University of Mumbai

Examinations Summer 2022
Curriculum Scheme : Rev 2019
Examination: TE Semester V
Course Code : CSC 503 Course Name : Computer Network

Time: 2 hour 30 minutes Max. Marks: 80

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Q1.	**Choose the correct option for following questions. All the Questions are compulsory and carry equal marks**
1.	In the layer hierarchy as the data packet moves from the upper to the lower layers, headers are _____
Option A:	added
Option B:	removed
Option C:	modified
Option D:	rearranged
2.	TCP/IP model contains _____ layers.
Option A:	5
Option B:	6
Option C:	7
Option D:	8
3.	In the sliding window method of flow control, the receiver window _____ size when an ACK is sent.
Option A:	increase in
Option B:	decrease in
Option C:	doubles in
Option D:	remains its original
4.	A sender has a sliding window of size 15. The first 15 frames are sent ACK received is ACK 15. What frame is the receiver expecting?
Option A:	frame 14
Option B:	frame 15
Option C:	frame 16
Option D:	frame 0
5.	The required resources for communication between end systems are reserved for the duration of the session between end systems in _____ method.
Option A:	Packet switching
Option B:	Circuit switching
Option C:	Line switching
Option D:	Frequency switching
6.	What is the maximum number of IP addresses that can be assigned to host on a local subnet hat uses the 255.255.255.224 subnet mask?
Option A:	14
Option B:	15
Option C:	16
Option D:	30
7.	In distance vector routing, a router sends its updating packet_____
Option A:	only to its neighbors

Option B:	to every other router in the internetwork
Option C:	both are true
Option D:	none of these
8.	An Internet Service Provider (ISP) has the following chunk of CIDR-based IP addresses available with it: 245.248.128.0/20. The ISP wants to give half of this chunk of addresses to Organization A, and a quarter to Organization B, while retaining the remaining with itself. Which of the following is a valid allocation of addresses to A and B?
Option A:	245.248.136.0/21 and 245.248.128.0/22
Option B:	245.248.128.0/21 and 245.248.128.0/22
Option C:	245.248.132.0/22 and 245.248.132.0/21
Option D:	245.248.136.0/24 and 245.248.132.0/21
9.	Which of the following can be used as both source and destination IP address?
Option A:	192.168.1.255
Option B:	10.0.0.1
Option C:	127.0.0.1
Option D:	255.255.255.255
10.	Connection request has
Option A:	SYN = 1 and ACK = 0
Option B:	SYN = 1 and ACK = 1
Option C:	SYN = 0 and ACK = 1
Option D:	SYN = 0 and ACK = 0

Q2	**Solve any Two Questions out of Three** **10 marks each**
A	Explain design issues of layers in OSI reference model in computer networks. Explain ISO OSI Reference model with diagram.
B	Explain CSMA/CA protocols. Explain how collisions are handled in CSMA/CD.
C	Explain different framing methods? What are the advantages of variable length frame over fixed length frame?

Q3.	**Solve any Two.** **10 marks each**
A	Explain IPv4 header format with diagram.
B	Explain different TCP Congestion Control policies.
C	Explain TCP flow control.

Q4.	**Solve any Two.** **10 marks each**
A	Explain ARP and RARP protocols in detail.
B	Explain the need for DNS (Domain Name System) and describe it's functioning.
C	Explain working of DHCP protocol.