44 (6) BCA–HC–6026

2023

COMPUTER NETWORKS

Paper : BCA–HC–6026

Full Marks : 80

Time : Three hours

The figures in the margin indicate full marks for the questions.

Section–A

(Compulsory)

1. *(a)* Fill in the blanks : 1×5=5

   (i) The OSI model consists of _____ layers.

   (ii) SSMA/CD stands for _____.

   (iii) The _____ are set of rules that governs a communication exchange.

   (iv) The _____ refers to the way the network is laid out either physically or logically.

(v) The ____ is used to define direction of signal flow between two linked devices.

(b) Define the following terms : 1×5=5

(i) Bus Topology

(ii) Internetworks

(iii) LAN

(iv) CSMA/CD

(v) Sliding window protocol

2. Answer the following : 2×5=10

(a) List the layers of OSI model.

(b) What are the major responsibility of data link layer ?

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

(d) How does a single bit error differ from burst error ?

(e) What are the fields of Ethernet ?

Section–B

*Answer **any six** questions.*

3. *(a)* What do you mean by error correction and error detection? Explain. 6

   (b) Define Piggybacking. What do you mean by stop and wait protocol? 4

4. *(a)* What is MAC? What do you mean by static and dynamic channel allocation? 1+3=4

   (b) What is Ethernet? Explain the ethernet frame format briefly. 6

5. *(a)* What do you mean by error correction code? Explain Hamming code briefly. 6

   (b) Define ALOHA. 2

   (c) Define Modulation. 2

6. *(a)* What is wireless LAN? What are its major advantages? 5

   (b) Define QOS. 2

   (c) Define congestion. What are the factors of congestion? 3

7. Write short notes : *(any two)* 5×2=10

(i) DNS

(ii) www

(iii) IP address

(iv) Shannon's law

8. *(a)* What are network connecting devices ? Explain *any one*. 5

(b) What do you mean by stop and wait sliding window protocol ? Explain. 5

9. *(a)* What are the major services and functions of network layer ? 4

(b) Define Routine. How distance vector routing works ? 6