2012

Time : 3 hours

Full Marks : 80

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from both the Groups as directed.

Group – A

(Objective Type Questions)

Answer all questions : 2 x 10 = 20

1. Choose the correct answer of the following :

(a) ARP stands for :
    (i) Address Resolution Protocol
    (ii) Address Resonance Protocol
    (iii) Active Resolution Protocol
    (iv) None of these

CX – 10/3 (Turn over)
(b) ARP is used to find:
   (i) Internet Protocol Address
   (ii) Host Address
   (iii) Medium Control Access Address
   (iv) Subnet Mask Address
   (v) None of these

(c) Flow control in TCP/IP model is done by:
   (i) Physical Layer
   (ii) Data Link Layer
   (iii) Transport Layer
   (iv) All of the above
   (v) Both (ii) and (iv)

(d) Baud Rate is:
   (i) Number of bits per second
   (ii) Number of nibbles per second
   (iii) Number of Bytes per second
   (iv) Number of Symbols per second
   (v) None of these

(e) IP address in C class is:
   (i) 125.124.124.2

CX - 10/3 (2) Contd.
(ii) 191.023.21.255
(iii) 10.2.2.2
(iv) 192.168.1.1
(v) None of these

(f) Well known port ranges from:
(i) 0 to 1023
(ii) 1023 to 2046
(iii) 0 to 3200
(iv) All of these
(v) None of these

(g) UDP stands for:
(i) Unreliable Datagram Protocol
(ii) User Datagram Protocol
(iii) User Determined Protocol
(iv) None of these

(h) ICMP belongs to which layer:
(i) Physical Layer
(ii) Network Layer
(iii) Data Link Layer
(iv) Application Layer

CX – 10/3 (3) (Turn over)
(i) Length of IP address is:
   (i) 32 bit
   (ii) 32 Byte
   (iii) 32 nibble
   (iv) None of these

(j) Which of the following technology uses virtual circuits?
   (i) Ethernet
   (ii) Frame Relay
   (iii) Token Bus
   (iv) Token Ring
   (v) All of these
   (vi) None of these

**Group – B**

**(Long-answer Type Questions)**

Answer any **four** questions: \[ 15 \times 4 = 60 \]

2. Compare and contrast TCP/IP and ISO-OSI model of data communication, with detailed discussion of each layer functionalities.

CX – 10/3 (4) Contd.
3. (a) What is framing, and why it is required? Explain the framing concept with respect to Data Link Layer.

(b) What are the different classes of addresses used in class-full addressing? List their range in binary notation.

4. (a) What is Go-Back-n protocol? Use images from illustration wherever necessary.

(b) How a hub is different from a switch?

5. (a) What is CSMA/CD? How it is different from CSMA?

(b) Define and differentiate between Simplex, Half Duplex and Full Duplex mode of communication with proper example.

6. Discuss Distance Vector and Link State Routing in detail.

7. (a) How does static routing differ from dynamic routing? Discuss with listing their pros and cons.

(b) Discuss Guided and Un-guided mode of data transmission in brief.

CX – 10/3 (5) (Turn over)
8. Explain working of Pure Aloha and Slotted Aloha? Derive an expression to proof the claim that Slotted aloha is better than pure Aloha.

9. (a) Explain Ethernet frame and its field with neat and labeled diagram.

(b) Discuss Working Packet Switched Network and Virtual Circuit Switched Network.

10. Discuss TCP and UDP transport layer protocol in detail.