Code : 303503

BCA 5th Semester Exam., 2015

COMPUTER NETWORK,
DATA COMMUNICATION AND
CLIENT SERVER TECHNOLOGY

Time : 3 hours *Full Marks* : 70

Instructions :

(i) All questions are of equal value.

*(ii) There are **NINE** questions in this paper.*

*(iii) Attempt **FIVE** questions in all.*

*(iv) Question No. **1** is compulsory.*

1. Choose the correct answer of the following (any *seven*) :

(a) What is the minimum header size of an IP packet?

(i) 16 bytes

(ii) 10 bytes

(iii) 20 bytes

(iv) 32 bytes

(b) Which of the following provides reliable communication?

(i) TCP

(ii) IP

(iii) UDP

(iv) All of the above

(c) What does router do in a network?

(i) Forwards a packet to all outgoing links

(ii) Forwards a packet to the next free outgoing link

(iii) Determines on which outgoing link a packet is to be forward

(iv) Forwards a packet to all outgoing links except the originated link

(d) What does protocol define?

(i) It defines what data is communicated

(ii) Protocol defines how data is communicated

(iii) Protocol defines when data is communicated

(iv) All of the above

(e) What is the use of subnetting?

(i) It divides one large network into several smaller ones

(ii) It divides network into network classes

(iii) It speeds up the speed of network

(iv) None of the above

(f) Repeater operates in which layer of the OSI model?

(i) Physical layer

(ii) Data-link layer

(iii) Network layer

(iv) Transport layer

(g) Which data communication method is used to transmit the data over a serial communication link?

(i) Simplex

(ii) Half-duplex

(iii) Full-duplex

(iv) All of the above

(h) In communication satellite, multiple repeaters are known as

(i) detectors

(ii) modulators

(iii) stations

(iv) transponders

(i) Error detection at the data-link layer is achieved by

(i) bit stuffing

(ii) cyclic redundancy codes

(iii) hamming codes

(iv) interruption

(j) The topology with highest reliability is

(i) bus topology

(ii) star topology

(iii) ring topology

(iv) mesh topology

2. (a) What is network topology? Define different topologies that are used in the network.

(b) List out the relative advantages and disadvantages of asynchronous and synchronous modes of data transmission.

3. *(a)* Define OSI model in detail.

   (b) How do guided media differ from unguided media?

4. *(a)* What is the essential difference between message switching and packet switching?

   (b) Compare space-division and time-division switches.

5. *(a)* What is CSMA? Explain different types of CSMA protocol.

   (b) Explain CSMA/CD.

6. *(a)* Explain the various services provided to the network layer.

   (b) Discuss the various design issues of data-link layer.

7. What do you mean by routing algorithm? Explain the concept of routing algorithms.

8. *(a)* What is the purpose of transport layer? Explain the operation of transport layer.

   (b) Explain HTTP, Telnet and SMTP.

9. *(a)* What are the requirements for distributed system?

   (b) Define LAN and WAN.

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