 Text Bo 46	: Project Organizations and Res Process instrumentation : Understand the Project Organiza Understand the milestones ,Project ok : Software Project Management Line-of-Business Organizations	ponsibilities, Project ations and Responsibilect planning and Project, Walker Royce: Pea	Delivery t Control and lities of teams ject Scheduling
Periods UNIT IV CO 4 Text Bo 46 47,48	: Project Organizations and Respect Process instrumentation : Understand the Project Organizations Understand the milestones ,Project : Software Project Management Line-of-Business Organizations Project Organizations	ponsibilities, Projections and Responsibilities and Project planning and Project, Walker Royce: Pea	Delivery t Control and lities of teams ject Scheduling
Periods UNIT IV CO 4 Text Bo 46 47,48 49	: Project Organizations and Respect Process instrumentation : Understand the Project Organizations Understand the milestones ,Project : Software Project Management Line-of-Business Organizations Project Organizations Evolution of Organizations	ponsibilities, Project ations and Responsibilities and Project planning and Project planning and Project Pearly 14-10-2022 15,17-10-2022 18-10-2022	Delivery t Control and lities of teams ject Scheduling
Periods UNIT IV CO 4 Text Bo 46 47,48 49 50	: Project Organizations and Respect Process instrumentation : Understand the Project Organizations Understand the milestones, Project : Software Project Management Line-of-Business Organizations Project Organizations Evolution of Organizations Tools-Automation Building blocks	ponsibilities, Project ations and Responsibilities and Project planning and Project, Walker Royce: Pea 14-10-2022 15,17-10-2022 18-10-2022	Delivery t Control and lities of teams ject Scheduling rson Education Lecture interspersed with
Periods UNIT IV CO 4 Text Bo 46 47,48 49 50 51	: Project Organizations and Respect Process instrumentation : Understand the Project Organizations Understand the milestones, Project : Software Project Management Line-of-Business Organizations Project Organizations Evolution of Organizations Tools-Automation Building blocks The Project Environment Project Control and Process	ponsibilities, Projections and Responsibilities, Projections and Responsibilities, Projections and Project planning and Project planning and Project Pearly 14-10-2022 15,17-10-2022 18-10-2022 20-10-2022	Delivery t Control and lities of teams ject Scheduling rson Education Lecture interspersed
Periods UNIT IV CO 4 Text Bo 46 47,48 49 50 51	: Project Organizations and Resperocess instrumentation : Understand the Project Organizations Understand the milestones, Project : Software Project Management Line-of-Business Organizations Project Organizations Evolution of Organizations Tools-Automation Building blocks The Project Environment Project Control and Process instrumentation:	ponsibilities, Projections and Responsibilities, Projections and Responsibilities, Projections and Project planning and Project planning and Project Pear 14-10-2022	Delivery t Control and lities of teams ject Scheduling rson Education Lecture interspersed with
Periods UNIT IV CO 4 Text Bo 46 47,48 49 50 51 52 53,54	: Project Organizations and Resperocess instrumentation : Understand the Project Organizations Understand the milestones, Project : Software Project Management Line-of-Business Organizations Project Organizations Evolution of Organizations Tools-Automation Building blocks The Project Environment Project Control and Process instrumentation: The seven core Metrics	ponsibilities, Projectations and Responsibilities, Projectations and Responsibilities, Projectations and Responsibilities, Walker Royce: Pea 14-10-2022 15,17-10-2022 18-10-2022 20-10-2022 25-10-2022 26-10-2022	Delivery t Control and lities of teams ject Scheduling rson Education Lecture interspersed with
Periods UNIT IV CO 4 Text Bo 46 47,48 49 50 51 52 53,54 55	: Project Organizations and Resperocess instrumentation : Understand the Project Organizations Understand the milestones, Project : Software Project Management Line-of-Business Organizations Project Organizations Evolution of Organizations Tools-Automation Building blocks The Project Environment Project Control and Process instrumentation: The seven core Metrics Management Indicators	ponsibilities, Project ations and Responsibilities, Project ations and Responsibilities, Project planning and Proj	Delivery t Control and lities of teams ject Scheduling rson Education Lecture interspersed with
Periods UNIT IV CO 4 Text Bo 46 47,48 49 50 51 52 53,54 55 56	: Project Organizations and Resperocess instrumentation : Understand the Project Organizations Understand the milestones, Project : Software Project Management Line-of-Business Organizations Project Organizations Evolution of Organizations Tools-Automation Building blocks The Project Environment Project Control and Process instrumentation: The seven core Metrics Management Indicators Quality indicators	ponsibilities, Projections and Responsibilities, Projections and Responsibilities, Projections and Project planning and Project, Walker Royce: Pearly 14-10-2022 15,17-10-2022 18-10-2022 19-10-2022 25-10-2022 26-10-2022 27,28-10-2022	Delivery t Control and lities of teams ject Scheduling rson Education Lecture interspersed with



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59	Metrics automation	2-11-2022		
60	Tutorial	3-11-2022		
No. of Periods	Topic	Topic Date		
Periods UNIT V : Agile Methodology, Fundamentals of DevOps : Understand the Agile Project Management process that enable planning, management and control Understand best practices in Continuous Development, Configuration, and finally, Continuous Monitoring of software throughout its development life cycle.				
61	Agile Methodology	4-11-2022		
62	ADAPTing to Scrum	5-11-2022		
63	Patterns for Adopting Scrum	8-11-2022		
64	Iterating towards Agility	10-11-2022		
65	Fundamentals of DevOps: Architecture	11-11-2022		
66	Deployments, Orchestration	14-11-2022	Lecture interspersed	
67	Need, Instance of applications, DevOps delivery pipeline	15-11-2022	with discussions	
68	DevOps eco system. DevOps adoption in projects	18-11-2022		
69	Technology aspects, Agiling capabilities	21-11-2022		
70	Tool stack implementation, People aspect, processes	23-11-2022		
71	Tutorial	25-11-2022		
72	Tutorial	26-11-2022		

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Signature of HOD

TENTATIVE LESSON PLAN: R1941052 UML & DESIGN PATTERNS

	: CSE A	& DESIGN PATTERNS (R1941052) Date: 04/08/2022	Page No: 01 of 03	
THE RESERVE OF THE PARTY OF THE	on No: 00 Prepared By: CH. PAVANI		Approved By : HOD	
The contract of the contract o		PPTs, Moodle, Google Meet		
No. of Periods		TOPIC	Date	Mode of Delivery
UNIT-I Structur CO 1: D TB1: Ti	Introductional Modeling describes to under unified Mon, Pearson		g. James Rumbauş	ţh, Ivar
1	Introduction	on to UML	1	
2	Importance	e of modeling, principles of modeling		
3	Object orie	ented modeling, conceptual model of the UML		
4	Architectu	re		Lecture
5	Software I	Development Life Cycle	From:	Interspersed With
6	Structural	Modeling: Classes	04/08/222	discussions
7	Relationsh	ips	To: 15/08/22	
8	Common N	Mechanisms, and diagrams	15/08/22	
9	Advanced	classes, advanced relationships	100	
10	Object diag	grams		
11	Common n	nodeling techniques		
12	Tutorial			
CO2: I TB1: T	I Behaviora Describes to he unified M on, Pearson	al Modeling understand and differentiate Unified Process fo lodeling language user guide by Grady Booch,	rom other appro James Rumbau	oaches gh, Ivar
13		al Modeling		
14	Interaction	ns .		
15	Interaction	diagrams		Lecture
16	Use cases,	Use case Diagrams		interspersed

Periods	I Advanced Behavioral Modeling, Design Patt		Delivery
No. of	TOPIC	Date	Mode of
23	Tutorial		china comp
22	State chart diagrams Examples	The second secon	
21	State chart diagrams	20,00,22	
20	State machines	To: 26/08/22	
19	Events and signals	16/08/22	2500 183
18	Activity Diagrams Examples	From:	discussions
17	Activity Diagrams	4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	with discussions

CO3: Describes to design with static UML diagrams
TB1: The unified Modeling language user guide by Grady Booch, James Rumbaugh, Ivar

	on, Pearson Jesign Patterns, Erich Gamma, Pearson	
24	Advanced Behavioral Modeling	
25	Architectural Modeling	

25	Architectural Modeling		
26	Components		
27	Deployment		
28	Component diagrams and Deployment diagrams	From:	
29	Common modeling techniques for component	27/08//22	
30	Common modeling techniques for deployment diagrams	To: 20/09/22	Lecture
31	Design Pattern		interspersed
32	Introduction of design patterns		
33	Design Patterns in Smalltalk MVC		discussions
34	Describing Design Patterns		
35	The Catalog of Design Patterns		
36	Organizing the Catalog		
37	How Design Patterns Solve Design Problems		
38	How to Select a Design Pattern, Using a Design Pattern		
39	Tutorial		

No. of Periods	TOPIC	Date	Mode of Delivery
40	Creational Patterns		
41	Abstract Factory	From:	Lecture
42	Builder	21/09/22	interspersed
43	Factory Method	To:	with discussions
44	Prototype	14/10/22	
45	Singleton		
46	Structural Patterns		
47	Adapter		
48	Bridge, Composite		
49	Decorator		
50	Façade, Flyweight		
51	Proxy		
52	Tutorial		
OMII-	Behavioral Pattern		
TB1: D	o test the software against its requirements spe esign Patterns, Erich Gamma, Pearson Behavioral Patterns	cification	7 18 2
TB1: D 53	Behavioral Patterns Behavioral Patterns	cification	
TB1: D 53 54	Behavioral Patterns Chain of Responsibility	cification	
TB1: D 53	Behavioral Patterns Behavioral Patterns	cification	
TB1: D 53 54	Behavioral Patterns Chain of Responsibility	From:	
53 54 55	Behavioral Patterns Chain of Responsibility Command, Interpreter		
53 54 55 56	Behavioral Patterns Chain of Responsibility Command, Interpreter Iterator	From: 15/10/22 To:	
53 54 55 56 57	esign Patterns, Erich Gamma, Pearson Behavioral Patterns Chain of Responsibility Command, Interpreter Iterator Mediator	From: 15/10/22	
53 54 55 56 57 58	esign Patterns, Erich Gamma, Pearson Behavioral Patterns Chain of Responsibility Command, Interpreter Iterator Mediator Memento	From: 15/10/22 To:	
53 54 55 56 57 58 59	Behavioral Patterns Chain of Responsibility Command, Interpreter Iterator Mediator Memento Observer, Strategy	From: 15/10/22 To:	

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TENTATIVE LESSON PLAN: R1941053 MACHINE LEARNING

Section	: CSE A	Date : 04/08/2022	Page No: 01	of 03
Revision	No:00	Prepared By : DR.D.ANUSHA	Approved By : HO	
Tools: B	lack board,	PPTs, Moodle, Google Meet		
No. of Periods		TOPIC	Date	Mode of Delivery
CO 1: Id	M. Mitchell,	nine learning techniques suitable for a given pro "Machine Learning", McGraw-Hill, 1997	blem	
1	Definition	of learning systems,		
2		developing a learning system: training data, presentation:		
3	The concep	ot learning task	10000	
4	Concept le	earning as search through a hypothesis space		Lecture Interspersed With discussions
5	General-to	-specific ordering of hypotheses	From:	
6	Finding ma	aximally specific hypotheses	04/08/222	
7	Version sp	aces and the candidate elimination algorithm	To: 15/08/22	
8	Learning c	onjunctive concepts		
9	The import	tance of inductive bias		
10	Goals and	applications of machine learning		
11	Common n	nodeling techniques		
12	Tutorial			
CO2: So	olve the prob	ree Learning lems using various machine learning techniques n, "Introduction to Machine Learning", MIT Press,	, 2004	
13	Decision T trees	ree Learning: Representing concepts as decision		
14	Recursive i	induction of decision trees		
15	Picking the	best splitting attribute: entropy and information		

16	Searching for simple trees and computational complexity		
17	Occam's razor, Overfitting, noisy data, and pruning	From: 16/08/22	
18	Experimental Evaluation of Learning Algorithms: Measuring the accuracy of learned hypotheses.		Lecture
19	Comparing learning algorithms: cross-validation		interspersed with discussions
20	learning curveS		
21	statistical hypothesis testing	26/08/22	
22	Examples		
23	Tutorial		
No. of Periods	TOPIC	Date	Mode of Delivery
	I Computational Learning Theory:		
	oply Dimensionality reduction techniques		
TB1: Et	hern Alpaydin, "Introduction to Machine Learning", MIT Pro	ess, 2004	
24	Advanced Behavioral Modeling Computational Learning		Lecture interspersed with iscussions
	Theory:		
25	learning in the limit; probably approximately correct (PAC) learning		
26	Sample complexity for infinite hypothesis spaces		
27	Vapnik-Chervonenkis dimension	From: 27/08//22	
28	Rule Learning: Propositional and First-Order	To:	
29	Translating decision trees into rule	20/09/22	
30	Heuristic rule induction using separate and conquer and information gain		
31	First-order Horn-clause induction (Inductive Logic Programming) and Foil		
32	Learning recursive rules		
	Learning recursive rules		
33	Inverse resolution		
		1,55	
33	Inverse resolution		

37	Examples		
38	Applications		
39	Tutorial		
CO4: De	Artificial Neural Networks sign application using machine learning techniques hern Alpaydin, "Introduction to Machine Learning", MIT Pre-	ss, 2004	
No. of Periods	TOPIC	Date	Mode of Delivery
40	Artificial Neural Networks: Neurons and biological motivation		
41	Linear threshold units. Perceptrons: representational limitation and		
42	gradient descent training		
43	Multilayer networks and backpropagation		Lecture interspersed with discussions
44	Hidden layers and constructing intermediate	From:	
45	distributed representations. Overfitting	21/09/22	
46	learning network structure	To:	
47	recurrent networks. Support Vector Machines: Maximum margin linear separators	14/10/22	
48	Quadractic programming solution to finding maximum margin separators		
49	Kernels for learning non-linear functions.		
50	Maximum margin linear separators		
51	Applications of Kernel		
52	Tutorial		
CO5: To	Bayesian Learning Dearn about support vector machine algorithms hern Alpaydin, "Introduction to Machine Learning", MIT Pre	ss, 2004	
53	Bayesian Learning: Probability theory and Bayes rule.		
54	Naive Bayes learning algorithm		
55	Parameter smoothing		
56	Generative vs. discriminative training	From: 15/10/22	Lecture
57	Logisitic regression		interspersed
58	Bayes nets and Markov nets for representing dependencies.	To: 29/10/22	discussions
60	k-Nearest-neighbor algorithm	1	

61	Case-based learning.	
62	Tutorial	

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TENTATIVE LESSON PLAN: R1941049

Course Title: EMBEDDED SYSTEMS (R1941049)

Section: A Date: 12/07/2022 Page No: 01 of 03

Revision No: 00 Prepared By: S.L.V.S.Jyothi Approved By: HOD

Tools: Black board, PPTs

UNIT -I INTRODUCTION

CO1: Understand the building blocks of typical embedded systems and different memory technology and memory types.

TB: Embedded Systems by Shibu k.v.

No. of Periods	TOPIC	Date	Mode of Delivery
1.	Embedded vs. General computing Systems, History of Embedded Systems.	From: 12/07/2022	
2.	Classifications of Embedded Systems		the state of the s
3.	major applications of Embedded Systems		
4.	The Typical Embedded System-Core of the Embedded Systems		Lecture interspersed with discussions
5.	Memory		
6.	Passive System and other system Components		
7.	Sensors and Actuators	To: 23/07/2022	
8.	Embedded Firmware	25/0//2022	
10.	Domain Specific Examples of an Embedded Systems		
11.	Communication Interface		
12.	Characteristics and Quality attributes of an Embedded Systems Application Specific Embedded System-Washing Machine		

UNIT -II EMBEDDED HARDWARE DESIGN

CO2: Student can understand the principles and the implementation of various communication devices.

TB: EMBEDDED SYSTEMS BY RAJ KAMAL SECOND EDITION.

No. of Periods	TOPIC	Date	Mode of Delivery
14.	Analog and Digital Electronic Components		
15.	1/O Types and Examples	From:	
16.	Serial Communication Devices	25/07/2022	
17.	Parallel Device Ports	To:	Lecture interspersed



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18.	Wireless Devices	13/08/2022	with discussions
19.	Timer and Counting devices		
20.	Real time Clock, Watchdog Timer		

UNIT -III EMBEDDED FIRMWARE DESIGN

CO3: Student can understand the concept of firmware design approaches, ISR concept and interrupt sources.

TB: EMBEDDED SYSTEMS BY RAJ KAMAL SECOND EDITION.

No. of Periods	TOPIC	Date	Mode of Delivery
21.	Embedded Firmware design approaches		
22.	Embedded Firmware development languages	From: 16/08/2022 To: 17/09/2022	
23.	ISR concept, Interrupt Sources		Lecture interspersed with discussions
24.	Interrupt Servicing mechanisms		
25.	Multiple Interrupts		
26.	DMA		
27.	Device Driver Programming		
28.	Concepts of C vs Embedded C, Compiler vs Cross Compiler		

UNIT -IV REAL TIME OPERATIONG SYSTEM AND HARDWARE SOFTWARE CO DESIGN

CO4: Student can understand the os basics and rtos and also the design of hardware and software interfaces

TB1: Embedded systems by Shibu k.v.

TB2: Embedded systems by Rajkamal second edition.

No. of Periods	TOPIC	Date	Mode of Delivery		
29.	Operating Systems Basics				
30.	Types of Operating Systems				
31.	Task, Process and Threads		Lecture interspersed with discussions		
32.	Multiprocessing, Multitasking				
33.	Device Drivers	From:			
34.	Task Scheduling	19/09/2022			
35.	Threads processes scheduling	To:			
36.	Task Communication	08/09/2022			
37.	Task Synchronization, How to choose an RTOS				
38.	Fundamental Issues in Hardware Software Co-				



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	Design
39.	Computational Models in Embedded design
10.	Hardware Software Trade-Offs
41.	Integration of Hardware and Firmware, ICE

UNIT -V EMBEDDED SYSTEM DEVELOPMENT, IMPLEMENTATION AND TESTING

CO5: Student can understand the concept of IDE and Hardware debugging.

CO6: Student can understand the debugging tools and testing tools

TB1: EMBEDDED SYSTEMS ARCHITECTURE BY TAMMY NEORGAARD.

No. of Periods	TOPIC	Date	Mode of Delivery		
42.	The Integrated development Environment				
43.	Types of files generated on Cross-Compilation				
44.	Dissemblers / Decompiler				
45.	Embedded tools				
46.	Simulators, Emulators, Debugging		Lecture interspersed with discussions		
47.	Target Hardware debugging				
48.	Boundary Scan	From: 10/10/2022 To:			
49.	Embedded Software Development process and tools				
50.	The Main Software Utility Tool	26/10/2022			
51.	CAD and the Hardware				
52.	Translation tools pre-processors				
53.	Debugging Tools				
54.	Quality assurance and Testing of the design				
55.	Testing on host machine				
56.	Simulators	The second second			
57.	Laboratory Tools				
58.	TUTORIAL				

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TENTATIVE LESSON PLAN: R1941052 UML & DESIGN PATTERNS

Course	Title: UML	& DESIGN PATTERNS (R1941052)	- 1143000	
Section	: CSE B	Date: 04/08/2022	Page No: 0	of 03
	n No:00	Prepared By : CH. PAVANI	Approved B	y: HOD
Tools: F	Black board,	PPTs, Moodle, Google Meet		
No. of Periods		TOPIC	Date	Mode of Delivery
CO 1: D TB1: T	he unified M on, Pearson	nderstand the fundamentals of object modelin odeling language user guide by Grady Booch,	g. James Rumbauş	gh, Ivar
1	Introduction	n to UML		
2	Importance	e of modeling, principles of modeling		
3	Object orie	ented modeling, conceptual model of the UML		
4	Architectu	re		Lecture
5	Software D	Development Life Cycle	From:	Interspersed With discussions
6	Structural	Modeling: Classes	04/08/222	
7	Relationsh	ips	То:	
8	Common M	lechanisms, and diagrams	15/08/22	
9	Advanced o	classes, advanced relationships		
10	Object diag	rams	20020004	100000000000000000000000000000000000000
11	Common m	odeling techniques		
12	Tutorial			4 9 75 49
UNIT-I	I Behaviora	Modeling		
CO2: I	Describes to 1	inderstand and differentiate Unified Process for	rom other appro	oaches
	he unified M on, Pearson	odeling language user guide by Grady Booch,	James Rumbau	gh, Ivar
13	Behavioura	al Modeling		
14	Interaction	S		
15	Interaction	diagrams		Lecture
16	Use cases, I	Jse case Diagrams		interspersed

Periods			Delivery
No. of	TOPIC	Date	Mode of
23	Tutorial		
22	State chart diagrams Examples	1000000	Same Supple
21	State chart diagrams	20/00/22	discussions
20	State machines	To: 26/08/22	
19	Events and signals	16/08/22	
18	Activity Diagrams Examples	From:	
17	Activity Diagrams		with

UNIT-III Advanced Behavioral Modeling, Design Patterns

CO3: Describes to design with static UML diagrams

TB1: The unified Modeling language user guide by Grady Booch, James Rumbaugh, Ivar Jacobson, Pearson

TB2: Design Patterns, Erich Gamma, Pearson

24	Advanced Behavioral Modeling		1
25	Architectural Modeling		
26	Components		
27	Deployment		
28	Component diagrams and Deployment diagrams	From:	
29	Common modeling techniques for component	27/08//22	
30	Common modeling techniques for deployment diagrams	To: 20/09/22	Lecture
31	Design Pattern	1838728	interspersed
32	Introduction of design patterns		discussions
33	Design Patterns in Smalltalk MVC	54210×33	
34	Describing Design Patterns		
35	The Catalog of Design Patterns		
36	Organizing the Catalog		
37	How Design Patterns Solve Design Problems		
38	How to Select a Design Pattern, Using a Design Pattern		
39	Tutorial	1240	
UNIT-I	V Creational Patterns, Structural Patterns		

** *	sign Patterns, Erich Gamma, Pearson TOPIC	Date	1 44-4
No. of Periods	TOPIC	Date	Mode of Delivery
40	Creational Patterns		Demeny
41	Abstract Factory	From:	Lecture interspersed with discussions
42	Builder	21/09/22	
43	Factory Method	To:	
44	Prototype	14/10/22	
45	Singleton		
46	Structural Patterns		
47	Adapter		
48	Bridge, Composite		
49	Decorator		
50	Façade, Flyweight		
51	Proxy		
52	Tutorial		
CO5: T TB1: D	Behavioral Pattern o test the software against its requirements specesign Patterns, Erich Gamma, Pearson	cification	
53	Behavioral Patterns		
54	Chain of Responsibility		
55	Command, Interpreter		
56	Iterator	From:	
57	Mediator	15/10/22	
58	Memento	To: 24/10/22	
59	Observer, Strategy	211.70.22	
60	Template Method,		
61	What to Expect from Design Patterns		
62	Tutorial		

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TENTATIVE LESSON PLAN: R1941053 MACHINE LEARNING

Section	: CSE B	Date : 04/08/2022	Page No: 01	of 03
Revision	n No : 00	Prepared By : DR.D.ANUSHA	Approved By : HOD	
Tools: B	Black board,	PPTs, Moodle, Google Meet		
No. of Periods		TOPIC	Date	Mode of Delivery
CO 1: I		n ine learning techniques suitable for a given pro "Machine Learning", McGraw-Hill, 1997	blem	
1	Definition	of learning systems,		No.
2		developing a learning system: training data, presentation:		
3	The concep	ot learning task	100	Lecture Interspersed With discussions
4	Concept le	arning as search through a hypothesis space	From: 04/08/222	
5	General-to-	specific ordering of hypotheses		
6	Finding ma	ximally specific hypotheses		
7	Version spa	aces and the candidate elimination algorithm	To: 15/08/22	
8	Learning co	onjunctive concepts	13,000,22	
9	The import	ance of inductive bias		
10	Goals and a	applications of machine learning	25/95/22	
11	Common n	nodeling techniques		
12	Tutorial			
CO2: SeTB1: Et	hern Alpaydii	lems using various machine learning techniques n, "Introduction to Machine Learning", MIT Press.	, 2004	
13	Decision Tr trees	ree Learning: Representing concepts as decision		
14	Recursive i	nduction of decision trees		
15	Picking the gain	best splitting attribute: entropy and information		

-		The second contract of the second second contract of the second cont	the Marie and the Color of State of the Color of the Colo	
16	Searching for simple trees and computational complexity	ty		
17	Occam's razor, Overfitting, noisy data, and pruning			
18	Experimental Evaluation of Learning Algorithms: Measuring the accuracy of learned hypotheses.	From:	Lecture interspersed with discussions	
19	Comparing learning algorithms: cross-validation	16/08/22		
20	learning curveS	То:		
21	statistical hypothesis testing	26/08/22		
22	Examples			
23	Tutorial			
No. of Periods	TOPIC	Date	Mode of Delivery	
	I Computational Learning Theory:		,	
	pply Dimensionality reduction techniques			
		2004		
	hern Alpaydin, "Introduction to Machine Learning", MIT Pre	88, 2004	1	
24	Advanced Behavioral Modeling Computational Learning			
	Theory:		Lecture interspersed with iscussions	
25	learning in the limit; probably approximately correct (PAC) learning			
26	Sample complexity for infinite hypothesis spaces			
27	Vapnik-Chervonenkis dimension	From: 27/08//22		
28	Rule Learning: Propositional and First-Order	To:		
29	Translating decision trees into rule	20/09/22		
30	Heuristic rule induction using separate and conquer and information gain			
31	First-order Horn-clause induction (Inductive Logic Programming) and Foil			
32	Learning recursive rules			
33	Inverse resolution			
34	Golem, and Progol			
35	Models of learnability			
36	First-Order lOGIC			

37	Examples		
38	Applications		
39	Tutorial		
CO4: De TB1: Eth	Artificial Neural Networks sign application using machine learning techniques nern Alpaydin, "Introduction to Machine Learning", MIT Pres	ss, 2004	
No. of Periods	TOPIC	Date	Mode of Delivery
40	Artificial Neural Networks: Neurons and biological motivation		-
41	Linear threshold units. Perceptrons: representational limitation and		Lecture interspersed with discussions
42	gradient descent training		
43	Multilayer networks and backpropagation		
44	Hidden layers and constructing intermediate	From: 21/09/22	
45	distributed representations. Overfitting	21/0/122	
46	learning network structure	To:	
47	recurrent networks. Support Vector Machines: Maximum margin linear separators	14/10/22	
48	Quadractic programming solution to finding maximum margin separators		
49	Kernels for learning non-linear functions.		
50	Maximum margin linear separators		
51	Applications of Kernel		
52	Tutorial		
CO5: T	Bayesian Learning of learn about support vector machine algorithms thern Alpaydin, "Introduction to Machine Learning", MIT Pres	ss, 2004	
53	Bayesian Learning: Probability theory and Bayes rule.		
54	Naive Bayes learning algorithm		
55	Parameter smoothing		
56	Generative vs. discriminative training	From:	Lecture
57	Logisitic regression	15/10/22	interspersed
58	Bayes nets and Markov nets for representing dependencies.	To: 29/10/22	discussions
60	k-Nearest-neighbor algorithm		

61	Case-based learning.	
62	Tutorial	

Signature of HOD



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Approved By: HOD

TENTATIVE LESSON PLAN: R1941049

Course Title: EMBEDDED SYSTEMS (R1941049) Section : B Date: 12/07/2022 Page No: 01 of 03 Revision No: 00 | Prepared By: S.L.V.S.Jyothi

Tools: Black board, PPTs

UNIT -I INTRODUCTION

Understand the building blocks of typical embedded systems and different memory technology and memory types.

TD . Embadded Cont

No. of Periods	TOPIC	Date	Mode of Delivery		
1.	Embedded vs. General computing Systems, History of Embedded Systems.				
2.	Classifications of Embedded Systems				
3.	major applications of Embedded Systems				
4.	The Typical Embedded System-Core of the Embedded Systems				
5.	Memory	From:	Lecture interspersed with discussions		
6.	Passive System and other system Components	12/07/2022 To:			
7.	Sensors and Actuators	23/07/2022			
8.	Embedded Firmware				
10.	Domain Specific Examples of an Embedded Systems				
11.	Communication Interface				
12.	Characteristics and Quality attributes of an Embedded Systems Application Specific Embedded System-Washing Machine				

EMBEDDED HARDWARE DESIGN

CO2: Student can understand the principles and the implementation of various communication

TB: EMBEDDED SYSTEMS BY RAJ KAMAL SECOND EDITION.

No. of Periods	TOPIC	Date	Mode of Delivery
14.	Analog and Digital Electronic Components	From: 25/07/2022 To:	Lecture interspersed
15.	I/O Types and Examples		
16.	Serial Communication Devices		
17.	Parallel Device Ports		



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18.	Wireless Devices	13/08/2022	with discussions
19.	Timer and Counting devices		
20.	Real time Clock, Watchdog Timer		

UNIT -III EMBEDDED FIRMWARE DESIGN

CO3: Student can understand the concept of firmware design approaches, ISR concept and interrupt sources.

TB: EMBEDDED SYSTEMS BY RAJ KAMAL SECOND EDITION.

No. of Periods	TOPIC	Date	Mode of Delivery
21.	Embedded Firmware design approaches	From: 16/08/2022 To: 17/09/2022	Lecture interspersed with discussions
22.	Embedded Firmware development languages		
23.	ISR concept, Interrupt Sources		
24.	Interrupt Servicing mechanisms		
25.	Multiple Interrupts		
26.	DMA		
27.	Device Driver Programming		
28.	Concepts of C vs Embedded C, Compiler vs Cross Compiler		

UNIT -IV REAL TIME OPERATIONG SYSTEM AND HARDWARE SOFTWARE CO DESIGN

CO4: Student can understand the os basics and rtos and also the design of hardware and software interfaces

TB1: Embedded systems by Shibu k.v.

TB2: Embedded systems by Raikamal second edition.

No. of Periods	TOPIC	Date	Mode of Delivery
29.	Operating Systems Basics	From: 19/09/2022 To: 08/09/2022	Lecture interspersed with discussions
30.	Types of Operating Systems		
31.	Task, Process and Threads		
32.	Multiprocessing, Multitasking		
33.	Device Drivers		
34.	Task Scheduling		
35.	Threads processes scheduling		
36.	Task Communication		
37.	Task Synchronization, How to choose an RTOS		
38.	Fundamental Issues in Hardware Software Co-		



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	Design
39.	Computational Models in Embedded design
10.	Hardware Software Trade-Offs
41.	Integration of Hardware and Firmware, ICE

UNIT -V EMBEDDED SYSTEM DEVELOPMENT, IMPLEMENTATION AND TESTING

CO5: Student can understand the concept of IDE and Hardware debugging.

CO6: Student can understand the debugging tools and testing tools

TB1: EMBEDDED SYSTEMS ARCHITECTURE BY TAMMY NEORGAARD.

No. of Periods	TOPIC	Date	Mode of Delivery
42.	The Integrated development Environment	From: 10/10/2022 To: 26/10/2022	Lecture interspersed with discussions
43.	Types of files generated on Cross-Compilation		
44.	Dissemblers / Decompiler		
45.	Embedded tools		
46.	Simulators, Emulators, Debugging		
47.	Target Hardware debugging		
48.	Boundary Scan		
49.	Embedded Software Development process and tools		
50.	The Main Software Utility Tool		
51.	CAD and the Hardware		
52.	Translation tools pre-processors		
53.	Debugging Tools		
54.	Quality assurance and Testing of the design		
55.	Testing on host machine		
56.	Simulators		
57.	Laboratory Tools		
58.	TUTORIAL		

Signature of the Faculty