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Roll No. .....

Total No. of Questions : 09] **[Total No. of Pages : 02**

B.Tech. (Sem. – 4th)

DATA COMMUNICATION

SUBJECT CODE : CS - 206

Paper ID : [A0460]

Time : 03 Hours **Maximum Marks : 60**

Instruction to Candidates:

1) Section - A is **Compulsory**.

2) Attempt any **Four** questions from Section - B.

3) Attempt any **Two** questions from Section - C.

Section - A

Q1) ***(10 × 2 = 20)***

a) What is CDMA?

b) How is HTTP related to WWW?

c) What do you mean by spread spectrum?

d) What does the following address corresponds to (unicast, multicast or broadcast) : 4A:30:10:21:10:1A

e) What is the role CRC in data link layer?

f) Differentiate between guided and un guided media?

g) Name elementary data link protocols used in flow control mechanism.

h) What is difference between streaming stored and streaming live audio/video.

i) What are cookies?

j) What is port number and what is its significance?

Section – B

(4 × 5 = 20)

Q2) How does CRC checker know that the receiver data unit is undamaged? Explain it with example.

Q3) Explain types of switching used? Explain in detail.

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Q4) Discuss the process of three way handshake in transport layer with the help of an example.

Q5) What is routing and how is it done. Also discuss the various categories of routing algorithms available in network layer.

Q6) Why do we need a DNS system when we can directly use an IP address? Explain with the help of example.

Section – C ***(2 × 10 = 20)***

Q7) Explain the role of different layers of OSI-ISO reference model? Also compare it with TCP/IP protocol architecture.

Q8) Answer the following questions based on I.P addressing scheme used in network layer:

a) Draw a diagram with network address 8.0.0.0 that is connected through a router to a network with IP address 131.45.0.0. Choose IP address for each interface of the router. Show also some hosts on each network with their IP addresses. What is the class of each network.

b) What is the sub network address if the destination address is 200.45.34.56 and the subnet mask is 255.255.240.0

c) Given the network address 17.0.0.0 find the class, net id, and range of the addresses.

d) Given the address: 23.56.7.91, find the beginning address (network address).

e) In the block of addresses, we know the IP address of one the host is 25.34.12.56/16. Find the first address, last address in this block. Also find no of addresses in the block.

Q9) a) Which one has more overhead, a bridge or a router? Also explain what is the role of router and bridge in networks. Also differentiate between the two by taking some examples.

b) Elaborate various services that network security can provide in networks.

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