University of Mumbai
Examinations Summer 2022
Program: Electronics & Telecommunication
Curriculum Scheme: Rev 2019_C Scheme
Examination: TE Semester VI

Course Code: ECC 602   Course Name: Computer Communication Network (CCN)
Time: 2 hour 30 minutes   Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Which of this is not a guided media?
OptionA:	Fiber optical cable
OptionB:	Coaxial cable
OptionC:	Copper wire
OptionD:	Wireless LAN
2.	Errol control and flow control are the functions of the following layer of OSI model.
Option A:	Application
Option B:	Session
Option C:	Data link layer
Option D:	Presentation
3.	_____ work at the network layer of the OSI model.
Option A:	Bridges
Option B:	Hubs
Option C:	Routers
Option D:	Gateways
4.	Which of following protocols is used by IP for generating error reports
Option A:	ICMP
Option B:	IGMP
Option C:	IGRP
Option D:	ARP
5.	_____ device is used to regenerate the signals at physical layer.
Option A:	Repeater
Option B:	Switch
Option C:	Bridge
Option D:	Router
6.	Which of the following is not an application layer protocol
Option A:	IP
Option B:	SMTP
Option C:	HTTP
Option D:	DNS
7.	Find the class of address 14.23.120.8.

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Option A:	Class A
Option B:	Class C
Option C:	Class B
Option D:	Class D

8.	Telnet is used for
Option A:	Assigning IP address to a host
Option B:	Remote Login
Option C:	Assigning name to an IP address
Option D:	Video Compression

9.	Which of the following layers support process to process communication?
Option A:	Network layer
Option B:	Data link layer
Option C:	Session layer
Option D:	Transport layer

10.	Which of the following protocols provides email service?
Option A:	HTTP
Option B:	SMTP
Option C:	FTP
Option D:	TFTP

Q2	(20Marks Each)	
A	Solve any Two	5marks each
i.	Explain in detail Digital Subscriber Line (DSL).	
ii.	Compare logical address and physical address.	
iii.	Explain the OSI-reference model and functions of each layer.	
B	Solve any One	10 marks each
i.	Explain the different error reporting messages in ICMP with message format.	
ii.	Compare IPv4 and IPv6	

Q3	(20 Marks Each)	
A	Solve any Two	5 marks each
i.	The following is the dump of TCP header in hexadecimal format:05320017 00000001 00000000 500207FF 00000000 1) What is the source port number? 2) What is the destination port number? 3) What is the sequence number? 4) What is the acknowledgement number? 5) What is the length of the header?	
ii.	Differentiate between Bus Topology and Ring Topology.	
iii.	Explain Three-Way Handshaking for connection establishment in TCP	
B	Solve any One	10 marks each
i.	Explain HDLC frame format and the control frames with neat diagrams. Explain bit stuffing in HDLC.	
ii.	Classify transmission media. List the applications of each. Compare Twisted pair	

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		cable, Coaxial cable and Fiber optical cable.	
Q4		**(20 Marks Each)**	
	A	Solve any Two	5 marks each
	i.	Explain Selective Repeat ARQ.	
	ii.	Explain the transition states of DHCP with a neat diagram.	
	iii.	Compare RIP and OSPF unicast routing protocols.	
	B	Solve any One	10 marks each
	i.	An ISP is granted a block of addresses starting with 160.100.0.0/16. The ISP needs to distribute this address to three groups of customers as follows: Group I: The first group has 64 customers and each needs 256 addresses. Group II: The second group has 128 customers and each needs 128 addresses. Design the subblocks and find out how many addresses are still available after these allocations. Group III:128 customers each need 64 addresses Design subblocks and give slash notation for each sub block. Find how many addresses are still available after this allocation.	
	ii.	What are the Hardware network devices? Explain any four in details.	