

INFORMATION TECHNOLOGY DEPARTMENT

LESSON PLAN	
JHARSUGUDA ENGINEERING SCHOOL, JHARSUGUDA	
Name of the Faculty: Mrs. Barsha Rani Patel	Academic Year: 2023 - 24
Course No.: Th.1	Course Name: Operating System
Program: Diploma	Branch: IT
Year / Semester: II/ IV	Section:

Sl. No.	Period /Class	Time (min)	Unit	Topic to be covered	Teaching method
1.	1.	55	1	Introduction	Chalk & talk
2.	2.	55	1	Objectives and Explain functions of Operating system	Chalk & talk
3.	3.	55	1	Evolution of operating system	Chalk & talk
4.	4.	55	1	Structure of operating system	Chalk & talk
5.	5.	55	1	Revision Chapter -1	Chalk & talk
6.	6.	55	2	Process Management	Chalk & talk
7.	7.	55	2	Process concept, Process control, interacting processes, inter process messages.	Chalk & talk
8.	8.	55	2	Implementation issues of processes	Chalk & talk
9.	9.	55	2	Process scheduling, job scheduling	Chalk & talk
10.	10.	55	2	Process synchronization, semaphore	Chalk & talk
11.	11.	55	2	Principal of concurrency, types of scheduling.	Chalk & talk
12.	12.	55	2	Revision Chapter -2	Chalk & talk
13.	13.	55	3	Memory Management	Chalk & talk
14.	14.	55	3	Memory allocation techniques.	Chalk & talk
15.	15.	55	3	Contiguous memory allocation	Chalk & talk
16.	16.	55	3	Noncontiguous memory allocation	Chalk & talk
17.	17.	55	3	Swapping	Chalk & talk
18.	18.	55	3	Paging Segmentation virtual memory using paging	Chalk & talk

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19.	19.	55	3	Demand paging, page fault handling	Chalk & talk
20.	20.	55	3	Revision Chapter -3	Chalk & talk
21.	21.	55	4	Device Management	Chalk & talk
22.	22.	55	4	Techniques for device management	Chalk & talk
23.	23.	55	4	Dedicated	Chalk & talk
24.	24.	55	4	Shared and	Chalk & talk
25.	25.	55	4	Virtual	Chalk & talk
26.	26.	55	4	Device allocation considerations I/O traffic control & I/O schedule, I/O device handlers	Chalk & talk
27.	27.	55	4	SPOOLING	Chalk & talk
28.	28.	55	4	Revision Chapter -4	Chalk & talk
29.	29.	55	5	Dead Locks	Chalk & talk
30.	30.	55	5	Concept of dead locks	Chalk & talk
31.	31.	55	5	System model	Chalk & talk
32.	32.	55	5	Dead lock detection	Chalk & talk
33.	33.	55	5	Resources allocation Graph	Chalk & talk
34.	34.	55	5	Methods of dead lock handling	Chalk & talk
35.	35.	55	5	Recovery & prevention,	Chalk & talk
36.	36.	55	5	Explain banker's algorithm & safety algorithm	Chalk & talk
37.	37.	55	5	Revision Chapter -5	Chalk & talk
38.	38.	55	5	Old Question Discussion	Questioner
39.	39.	55	6	File Management	Chalk & talk
40.	40.	55	6	File organization	Chalk & talk
41.	41.	55	6	Directory	Chalk & talk
42.	42.	55	6	File structure	Chalk & talk
43.	43.	55	6	Sharing of files	Chalk & talk

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44.	44.	55	6	File access methods	Chalk & talk
45.	45.	55	6	File system reliability.	Chalk & talk
46.	46.	55	6	Allocation of disk space	Chalk & talk
47.	47.	55	6	File protection	Chalk & talk
48.	48.	55	6	secondary storage management.	Chalk & talk
49.	49.	55	6	Revision Chapter -6	Chalk & talk
50.	50.	55	6	Old Question Discussion	Questioner
51.	51.	55	7	System Programming	Chalk & talk
52.	52.	55	7	Concept of System programming.	Chalk & talk
53.	53.	55	7	show difference from application compiler.	Chalk & talk
54.	54.	55	7	Compiler, functions of compiler.	Chalk & talk
55.	55.	55	7	Compiler	Chalk & talk
56.	56.	55	7	Interpreter.	Chalk & talk
57.	57.	55	7	Seven phases of compiler	Chalk & talk
58.	58.	55	7	Brief description of each phase	Chalk & talk
59.	59.	55	7	Problems & Revision	Chalk & talk
60.	60.	55	7	Old Question Discussion	Questioner

Text Book (TB)	Name of the Book
1	Rohit Khurana, Operating System, Second Edition
2	Silverschz & Galvin, Operating System, PHI Publisher

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Lesson Plan

Name	RABI KUMAR DARJI BARSHA RANI PATEL	Total Hrs planned:60 Total Hrs per week: 04
Designation	Lecturer	Session: 2023 - 24
Subject: Code/Name	Th.1b	DATA COMMUNICATION & COMPUTER NETWORK
Semester/Programme /Department	5 th Semester/ Diploma/ Information Technology	
Course Objective	After completion of this course the student will be able to: <ul style="list-style-type: none">To introduce the concept, terminologies, and technologies used in modern data communication and computer networking and the functions of different layers.	

Sl. No	Detail Description of Topics/Subtopics	Mode of Lecture
1	Chapter1: Network& Protocol	Chalk & talk
2	Data Communication, Factors that affect performance, security and reliability of networks, applications of networks, Data communications-components, protocols, standards, standards organizations	PPT
3	OSI Model-Layered Architecture, functions	Chalk & talk
4	Protocol & Architectur	PPT
5	TCP / IP protocol suite	Chalk & talk
6	Revision of Chapter1	Questionaries
7	Chapter2: Data transmission Concepts and Terminology	Chalk & talk
8	Analog Data transmission	PPT

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9	Digital Data transmission	NPTEL VIDEO
10	Transmission impairments, Channel capacity	Chalk & talk
11	Transmission media, Guided Transmission	Chalk & talk
12	Wireless Transmission	Chalk & talk
13	Revision of Chapter 2	Questionaries
14	Chapter3: Data encoding	Chalk & talk
15	Digital data digital signals	PPT
16	Digital data analog signals	Chalk & talk
17	Analog data digital signals	PPT
18	Analog data analog signals	Chalk & talk
19	Revision of Chapter 3	Questionaries
20	Revision of Chapter1 to 3	Question
21	Chapter4: Data Communication & Data link control	Chalk & talk
22	Asynchronous And Synchronous Transmission	Chalk & talk
23	Error Detection	Chalk & talk
24	Line configuration	PPT
25	Flow Control,	PPT
26	Error Control	Chalk & talk
27	Multiplexing	Chalk & talk
28	FDM synchronous TDM	Chalk & talk
29	Statistical TDM	Chalk & talk
30	Revision of Chapter 4	Quiz
31	Chapter5: Switching & Routing	Chalk & talk
32	Packet Switching	Chalk & talk

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33	principles 5.3 X.25	Questionaries
34	Routing in Packet switching	Chalk & talk
35	Congestion	Chalk & talk
36	Effects of congestion	Chalk & talk
37	congestion control	PPT
38	Traffic Management	Chalk & talk
39	Congestion Control in Packet Switching Network	PPT
40	Revision of Chapter 5	Questionaries

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41	Chapter 6: LAN Technology	PPT
42	Topology	Chalk & talk
43	Transmission Media	Chalk & talk
44	LAN protocol architecture	Chalk & talk
45	Medium Access control	Chalk & talk
46	Bridges	Chalk & talk
47	Hub	PPT
48	Switch	NPTEL VIDEO
49	Ethernet (CSMA/CD)	Chalk & talk
50	Fibre Channel	Chalk & talk
51	Wireless LAN Technology.	Chalk & talk
52	Revision of Chapter 6	Questionaries
53	Chapter 7: TCP/IP	Chalk & talk
54	TCP/IP Protocol Suite	Chalk & talk
55	Basic Protocol functions	Chalk & talk
56	Principles of Internetworking	PPT
57	Internet Protocol operations	Chalk & talk
58	Internet Protocol	Chalk & talk
59	Revision of Chapter 7	Questionaries
60	Revision of Chapter1 to 7	

Text Book- 1(TB1): Data Communication & Computer Networks by W.Stallings (PHI)

Reference Book 1 (RB1): Data Communication & Network by Forouzen, TMH

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Lesson Plan

Name	RABI KUMAR DARJI	Total Hrs planned:60 Total Hrs per week: 04
Subject: Code/Name	Th.4	DBMS
Semester/Programme/ Department	4 th Sem / Diploma/ Information Technology	Session: 2023 - 24
Course Objective	After completion of this course the student will be able to: <ul style="list-style-type: none">• Understand the database concepts, their benefits and advantages• Understand the Database architecture• Understand the concepts of E-R diagrams & E-R Modelling• Understand relational algebra• Comprehend the different aspects of SQL• Understand the concepts of normalization• Understand the concepts of transaction processing• Understand the techniques of concurrency control• Comprehend the concepts & techniques of backup & recovery of databases.• Understand how to maintain security and integrity in database.	

Sl. No	Detail Description of Topics/Subtopics	Mode of Lecture
1	Chapter1: BASIC CONCEPTS OF DBMS	Chalk & talk
2	Purpose of database Systems	Chalk & talk
3	Explain Data abstraction	Chalk & talk
4	Database users	NPTTEL VIDEO
5	Data definition language	Chalk & talk
6	Data Dictionary	Chalk & talk
6	Revision of Chapter 1	Questionnaires
7	Chapter2: DATA MODELS	Chalk & talk
8	Data independence	Chalk & talk
9	Entity relationship models	NPTTEL VIDEO
10	Entity sets	Chalk & talk
11	and Relationship sets	NPTTEL VIDEO
12	Explain Attributes	Chalk & talk
13	Mapping constraints	Chalk & talk
14	E-R Diagram	Chalk & talk
15	Relational model	Chalk & talk
16	Hierarchical model	Chalk & talk
17	Network model	Chalk & talk
18	Revision of Chapter 2	Questionnaires

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19	Chapter 3: RELATIONAL DATABASE	Chalk & talk
20	Relational algebra	Chalk & talk
21	Different operators select & simple Examples	NPTEL VIDEO
22	Different types project & simple Examples	Chalk & talk
23	Different types join & simple Examples	NPTEL VIDEO
24	Revision of Chapter 3	Questionnaires
25	Chapter 4: NORMALIZATION IN RELATIONAL SYSTEM	Chalk & talk
26	Functional Dependencies	NPTEL VIDEO
27	Lossless join	Chalk & talk
28	Importance of normalization	Chalk & talk
29	Compare First second and third normal forms	Chalk & talk
30	Explain BCNF	Chalk & talk
31	Revision of Chapter 4	Questionnaires & Quiz
32	Chapter 5: STRUCTURED QUERY LANGUAGE	Chalk & talk
33	Elementary idea of Query language	NPTEL VIDEO
34	Queries in SQL	Chalk & talk
35	Simple queries to create in SQL	Chalk & talk
36	Simple queries to update in SQL	Chalk & talk
37	Simple queries to insert in SQL	Chalk & talk
38	Revision of Chapter 5	Questionnaires & Quiz
39	Chapter 6: TRANSACTION PROCESSING CONCEPTS	Chalk & talk
40	Idea about transaction processing	Chalk & talk

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41	Transaction	NPTEL VIDEO
42	system concept	Chalk & talk
43	Desirable properties of transaction	Chalk & talk
44	Schedules	Chalk & talk
45	Recoverability	
46	Revision of Chapter 6	Questionnaires
47	Chapter 7: CONCURRENCY CONTROL CONCEPTS	Chalk & talk
48	Basic concepts	Chalk & talk
49	Locks	Chalk & talk
50	Live Lock	NPTEL VIDEO
51	Dead Lock	Chalk & talk
52	Serializability (only fundamentals)	Chalk & talk
53	Revision of Chapter 7	Questionnaires
54	Chapter 8: SECURITY AND INTEGRITY	Chalk & talk
55	Authorization	Chalk & talk
56	views in DBMS	PPT
57	Security constraints	NPTEL VIDEO
58	Integrity Constraints	Chalk & talk
59	Discuss Encryption	PPT
60	Revision of Chapter 8	Chalk & talk

Text Book- 1: Database System Concepts; By: Rog,Cornel ; **Name of the publisher:** Cengage Learning
Reference Book 1 (RB1): DatabaseSystem Concepts; By: A. Silberschatz,H.F. Korth; **Name of the publisher:**
TMH Publication

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