

23	Data Reduction: Data cube aggregation		
24	Attribute Subset Selection		
25	Numerosity reduction		
26	Dimensionality reduction:PCA		
27	Wavelet Transformation		
28	Data Transformation		
29	Data Discretization		
30	Overview of Data Pre-Processing		
31	Tutorial		

UNIT-III: Classification

CO3: Choose appropriate classification technique to perform classification, model building and evaluation.

TEXT BOOK:

1. Data Mining concepts and Techniques, 3/e, Jiawei Han, Michel Kamber, Elsevier,2011.
2. Introduction to Data Mining: Pang-Ning Tan & Michael Steinbach, Vipin Kumar, Pearson,2012.

32	Introduction to Classification	From: 15-9-2023 To: 16-10-2023	Onboard Lecture interspersed with discussions / PPT
33	Basic Concepts		
34	General Approach to solving a classification problem		
35	Hunt's Algorithm		
36	Methods for selecting best test conditions		
37	Attribute Selection Measures		
38	Entropy, Classification Error		
39	Information gain		
40	Gain ratio		
41	Building of Decision Tree with Example		
42	Tree Pruning		
43	Scalability and Decision Tree Induction		
44	Visual Mining for Decision Tree Induction.		
45	Methodology of Visual Data Mining: Association Rules		
46	Classification, clustering		
47	Tutorial		

UNIT-IV Association Analysis

CO4: Make use of association rule mining techniques viz. Apriori and FP Growth algorithms and analyze on frequent item sets generation.

TEXT BOOK:

1. Data Mining concepts and Techniques, 3/e, Jiawei Han, Michel Kamber, Elsevier,2011.
2. Introduction to Data Mining: Pang-Ning Tan & Michael Steinbach, Vipin Kumar, Pearson,2012.

48	Association Analysis	From: 17-10-2023 To: 7-11-2023	Onboard Lecture interspersed with discussions / PPT
49	Problem Definition, Support and Confidence		
50	Frequent Item set Generation		
51	Rule Generation		
52	Confident Based Pruning		
53	Rule Generation in Apriori Algorithm		
54	Generating Association Rules from Frequent Item sets		
55	Mining Frequent Item sets Using the Vertical Data Format		

21	Isolation Levels		
22	Online Analytical Processing		
23	Database performance Tuning and Query optimization		
24	Query Tree		
25	Cost of Query		
26	Join		
27	Selection and Projection Implementation Algorithms		
28	Optimization Database Security		
29	Access Control		
30	MAC		
31	RBAC		
32	Authorization		
33	Sql injection attacks		
34	Tutorial		

NIT-III: Data Mining, Data warehousing, Data processing

CO3: Summarize the concepts of data mining, data warehousing and data preprocessing strategies.

Text Books:

1. Fundamentals of Database Systems, RamezElmasri, Shamkant B. Navathe, Addison-Wesley, 6th Edition
2. Data Mining: Concepts and Techniques, J. Han and M. Kamber, Morgan Kaufmann C.J. Date, Database Systems, Pearson, 3rd edition

35	Data Mining: stages and Techniques	From: 15-9-2023 To: 16-10-2023	Lecture interspersed with discussions
36	Knowledge representation methods		
37	data mining approaches		
38	data warehouse and DBMS		
39	multidimensional data model		
40	OLAP operations		
41	Data processing: cleaning		
42	transformation		
43	reduction		
44	filters and discretization with weka.		
44	Tutorial		

UNIT-IV : Knowledge representation, Data mining algorithm

CO4: Apply data mining algorithms.

Text Books:

1. Fundamentals of Database Systems, RamezElmasri, Shamkant B. Navathe, Addison-Wesley, 6th Edition
2. Data Mining: Concepts and Techniques, J. Han and M. Kamber, Morgan Kaufmann C.J. Date, Database Systems, Pearson, 3rd edition

45	Knowledge representation: background knowledge	From: 17-10-2023 To: 7-11-2023	Lecture interspersed with discussions
46	representing input data and output knowledge		
47	visualization techniques		
48	experiments with weka		
49	Data mining algorithms: association rules		
50	mining weather data		

51	generating item sets and rules efficiently		
52	correlation analysis		
53	Tutorial.		
UNIT-V: Classification & Clustering, Mining real data CO 5: Assess various classification & cluster techniques. Text Books: 1. Fundamentals of Database Systems, RamezElmasri, Shamkant B. Navathe, Addison-Wesley, 6th Edition 2. Data Mining: Concepts and Techniques, J. Han and M. Kamber, Morgan Kaufmann C.J. Date, Database Systems, Pearson, 3rd edition			
54	Classification & Clustering: IR algorithm	From: 8-11-2023 To: 18-11-2023	Lecture interspersed with discussions
55	decision trees		
56	covering rules		
57	task prediction		
58	Statistical classification		
59	Bayesian network		
60	instance based methods		
61	linear models		
62	Cluster/2		
63	Cobweb		
64	k-means		
65	Hierarchical methods		
66	Mining real data: preprocessing data from a real medical domain		
67	data mining techniques to create a comprehensive and accurate model of data.		
68	Advanced topics: text mining		
69	Text classification		
70	web mining		
71	data mining software		
72	Tutorial		



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TENTATIVE LESSON PLAN

Course/Code: Data Base Management Systems/R2021121

Year / Semester: II/I

Section: I

A.Y: 2023-24

No. of Periods	TOPIC	Date	Mode of Delivery
UNIT I : Introduction: Database system CO1 : Describe a relational database and object-oriented database TB: Database Management Systems, 3/e, Raghurama Krishnan, Johannes Gehrke, TMH			
1	Introduction: Database system	From: 7/8/2023 To : 24/8/2023	Lecture interspersed with discussions
2	Characteristics (Database Vs File System)		
3	Database Users(Actors on Scene, Workers behind the scene)		
4	Advantages of Database systems		
5	Database applications		
6	Brief introduction of different Data Models		
7	Concepts of Schema, Instance and data independence		
8	Three tier schema architecture for data independence		
9	Database system structure, environment		
10	Centralized and Client Server architecture for the database.		
11	Tutorial		
UNIT-II Relational Model CO2: Create, maintain and manipulate a relational database using SQL. TB: Database System Concepts,5/e, Silberschatz, Korth, TMH			
11	Relational Model: Introduction to relational model	From: 26/8/2023 To : 6/9/2023	Lecture interspersed with discussions
12	concepts of domain, attribute, tuple, relation, importance of null values		
13	constraints (Domain, Key constraints, integrity constraints) and their importance BASIC SQL		
14	Simple Database schema, data types, table		

	definitions		
15	DML operations (insert, delete, update)		
16	Basic SQL querying (select and project) using where clause, arithmetic & logical operations		
17	SQL functions(Date and Time, Numeric, String conversion)		
18	Tutorial		

UNIT-III: Entity Relationship Model

CO 3: Describe ER model and normalization for database design

TB: Database Management Systems, 3/e, Raghurama Krishnan, Johannes Gehrke, TMH

19	Entity Relationship Model: Introduction	From: 8/9/2023 To : 29/9/2023	Lecture interspersed with discussions
20	Representation of entities, attributes, entity set		
21	relationship, relationship set		
22	constraints, sub classes, super class		
23	Inheritance, specialization, generalization using ER Diagrams		
24	SQL: Creating tables with relationship		
25	implementation of key and integrity constraints		
26	nested queries, sub queries, grouping, aggregation, ordering		
27	Implementation of different types of joins, view (updatable and non-updatable)		
28	Relational set operations.		
29	Tutorial		

UNIT IV: Schema Refinement (Normalization)


CO4: Examine issues in data storage and query processing and can formulate appropriate solutions

TB: Database System Concepts, 5/e, Silberschatz, Korth, TMH

30	Schema Refinement (Normalization)	From: 11/10/2023 To: 26/10/2023	Lecture interspersed with discussions
31	Purpose of Normalization or schema refinement, concept of functional dependency		
32	Normal forms based on functional dependency(1NF, 2NF and 3 NF)		
33	concept of surrogate key, Boyce-codd normal form(BCNF)		
34	Lossless join and dependency preserving decomposition		
35	Fourth normal form(4NF)		
36	Fifth Normal Form (5NF)		
37	Tutorial		

UNIT 5: Transaction Concept**CO5:** Outline the role and issues in management of data such as efficiency, privacy, security, ethical responsibility, and strategic advantage**TB:** Database Management Systems, 3/e, Raghurama Krishnan, Johannes Gehrke, TMH

38	Transaction Concept: Transaction State	From: 27/10/2023 To : 24/11/2023	Lecture interspersed with discussions
39	Implementation of Atomicity and Durability		
40	Concurrent Executions, Serializability, Recoverability		
41	Implementation of Isolation, Testing for Serializability		
42	Implementation of Isolation, Testing for Serializability		
43	Recovery algorithm		
44	Indexing Techniques: B+ Trees: Search, Insert, Delete algorithms		
45	File Organization and Indexing, Cluster Indexes		
46	Cluster Indexes, Primary and Secondary Indexes		
47	Index data Structures, Hash Based Indexing		
48	Tree base Indexing ,Comparison of File Organizations, Indexes and Performance Tuning		
49	Tutorial		


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DEPARTMENT OF INFORMATION TECHNOLOGY

TENTATIVE LESSON PLAN

Course/Code: Sustainable Energy Technologies / R203103G

Year / Semester: III/I

Section: ---

A.Y: 2023-24

S.No	TOPIC	Date	Mode of Delivery
UNIT-I SOLAR RADIATION, SOLAR ENERGY COLLECTION, SOLAR ENERGY STORAGE & APPLICATIONS CO1: Categorize the importance of solar energy collection & storage along with applications and determine solar radiation geometry parameters TBI: Non-Conventional Energy Resources-Khan B.H/Tata McGraw Hill, New Delhi, 2006.			
1	Introduction, Role of potential of new & renewable sources	From: 17/07/23 To: 09/08/23	Lecture interspersed with discussions
2	The solar energy option, Environmental impact of solar power		
3	Structure of the sun, The solar constant		
4	Sun-Earth relationships		
5	Coordinate systems & coordinates of the sun		
6	Extraterrestrial & Terrestrial solar radiation		
7	Solar radiation on Tilted surface		
8	Instruments for measuring solar radiation & sunshine		
9	Solar radiation data, Numerical problems		
10	Photovoltaic Energy conversion		
11	Types of PV cells		
12	Flat plate & concentrating collectors		
13	Classification of concentrating collectors, orientation		
14	Different methods of storage systems- sensible, latent, stratified		
15	Solar applications- solar Heating/Cooling		
16	Solar distillation		
17	Solar drying, Solar cookers		
18	central power concept, solar chimney		
UNIT-II WIND ENERGY, BIO-MASS CO2: Apply the principles of wind energy & biomass energy TBI: Non-Conventional Energy Resources-Khan B.H/Tata McGraw Hill, New Delhi, 2006.			
19	Introduction, Sources & potentials	From: 10/08/23 To: 28/08/23	Lecture interspersed with discussions, Student Seminar
20	Horizontal Axis Wind Mill		
21	Vertical Axis Wind Mill		
22	Performance characteristics		
23	Betz Criteria		
24	Types of winds		
25	Wind Data Measurement		
26	Biomass Introduction, principles of bio-conversion		
27	Methods of bio-conversion		
28	Anaerobic & Aerobic digestion		
29	Types of Bio-gas Digesters-fixed dome type		
30	Floating drum, ballon type bio gas digesters		
31	Gas yield, Utilization for cooking		




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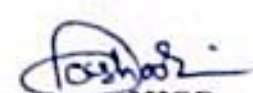
32	Bio-fuels		
33	IC Engine operation & economic aspects		
UNIT-III GEOTHERMAL ENERGY, OCEAN ENERGY			
CO3: Analyze knowledge on geothermal and ocean energy			
TB1: Non-Conventional Energy Resources-Khan B.H/Tata McGraw Hill, New Delhi, 2006.			
34	Introduction to Geothermal Energy	From: 29/08/23 To: 04/10/23	Lecture interspersed with discussions
35	Resources of geothermal Energy		
36	Types of Geothermal wells-open loop systems		
37	Types of Geothermal wells-closed loop, pond/lake loop systems		
38	Methods of Harnessing the energy – dry steam plants		
39	Methods of Harnessing the energy – Flash steam plants, Binary cycle plants		
40	Introduction to Ocean Energy (OTEC)		
41	Principles of Utilization		
42	Setting of OTEC plants		
43	Thermodynamic Cycles		
44	Tidal & Wave Energy Introduction		
45	Potential & conversion techniques of Tidal & Wave Energy		
UNIT-IV ENERGY EFFICIENT SYSTEMS: ELECTRICAL & MECHANICAL SYSTEMS			
CO4: Justify the knowledge about energy efficient systems			
TB2: R : Fuell Cell Technology – Hand book/ Gregor Hoogers / BSP Books Pvt. Ltd.			
46	Introduction to Energy efficient systems & Electrical systems	From: 05/10/23 To: 27/10/23	Lecture interspersed with discussions, PPT.
47	Energy efficient motors		
48	Energy efficient lighting & control		
49	Selection of luminaries		
50	Variable Voltage Variable Frequency Drive (VVVFD)		
51	Controls of HVAC		
52	Demand site Management		
53	Introduction to Mechanical systems		
54	Fuel cells principle & Thermodynamic aspects		
55	Selection of Fuels		
56	Working of various types of Fuel cells		
57	Environmental friendly & energy efficient compressors & pumps		
UNIT-V GREEN MANUFACTURING SYSTEMS			
CO5: Discuss the concepts of green manufacturing systems			
TB3: Green Manufacturing Processes and Systems- J. Paulo Davim / Springer 2013			
58	Environmental Impact of the current manufacturing systems	From: 30/10/23 To: 11/11/23	Lecture interspersed with discussions, Student seminar
59	Benefits of Green Manufacturing systems		
60	Selection of recyclable & Environment friendly materials in Manufacturing		
61	Design & implementation of Efficient & Sustainable green production systems		
62	Environmental friendly machining		
63	Vegetable based cutting fluids		
64	Alternate casting & joining techniques		
65	Zero waste manufacturing		



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TB 1 : Non-Conventional Energy Resources-Khan B.H/Tata McGraw Hill, New Delhi, 2006.
TB 2 : Renewable and Efficient Electric power System- Gilbert M. Masters
TB 3 : Green Manufacturing Processes and Systems- J. Paulo Davim / Springer 2013
R : Fuell Cell Technology – Hand book/ Gregor Hoogers / BSP Books Pvt. Ltd.


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TENTATIVE PLAN:R2022121

Course Title: M-COMMERCE		
Section : IT	Date :	AY:2023-24
Revision No : 00	Prepared By : Dr.G D K KISHORE	Approved By : HOD

Tools : Black board, PPTs, Moodle

UNIT -I Electronic Commerce

CO1: Defining mobile commerce and its framework, growth benefits and limitations.

TB : E.Brian Mennecke, J.Troy Strader, "Mobile Commerce: Technology, Theory and Applications", Idea Group Inc., IRM press, 2003

No. of Periods	TOPIC	Date	Mode of Delivery
1	Electronic Commerce: Introduction		Lecture interspersed with discussions
2	Electronic Commerce: Traditional commerce and E-commerce		
3	Internet and WWW, Role of WWW		
4	Value Chains		
5	Strategic Business and Industry Value Chains		
6	Role of E-commerce. Packet Switched Networks		
7	TCP/IP Protocol Script		
8	Internet Utility Programmes - SGML		
9	HTML and XML		
10	Web Client and Servers		
11	Web Client/Server Architecture		
12	Intranet and Extranets		
13	Web Based Tools for E-commerce		
14	Security.		

UNIT -II: Mobile Commerce

CO2: Analysing the information distribution for mobile networks in multimedia content.

TB : E.Brian Mennecke, J.Troy Strader, "Mobile Commerce: Technology, Theory and Applications", Idea Group Inc., IRM press, 2003

15	Mobile Commerce: Introduction		Lecture interspersed with discussions
16	Infrastructure of M-Commerce		
17	Types Of Mobile Commerce Services		
18,19	Technologies of Wireless Business		
20,21	Benefits and Limitations, Support		
22	Mobile Marketing & Advertisement		
23	Non- Internet Applications in M-Commerce		
24	Wireless/Wired Commerce Comparisons		

UNIT -III: Mobile Commerce Technology

CO3: Describing the method how to publish mobile networks and mobile payment models in multimedia.

TB : E.Brian Mennecke, J.Troy Strader, "Mobile Commerce: Technology, Theory and Applications", Idea Group Inc., IRM press, 2003

No. of Periods	TOPIC	Date	Mode of Delivery
25,26	Mobile Commerce Technology : A Framework For The Study Of Mobile Commerce		Lecture interspersed with discussions
27,28	NTT Docomo's I-Mode		
29,30	Wireless Devices For Mobile Commerce		
31,32	Towards a Classification Framework for Mobile Location Based Services		
33,34	Wireless Personal and Local Area Networks		
35,36	The Impact of Technology Advances on Strategy Formulation in Mobile Communications Networks.		

UNIT -IV: Mobile Commerce Theory and Applications

CO4: Employing wireless communications technology, such as WWAN, Cellular systems 2G, 2.5G, 3G, 4G, 5G, WLAN, and WMAN technology, in practical scenarios.

TB : E.Brian Mennecke, J.Troy Strader, "Mobile Commerce: Technology, Theory and Applications", Idea Group Inc., IRM press, 2003

No. of Periods	TOPIC	Date	Mode of Delivery
37	Mobile Commerce Theory and Applications : The Ecology of Mobile Commerce		Lecture interspersed with discussions
38	The Wireless Application Protocol		
39	Mobile Business Services		
40	Mobile Portal		
41,42	Factors Influencing the Adoption of Mobile Gaming Services		
43,44	Mobile Data Technologies and Small Business Adoption and Diffusion		
45	E-commerce in The Automotive Industry		
46,47	Location- Based Services: Criteria For Adoption and Solution Deployment		
48,49	The Role of Mobile Advertising in Building a Brand		
	M-commerce Business Models		
UNIT -V: Business- To- Business Mobile E- Commerce CO5: Explaining M-COMMERCE applications in various areas like advertising, payment, ticketing, product location, entertainment, and shopping. TB : E.Brian Mennecke, J.Troy Strader, "Mobile Commerce: Technology, Theory and Applications", Idea Group Inc., IRM press, 2003			
50,51	Business- To- Business Mobile E- Commerce : Enterprise Enablement		Lecture interspersed with discussions
52	Email and Messaging		
53,54	Field Force Automation (Insurance, Real Estate, Maintenance, Healthcare)		
55	Field Sales Support (Content Access Inventory)		
56	Asset Tracking and Maintenance/Management		
57	Remote IT Support		
58	Customer Retention (B2C Services, Financial, Special Deals)		
59	Warehouse Automation		
60	Security		


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TENTATIVE LESSON PLAN

Course/Code: UNIVERSAL HUMAN VALUES-2

Year / Semester: IV/I Section: I A.Y: 2023-24 Mode of Delivery: Onboard/PPT

No. of Periods	TOPIC	Date	Remarks
UNIT 1- COURSE INTRODUCTION - NEED, BASIC GUIDELINES, CONTENT AND PROCESS FOR VALUE EDUCATION CO1: To train the student for Development of a holistic perspective based on self-exploration about themselves human being), family, society and nature/existence. TB :: "A foundational course in Human Values and Professional Ethics by RR Gaur, R Sangal, GP Bagaria , " Excel Books".			
1	Introduction	From: 17-07-2023 To: 10-08-2023	Lecture Interspersed with discussions
2	Need ,Basic Guide lines for Value Education		
3	Content and Process for Value Education		
4	Introduction to Self-Exploration		
5	Self-Exploration content and process		
6	Personality Traits		
7	Self Excellence, Natural Acceptance" and Experiential Validation"		
8	The process for self-exploration		
9	Adaptability, Belief and Understanding- Self discipline		
10	Continuous Happiness and Prosperity		
11	A look at basic Human Aspirations		
12	Right understanding, Relationship and Physical Facility		
13	the basic requirements for fulfillment of aspirations of every human being with their correct priority		
14	Method to fulfill the above human aspirations		
15	Understanding and living in harmony at various levels.		
16	Myers-Briggs Type Indicator (MBTI) Personality test		
UNIT -II UNDERSTANDING HARMONY IN THE HUMAN BEING - HARMONY IN MYSELF! CO2: To understand Harmony in the Human Being - characteristics and activities and harmony in I and correct appraisal of Physical needs, meaning of Prosperity in detail. TB :: "A foundational course in Human Values and Professional Ethics by RR Gaur, R Sangal, GP Bagaria , " Excel Books".			
17	Introduction Understanding Harmony in the Human Being	From: 14-08-2023 To: 31-08-2023	Lecture Interspersed with discussions
18	Understanding human being as a co-existence of the sentient "I" and the material „Body"		
19	Understanding the needs of Self (I) and Body" - happiness and physical facility"		
20	Understanding the Body as an instrument of I		
21	I being the doer, seer and enjoyer		
22	Habits and Hobbies		
23	SWOT Analysis (Activity)		
24	Understanding the characteristics and activities of I		
25	Harmony in I		

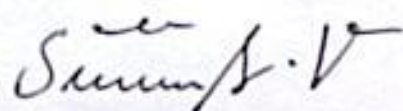
26	Dalai Lamas" Tibetan Personality Test"		
27	.Understanding the harmony of I with the Body		
28	Sanyam and Health; correct appraisal of Physical needs, meaning of Prosperity in detail		
29	Programs to ensure Sanyam and Health		
30	Epidemiology- Definition of health, Social and Preventive Medicine, Personal hygiene and handling stress		
31	WHO Guidelines		
UNIT – III UNDERSTANDING HARMONY IN THE FAMILY AND SOCIETY- HARMONY IN HUMAN RELATIONSHIP CO3: To understand (or develop clarity) the harmony in the human being, family, society and Human Relationship TB :: "A foundational course in Human Values and Professional Ethics by RR Gaur, R Sangal, GP Bagaria " Excel Books".			
32	Introduction Understanding Harmony in the Family and Society	From: 01-09-2023 To: 26-09-2023	Lecture Interspersed with discussions
33	Harmony in Human-Human Relationship		
34	Understanding values in human-human relationship		
35	meaning of Justice, Trust and Respect as the foundational values of relationship		
36	Understanding the meaning of Trust; Difference between intention and competence		
37	Understanding the meaning of Respect, Difference between respect and differentiation		
38	The other salient values in relationship, Friends and Foes, Empathy, False Prestige.		
39	Concept of an Ideal family- Marriage as an Institution		
40	Understanding the harmony in the society		
41	Visualizing a universal harmonious order in society		
42	Undivided Society, Universal Human Order- from family to world family.		
UNIT – IV : UNDERSTANDING HARMONY IN THE NATURE AND EXISTENCE - WHOLE EXISTENCE AS COEXISTENCE CO4: To strengthen the students in Understanding Existence as Co-existence of mutually interacting units in all- pervasive space, Holistic perception of harmony at all levels of existence. TB :: "A foundational course in Human Values and Professional Ethics by RR Gaur, R Sangal, GP Bagaria ,“ “ Excel Books".			
43	Introduction to Understanding Harmony in the Nature and Existence	From: 27-09-2023 To: 18-10-2023	Lecture Interspersed with discussions
44	Whole existence as Coexistence		
45	Understanding the harmony in the Nature and its Equanimity		
46	Respect for all, Nature as Teacher		
47	Interconnectedness and mutual fulfillment among the four orders of nature		
48	Recyclability and self-regulation in nature		
49	Understanding Existence as Co-existence of mutually interacting units in all		
50	pervasive space		
51	Holistic perception of harmony at all levels of existence.		
52	practice sessions		

UNIT – V IMPLICATIONS OF THE ABOVE HOLISTIC UNDERSTANDING OF HARMONY ON PROFESSIONAL ETHICS

CO5: To Infuse the student with Humanistic Education, Humanistic Constitution and Humanistic Universal Order

TB :: "A foundational course in Human Values and Professional Ethics by RR Gaur, R Sangal, GP Bagaria " Excel Books".

53	Implications of the above Holistic Understanding of Harmony on Professional Ethics	From: 19-10-2023 To: 11-11-2023	Lecture Interspersed with discussions
54	Natural acceptance of human values		
55	Definitiveness of Ethical Human Conduct		
56	Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order		
57	Competence in professional ethics		
58	Case studies of typical holistic technologies, management models and production systems		
59	Vision for the Holistic alternatives, UHVs for entrepreneurship		
60	Strategy for transition from the present state to Universal Human Order		
61	(a) At the level of individual(b) At the level of society		
62	practice sessions and Case Studies		



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DEPARTMENT OF INFORMATION TECHNOLOGY

TENTATIVE LESSON PLAN

Course/Code: Computer Network / R2031051

Year / Semester : III/I

Section: IT

A.Y: 2023-24

Mode of Delivery: Onboard

No. of Periods	TOPIC	Date	Remarks
UNIT-I INTRODUCTION, PHYSICAL LAYER CO1: Demonstrate different network models for networking links OSI, TCP/IP, B-ISDN, N_BISDN and get knowledge about various communication techniques, methods and protocol standards. TBI: Computer Network – Andrew Stanenbaum, Fifth Edition. Pearson Education/Phi.			
1-2	Introduction, Network Types, LAN, MAN, WAN	From: 17/07/2023 To: 19/08/2023	Lecture interspersed with discussions
3-5	Network Topologies Reference models, The OSI Reference Model		
6-8	The TCP/IP Reference Model, A Comparison of the OSI and TCP/IP Reference Models		
9	OSI Vs TCP/IP, Lack of OSI Models Success Internet History, Internet History		
10	Physical Layer		
11,12	Introduction to Guided Media		
13	Twisted-Pair Cable		
14,15	Coaxial Cable		
16,17	Fiber Optic Cable and Unguided Media		
18	Wireless- Radio Waves		
19	Microwaves		
20	Infrared		
UNIT-II DATA LINK LAYER, SLIDING WINDOW PROTOCOL CO2: Discuss different transmission media and different switching networks. TBI: Computer Network – Andrew Stanenbaum, Fifth Edition. Pearson Education/Phi.			
21	Design issues, Framing	From: 21/08/2023 To: 5/09/2023	Lecture interspersed with discussions
22	Variable Size Framing, Fixed Size Framing		
23,24	Flow control, Error control, Error Detection and Correction Codes		
25,26	CRC, Checksum: Idea, One's Complement Internet Checksum, Services Provided to Network Layer, Elementary Data Link Layer Protocols		
27,28	Simplex Protocol, Simplex Stop and wait, Simplex Protocol for Noisy Channel		
29,30	Point to Point Protocol (PPP), Framing Transition Phase, Multiplexing		

31	Sliding Window Protocol, One bit, Go back N		
32	Selective repeat-Stop and wait Protocol, Data Link Layer in HDLC, Configuration and Transfer Modes		
33-35	Frames, Control Field		
36-40	Multi Link PPP, Introduction to MAC, ALOHA		Took Extra Class for Problem Solving
UNIT-III MEDIA ACCESS CONTROL:RANDOM ACCESS: WIRED LAN'S Media Access			
CO3: Analyze data link layer services, function and protocols like HDLC and PPP			
TB1: Computer Network – Andrew Stanenbaum, Fifth Edition. Pearson Education/Phi.			
41	Carrier Sense Multiple Access (CSMA), CSMA with Collision Detection, CSMA with Collision Avoidance	From: 6/09/2023 To: 16/09/2023	Lecture interspersed with discussions
42	Controlled Access, Reservation, Polling		
43	Token, Passing, Channelization		
44	Frequency Division Multiple Access (FDMA)		
45	Time Division Multiple Access (TDMA)		
46,47	Code Division Multiple Access (CDMA), Wired LANs, Ethernet		
48	Ethernet Protocol, Standard Ethernet		
49	Fast Ethernet (100 MBPS)		
50,51	Gigabit Ethernet, 10 Gigabit Ethernet, Introduction The Network Layer Design Issues		
UNIT-IV THE NETWORK LAYER DESIGN ISSUES			
CO4: Compare and Classify Medium Access Control Protocols like ALOHA, CSMA, CSMA/CD, CSMA/CA, Polling, Token Passing, FDMA, TDMA, CDMA Protocols			
TB2: Data Communications and Networks – Behrouz A. Forouzan, Fifth Edition TMH.			
52	Store and Forward Packet Switching, Services Provided to the Transport Layer	From: 25/09/2023 To: 24/10/2023	Lecture interspersed with discussions
53	Implementation of Connectionless Service, Implementation of Connection oriented Services, Comparison of Virtual Circuit and Datagram Networks		
54	Routing Algorithms, The Optimality Principle- Shortest path		
55	Flooding		
56	Distance Vector, Link State		
57	Approaches to Congestion Control, Traffic Aware Routing		
58	Hierarchical, Congestion Control Algorithms		
59	General Principles of Congestion Control, Congestion Prevention Polices		
60	Approaches to Congestion Control, Traffic Aware Routing		
61	Admission Control, Traffic Throttling		
62	Load Shedding, Traffic Control Algorithm		
63	Leaky Bucket and Token Bucket, Internet Working, How Networks differ		
64	How Networks can be connected, Tunnelling, Internetwork Routing		
65	Fragmentation Network Layer in the internet, IP Protocols, IP Version 4 Protocol		

66	IPV4 Header format, IP Address, Class full Addressing		
67	CIDR		
68	NAT		
69	Subnets		
70	IP Version 6, The Main IPV6 Header		
71	Transition From IPV4 to IPV6		
72	Comparision of IPV4 & IPV6, Internet Control Protocols, ICMP- APR-DHCP		
UNIT-V The Transport Layer, 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. TB2: Data Communications and Networks – Behrouz A. Forouzan, Fifth Edition TMH.			
73	Transport Layer Protocols	From: 24/10/2023 To: 25/11/2023	Lecture interspersed with discussions
74	Introduction Services		
75	Port Number		
76	User Data Gram Protocol		
77	User Datagram		
78	UDP Services, UDP Applications		
79	Transmission Control Protocol		
80	TCP Services		
81	TCP Features, Segment – A, TCP Connection		
82	Windows in TCP, Flow Control, Error Control, Congestion Control in TCP		

A. Akhila
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TENTATIVE LESSON PLAN

Course/Code: Safety Engineering / R204103W

Year / Semester : IV/I

Section: I

A.Y: 2023-24

S.NO	TOPIC	Date	Mode of Delivery
UNIT-I Introduction to the Development of Industrial Safety and Management CO1: Understand the concepts of industrial safety and management TB: "Occupational Safety Management and Engineering", by Willie Hammer, 2nd Edition, Prentice Hall Publications.			
1	History and development of Industrial safety	From 17-07-2023 To 28-07-2023	Lecture interspersed with discussions & PPTs
2	Implementation of factories act		
3	Safety and productivity		
4	Safety organizations		
5	Safety committees and structure		
6	Role of management and role of Govt. in Industrial safety		
UNIT-II Accident Preventions, Protective Equipments and the Acts CO2: Demonstrate the accident preventions and protective equipment. TB: "Industrial Maintenance Management", by Sri vastava, S.K, S. Chand and Co Publications.			
7	Personal protective equipment	From 31-07-2023 To 18-08-2023	Lecture interspersed with discussions & PPTs
8	Survey the plant for locations		
9	Part of body to be protected		
10	Education and training in safety		
11	Prevention causes and cost of accident		
12	Housekeeping		
13	First aid		
14	Firefighting equipment		
15	Accident reporting		
16	Investigations		
17	Industrial psychology in accident prevention		
18	Safety trials		



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UNIT-III Safety Acts

CO3: Understand and apply the knowledge of safety acts

TB: "Occupational Safety Management and Engineering", by Willie Hammer, 2nd Edition, Prentice Hall Publications.

19	Features of Factory Act	From 21-08-2023 To 30-09-2023	Lecture interspersed with discussions & PPTs
20	Introduction of Explosive Act		
21	Boiler Act		
22	ESI Act		
23	Workman's compensation Act		
24	Industrial hygiene		
25	Occupational Safety		
26	Diseases prevention		
27	Ergonomics		
28	Occupational diseases		
29	Stress		
30	Fatigue		
31	Health		
32	Safety and the physical environment		
33	methods of controlling chemical hazards		
34	safety and the physical environment		
35	Control of industrial noise and protection against it		
36	Code and regulations for worker safety and health		
37	Code for safety of system		

UNIT-IV FIRE PREVENTION AND PROTECTION

CO4: Understand the concepts of fire prevention and protection systems.

TB: "Hand book on Industrial Fire Safety", by Purandare D.D & Abhay D.Purandare, P & A publications, New Delhi, 2006.

38	Sources of ignition	From 03-10-2023 To 19-10-2023	Lecture interspersed with discussions & PPTs
39	Fire triangle		
40	Principles of fire extinguishing		
41	Active and passive fire protection systems		
42	Various classes of fires A, B, C, D, E		
43	Fire extinguishing agents		
44	Water, Foam, Dry chemical powder,		
45	Carbon-dioxide Halon alternatives		





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	Halocarbon compounds		
46	Inert gases, dry powders		
47	Types of fire extinguishers		
48	Fire stoppers		
49	Hydrant pipes, hoses, monitors		
50	Fire watchers, layout of stand pipes		
51	Fire station, fire alarms and sirens		
52	Maintenance of fire trucks		
53	Foam generators		
54	Escape from fire rescue operations		
55	Fire drills		
56	First aid for burns		
UNIT-V BUILDING FIRE SAFETY			
CO5: Applying the concepts of fire safety principles in buildings.			
TB: "Hand book on Industrial Fire Safety", by Purandare D.D & Abhay D.Purandare, P & A publications, New Delhi, 2006.			
57	Objectives of fire safe building design		
58	Fire load		
59	Fire resistant material and fire testing		
60	Structural fire protection		
61	Structural integrity		
62	Concept of egress design		
63	Exit – width calculations		
64	Fire certificates		
65	Fire safety requirements for high rise buildings		
		From 26-10-2023 To 11-11-2023	Lecture interspersed with discussions & PPTs

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TENTATIVE LESSON PLAN: R2021011

Course Title: MATHEMATICS-III			
Section : IT	Date : 07-08-2023	Page No : 01 of 04	
Revision No : 00	Prepared By : N.GAYATRI DEVI	Approved By : HOD	
Tools: Black board			
No. of Periods	TOPIC	Date	Mode of Delivery
UNIT – I: VECTOR CALCULUS			
CO1: To interpret the physical meaning of different operators such as gradient, curl and divergence, to estimate the work done against a field, circulation and flux using vector calculus			
TB: "Engineering Mathematics", Dr. T.K.V.Iyengar; S.Chand publications			
1	Vector Differentiation: Introduction	From: 07-08-23 To 25-08-23	Lecture interspersed with discussions
2	Properties of vectors and scalars		
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		
10	Vector identities		
11	Problems on application of gradient		
12	Problems on divergence and curl		
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		
UNIT – II: LAPLACE TRANSFORMS			
CO2: To apply the Laplace transform for solving differential equations			
TB: "Engineering 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 26-08-23 To 15-09-23	Lecture interspersed with discussions
25	Laplace Transforms of derivatives; Integrals		
26	$L(t^n f(t))$		
27	Laplace Transforms of division by t		
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:TO find or compute the Fourier series of periodic signals , 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	From 16-09-23 To 23-09-23 & From 03-10-23 To 12-10-23	Lecture interspersed with discussions
35	Periodic functions		
36	Fourier series of periodic function		
37	Dirchlets conditions		
38	Even and odd functions		
39	Change of interval		
40	Half range sine and cosine series		
41	Fourier transforms		
42	Fourier integral theorem		
43	Fourier sine and cosine integrals		
44	Sine and cosine transforms		
45	Properties		
46	Inverse transforms		
47	Finite Fourier transforms		

UNIT – IV: PDE OF FIRST ORDER

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

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

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

54	Nonlinear PDE $f(p, q) = 0$	13-10-23 To 28-10-23	with 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: To identify solution methods for partial differential equations that model physical processes

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

61	Introduction; Homogeneous Linear P.D.E with constant coefficients; finding CF Finding PI: RHS term of the type $e^{(ax+by)}$	From 30-10-23 To 19-11-23	Lecture interspersed with discussions
62	$\sin(ax + by); \cos(ax + by)$		
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 LESSON PLAN: R203201G
DISASTER MANAGEMENT

Course Title: DISASTER MANAGEMENT(R203201G)		
Section : Sec A	Date : 9-01-2023	Page No : 01 of 03
Revision No : 00	Prepared By : B.SAIKUMAR REDDY	Approved By : HOD

Tools : Black board, PPTs, Model

No. of Periods	TOPIC	Date	Mode of delivery
UNIT -I NATURAL HAZARDS AND DISASTER MANAGEMENT			
CO1: The student will be able to Affirm the usefulness of integrating management principles in disaster mitigation work.			
T1: An Introduction of Disaster Management- Natural Disasters & Vulnerable Hazards- S.Vaidyanathan: CBS Publishers& Distributors Pvt. Ltd			
T2: Natural Hazards & Disaster Management, Vulnerability and Mitigation by RB Singh- Rawat Publications			
1	Introduction of DM	From: 9-01-2023 To: 3-02-2023	Lecture interspersed with discussions ppt
2	Inter disciplinary nature of the subject		
3	Disaster Management cycle		
4	Five priorities for action		
5	Case study methods-Introduction		
6	Case study on Vegetal Cover floods		
7	Case study on Droughts		
8	Case study on earthquakes		
9	Case study on Landslides		
10	Case study on Global warming		
11	Case study on Cyclones		
12	Case study on Tsunamis		
13	Post Tsunami hazards along the Indian coast		
14	Hazards along Indian coast		
15	Tutorial on disaster management cycle		

UNIT -II MAN MADE DISASTER AND THEIR MANAGEMENT ALONG WITH CASE STUDY METHODS OF THE FOLLOWING

CO2:The student will be able Distinguish between the different approaches needed to manage pre- during and post- disaster periods

T1: An Introduction of Disaster Management- Natural Disasters & Vulnerable Hazards-
S.Vaidyanathan: CBS Publishers& Distributors Pvt. Ltd

T2: Natural Hazards & Disaster Management, Vulnerability and Mitigation by RB Singh-
Rawat Publications

16	Man Made Disaster	From: 4-02-2023 To: 4-03-2023	Lecture interspersed with discussions ppt
17	Fire hazards		
18	Transport hazard dynamics		
19	Solid waste management		
20	Management- post disaster		
21	Bioterrorism		
22	Threat in mega cities		
23	Rail accidents		
24	Aircraft accidents		
25	Ground water in industries		
26	Emerging infectious diseases		
27	Aids and their management		
28	Management of diseases		
29	Case studies		
30	Tutorial on bio terrorism		

UNIT –III RISK AND VULNERABILITY

CO3: The student will be able to explain the process of risk management

T1: An Introduction of Disaster Management- Natural Disasters & Vulnerable Hazards- S.Vaidyanathan: CBS Publishers & Distributors Pvt. Ltd

T2: Natural Hazards & Disaster Management, Vulnerability and Mitigation by RB Singh- Rawat Publications

31	Risk	From: 4-03-2023 To: 17-04-2023	Lecture interspersed with discussions ppt
32	Vulnerability		
33	Building codes		
34	Land use planning		
35	Types of Vulnerability		
36	Social Vulnerability		
37	Environmental vulnerability		
38	Risk-types		
39	Elements of risk		
40	Factors affecting vulnerability		
41	Elements of vulnerability Tutorial on types of vulnerability		

UNIT – IV ROLE OF TECHNOLOGY IN DISASTER MANAGERMENTS

CO4: The student will be able to learn the role of technology in disaster management.

T1: An Introduction of Disaster Management- Natural Disasters & Vulnerable Hazards- S.Vaidyanathan: CBS Publishers & Distributors Pvt. Ltd


T2: Natural Hazards & Disaster Management, Vulnerability and Mitigation by RB Singh- Rawat Publications

42	Disaster management for infra structures		Lecture interspersed
43	Taxonomy of infra structure		
44	Treatment plants and process facilities		
45	Electrical substations Roads and bridges		
46	Mitigation programme for carth quakes		

47	Flowchart, geospatial information in agriculture drought assessment	From: 20-04-2023 To: 2-05-2023	with discussions ppt
48	Multimedia Technology in disaster risk management training		
49	Training, Transformable Indigenous Knowledge		
50	Disaster risk reduction		
51	Role of RS , Role of GIS		
52	Tutorial on Role of RS& GIS		
UNIT –V MULTI-SECTIONAL ISSUES, EDUCATION AND COMMUNITY PREPAREDNESS CO5: The student will be able to relate to risk transfer T1: An Introduction of Disaster Management- Natural Disasters & Vulnerable Hazards- S.Vaidyanathan: CBS Publishers& Distributors Pvt. Ltd T2:Natural Hazards & Disaster Management, Vulnerability and Mitigation by RB Singh- Rawat Publications			
53	Multi-sectional Issues, Education and Community Preparedness- Impact of disaster on poverty and deprivation	From: 3-05-2023 To: 6-05-2023	Lecture interspersed with discussions ppt
54	Climate change adaptation and human health		
55	Exposure Health hazards and environmental risk		
56	Forest management and disaster risk reduction		
57	Corporate sector and disaster risk reduction		
58	Community capacity and disaster resilience		
59	social capital, Designing resilience		
60	Essentials of school disaster education		
61	Building community capacity for action Tutorial		



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