Total number of printed pages–4

44 (6) BCA–HC–6026

2024

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) TCP/UDP Stands for _____.

(ii) The OSI reference model has ____ layers.

(iii) A combination of different types of topology is called ____ topology.

(iv) The Wi-Fi system means _____ data transmission.

Contd.

(v) The data link layer divides the stream of bits received from the network layer into a manageable units called _____.

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

(i) Flow Control

(ii) Topology

(iii) Computer Networks

(iv) Transmission medium

(v) TCP/IP

2. Answer ***any five*** : 2×5=10

(a) What is piggybacking ?

(b) Define pure and Slotted Aloha.

(c) What are the major responsibilities of transport layer ?

(d) Define congestion and Q◦S.

(e) What is IP address and MAC address ?

(f) What is Bus topology ?

SECTION–B

*(Answer **any four**)*

3. *(a)* Define Routing. How link state routing works ? Explain. 6

(b) Define data communication. What is Shannon's law? 1+3=4

(c) What are internetworking devices? What are the major function of a Router? 5

4. *(a)* What is CSMA and CSMA/CD ? What are different types of CSMA ? Explain. 6

(b) Define framing. Why it is needed ? 2+3=5

(c) What do you mean by sliding window protocol ? 4

5. *(a)* What is error correction and detection ? Explain the working of Hamming code with an example. 10

(b) Define Token passing. 3

(c) What are the fields of Ethernet ? 2

6. *(a)* What are Control Access Protocols? Name them. 3

(b) What is IPv4 and IPv6 address ? Differentiate between them. 2+4=6

(c) Define Bluetooth. Explain its architecture and layer briefly. 6

7. *(a)* What is data communication ? What are the major components of data communication ? 5

(b) Define network security. What do you mean by cryptography ? Explain briefly. 5

(c) Explain briefly : 2½×2=5

(i) Fibre Optic cable

(ii) Coaxial cable

8. Write short notes on : ***(any three)*** 5×3=15

(a) Analog transmission

(b) DNS

(c) FTP, www and HTTP

(d) Amplitude Modulation

(e) TCP/IP Protocol suite
