

K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

May-June 2023-24
(B.Tech.) Program: Information Technology Scheme - II
Regular Examination: SY Semester: IV
Course Code:ITC402 and Course Name: Computer Network & Network Design
Date of Exam: 16/05/2024 Duration: 02.30 Hours Max. Marks: 60

Instructions:				
(1) All questions are compulsory.				
(2) Draw neat diagrams wherever applicable.				
(3) Assume suitable data, if necessary.				
		Max. Marks	CO	BT level
Q 1	Solve any six questions out of eight:	12		
i)	Compare LAN & MAN	2	CO1	1
ii)	List services provided by Data link Layer	2	CO2	1
iii)	Describe the Switches and its uses in computer networking	2	CO2	1
iv)	List the advantages and disadvantages of IPV4.	2	CO3	1
v)	List the design issues of the session layer.	2	CO4	1
vi)	Justify the functionalities of transport layer.	2	CO4	1
vii)	What are the features of file transfer protocol	2	CO5	1
viii)	What are the factors affecting network performance.	2	CO6	1
Q.2	Solve any four questions out of six.	16		
i)	Describe the WAN and its advantages.	4	CO1	2
ii)	Describe the Go back-N protocol and its advantages.	4	CO2	2
iii)	Describe the features of IPv4 and list the pros & cons.	4	CO3	2
iv)	Justify the flow control and Congestion control in TCP.	4	CO4	5
v)	Describe the design issues of the presentation layer and list the lossy and lossless compression techniques.	4	CO5	2
vi)	Describe the routing protocols and justify its uses in networking.	4	CO6	5

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Q.3	Solve any two questions out of three.	16		
i)	Describe the any four types of network Topologies and explain how it is beneficial for Network infrastructure?	8	CO1	5
ii)	Justify the need of DHCP protocol in large network and describe its working in detail.	8	CO3	5
iii)	Describe the functionalities of the application layer in OSI model and explain the LZW and RLE compression with example.	8	CO5	2
Q.4	Solve any two questions out of three.	16		
i)	Describe the types of error correction and detection techniques in brief and apply hamming code on given data :1001101	8	CO2	3
ii)	Justify the use of port addresses in transport layer in detail & analyze TCP and UDP.	8	CO4	5
iii)	Design the network with proper diagram for Medum size software company using the following parameters with proper justification.: 1.Requirement of network,2.Wired or wireless,3. network topology. 4. Network Devices, IP Addressing, manual or DHCP.	8	CO6	6
