

Date : 27-05-22

**K. J. Somaiya Institute of Engineering and Information Technology, Sion, Mumbai-22**

**(Autonomous College Affiliated to University of Mumbai)**

**End Semester Exam**

April - May 2022

(B.Tech) Program: EXTC

Examination: TY Semester: VI

Course Code: 1UEXC604 and Course Name: Computer Communication Networks

Duration: 03 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)	Specify the significance of given layers of OSI reference model: (1) Data link layer (2) Transport layer	2	1	1
ii)	What are different transmission modes defined by physical layer? Brief any two.	2	2	1
iii)	Explain the concept of hop-to-hop delivery in network	2	3	1
iv)	Define logical addressing	2	4	1
v)	Identify the class of given IP addresses: (1) 130.1.1.1 (2) 95.20.2.1	2	4	3
vi)	What is the purpose of Network Interface Card?	2	3	1
vii)	Explain Segmentation and Reassembly with respect to Transport layer	2	5	1
viii)	List down different protocols supported at Application layer (At least 4)	2	6	1



<b>Q.2</b>	<b>Solve any four questions out of six.</b>	<b>16</b>		
i)	List down different topologies applied in a network along with the diagram. For n devices in a network, what is the number of cable links required for a mesh, ring, bus, and star topology?	4	1	1
ii)	Compare between – Coaxial cable and Optical fiber cable	4	2	2
iii)	Short note on Byte stuffing and Bit stuffing	4	3	1
iv)	What is circuit switching? How it differs from packet switching?	4	4	1
v)	Differentiate between TCP and UDP	4	5	2
vi)	What are the three sections of the domain name space in internet? Describe the details.	4	6	1
<b>Q.3</b>	<b>Solve any two questions out of three.</b>	<b>16</b>		
i)	Explain transmission impairment with respect to attenuation, distortion and noise	8	2	1
ii)	What is Subnetting? An organization is given the block 17.12.40.0/26, which contains 64 addresses. The organization has three offices and needs to divide the addresses into three subblocks of 32, 16, and 16 addresses using subnetting. Identify the mask for individual subnet, Also assign IP addresses to respecting subnet.	8	4	3
iii)	Draw and explain packet format for User Datagram Protocol. Elaborate on the process of checksum calculation for UDP.	8	5	2
<b>Q.4</b>	<b>Solve any two questions out of three.</b>	<b>16</b>		
i)	Explain Go-back-N ARQ protocol in brief. Also compare and contrast the Go-Back-N ARQ Protocol with Selective-Repeat ARQ	8	3	2
ii)	Define Link state routing. Explain the steps of finding shortest	8	4	1

	path tree using Dijkstra Algorithm.			
iii)	What is the purpose of FTP? What kinds of file types can FTP transfer? What are the three FTP transmission modes? Explain in brief.	8	6	1