

MCA I Year II Semester Subject Code: 24MCA2002 Computer Networks

Contact Hour	Unit No.	Topic Name	Teaching Methodology	Remarks
1	1	Introduction: Data Communication, Components	Blackboard	
2	1	Data Representation, Data Flow	Blackboard	
3	1	Networks: Physical Structures	Blackboard	
4	1	Categories of Network, Interconnection of Networks	Blackboard	
5	1	OSI Model: Layered Architecture, Peer-to-Peer Process	Blackboard	
6	1	OSI Model: Encapsulation, Layers	Blackboard	
7	1	TCP/IP Protocol Suite	Blackboard	
8	1	Addressing: Physical, Logical, Port, Specific Address	Blackboard	
9	2	Data Link Layer: Design Issues	Blackboard	
10	2	Services to Network Layer, Framing	Blackboard	
11	2	Error Control	Blackboard	
12	2	Flow Control	Blackboard	
13–14	2	Elementary Data Link Protocols	Blackboard	
15–16	2	Sliding Window Protocols	Blackboard	
17	3	Network Layer: Design Issues	Blackboard	
18	3	Services to Transport Layer	Blackboard	
19	3	Implementation of Connectionless Service	Blackboard	
20	3	Implementation of Connection-Oriented Service	Blackboard	
21–22	3	Routing Algorithms: Shortest Path Routing	Blackboard	
23–24	3	Distance Vector Routing	Blackboard	
25–26	3	Link State Routing	Blackboard	
27	3	Congestion Control: General Principles	Blackboard	
28	3	Congestion Prevention Policies	Blackboard	
29	3	Network Layer in Internet: IP Protocol	Blackboard	
30	3	IP Address – IPv4	Blackboard	
31	3	IP Address – IPv6	Blackboard	
32	4	Transport Layer: Connectionless vs Connection-Oriented Services	Blackboard	
33	4	UDP: Ports, User Datagram, Checksum	Blackboard	
34	4	UDP: Operations and Uses	Blackboard	
35	4	TCP: Services and Features	Blackboard	
36	4	TCP: TCP Segment	Blackboard	
37–38	4	TCP Connection: Establishment, Data Transmission, Termination	Blackboard	

39	5	Application Layer: DNS – Name Space	Blackboard	
40	5	DNS: Resource Records, Name Servers	Blackboard	
41	5	Email: Architecture and Services	Blackboard	
42	5	Email: User Agent, Message Format	Blackboard	
43	5	Email: Message Transfer, Final Delivery	Blackboard	
44	5	WWW: Architectural Overview	Blackboard	
45-46	5	WWW: Static and Dynamic Web Documents	Blackboard	
47	5	HTTP: HyperText Transfer Protocol	Blackboard	
48	5	HTTP: Continued	Blackboard	