

SCHEME OF COURSE WORK

Course Details:

Course Title	: Advanced Mobile Communications		
Course Code	: 13EC2101	L P C	: 4 0 3
Program:	: M. Tech		
Specialization:	: Communications and Signal Processing		
Semester	: I		
Prerequisites	: DATA COMMUNICATIONS		
Courses to which it is a prerequisite	: NOT APPLICABLE		

Course Outcomes (COs):

1	Describe various transmission modes and Network topologies
2	Design Multiplexing techniques such as TDM and FDM
3	Explain switching systems for data transmission
4	Demonstrate Data communications protocols
5	Comprehend Line protocols and Congestion protocols

Course Outcome versus Program Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO-1	S	M									S
CO-2	S	M	S	M			S				S
CO-3	S	M	S	M			S	S			S
CO-4	S	M	S	M			S				S
CO-5	S	M	S	M			S				S

Assessment Methods:	Assignment / Quiz / Seminar / Case Study / Mid-Test / End Exam
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Teaching-Learning and Evaluation

Week	TOPIC / CONTENTS	Course Outcomes	Sample questions	TEACHING-LEARNING STRATEGY	Assessment Method & Schedule
1	Data Communications Topologies	CO-1	1. Explain the necessity of Character synchronisation 2. What is network topology and brief notes on various topologies	▫ NPTEL VIDEO LECTURES ▫ PPT	Assignment 1 (Week 2 - 4)
2	Configurations, 2- wire, 4- wire operations,	CO-1		▫ NPTEL VIDEO LECTURES PPT	
3	Error detection and correction methods,	CO-1		▫ NPTEL VIDEO LECTURES ▫ PPT	
4	Character synchronisation	CO-1		▫ NPTEL VIDEO LECTURES ▫ PPT	
5	Switching Techniques: Circuit switching	CO-2	1. Compare the packet switching and circuit switching techniques for digital networks. 2. Explain in detail X.25 architecture	▫ NPTEL VIDEO LECTURES ▫ PPT	
6	Packet switching and Message switching, Virtual circuits,	CO-2		▫ NPTEL VIDEO LECTURES ▫ PPT	
7	X.25 Protocol	CO-2		▫ NPTEL VIDEO LECTURES PPT	
8	REVISION			▫ EXAMPLES ▫ PROBLEM SOLVING	
9	Mid-Test 1				Mid-Test 1 (Week 9)
10	Digital Multiplexing: Multiplexers	CO-3	1. What is the necessity of Digital hierarchy? 2. Write notes on Frame synchronisation	▫ NPTEL VIDEO LECTURES ▫ PPT	Assignment 2 (Week 11 - 14)
11	Communication processors, Hybrid Data	CO-3		▫ NPTEL VIDEO LECTURES ▫ PPT	
12	TDM, Carrier Systems, Digital hierarchy	CO-3		▫ NPTEL VIDEO LECTURES ▫ PPT	
13	Line encoding, frame synchronisation	CO-3		▫ NPTEL VIDEO LECTURES ▫ PPT	
14	Protocols: Synchronous and asynchronous protocols, SDLC, HDLC	CO-4	1. What are protocols? Explain with an example. 2. Is ATM a switch or Protocol? Discuss.	▫ NPTEL VIDEO LECTURES PPT	Seminar (Week 15)
15	ATM, Flow control , Error Control	CO-4		▫ NPTEL VIDEO LECTURES ▫ PPT	
16	Line protocols and Congestion controls: Half duplex point to point, full duplex, polling, roll call and hub polling	CO-5	1. What are the criteria for Traffic management in wireless networks? 2. Compare the performances of ATM and Frame Relay.	▫ NPTEL VIDEO LECTURES ▫ PPT slides only	
17	Traffic management, congestion control in Packet switched networks, frame relay	CO-5		▫ EXAMPLES ▫ PROBLEM SOLVING	
18	Mid-Test 2				Mid-Test 2 (Week 15)
19/20	END EXAM				END EXAM

