TDC (CBCS) Even Semester Exam., 2024

COMPUTER SCIENCE

(4th Semester)

Course No. : CSCHCC–401T

(Computer Network)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1. Answer any *two* of the following questions : 2×2=4

(a) Write some applications of computer network.

(b) What do you mean by unguided media?

(c) Write the properties of fibreoptic cable.

2. Answer any *one* from the following questions :

(a) *(i)* Explain Frequency-Division Multiplexing (FDM) with diagram. 5

(ii) Explain parallel transmission with diagram. 5

(b) (i) Compare and contrast the TCP/IP and OSI models. 7

(ii) Explain different digital-to-digital line encoding schemes. 3

UNIT—II

3. Answer any *two* of the following questions : 2×2=4

(a) What is DSL?

(b) Write two advantages of circuit switching.

(c) What are the different types of addressing involved in virtual circuit network?

4. Answer any *one* from the following questions :

(a) (i) Differentiate between packet switching and circuit switching. 5

(ii) How cable TV is used for transferring data? 5

(b) (i) Briefly explain virtual circuit switching. 5

(ii) Explain different multiplexing techniques. 5

UNIT—III

5. Answer any *two* of the following questions : 2×2=4

(a) What do you mean by old parity? Give example.

(b) What is GO-Back-N ARQ?

(c) Differentiate between hub and switch.

6. Answer any *one* from the following questions :

(a) (i) Explain about the Carrier Sense Multiple Access Protocols. 5

(ii) Explain Stop-and-wait ARQ protocol. 5

(b) Explain the various error detection and correction mechanisms used in computer network. 10

UNIT—IV

7. Answer any *two* of the following questions : 2×2=4

(a) What are the main functions of router?

(b) What is routing algorithm?

(c) What is a mask in IPv4 addressing? What is a default mask in IPv4 addressing?

8. Answer any *one* from the following questions :

(a) *(i)* Explain Internet Control Message Protocol. 5

(ii) Explain Distance Vector Routing algorithm with an example. 5

(b) *(i)* What is a subnet mask? Find the class of each address : 2+3=5

(1) 00000001 00001011 1110111 11111111

(2) 11000001 10000001 00011011 11111111

(3) 14·23·120·8

(ii) What are the various classes of IP addresses? Explain with examples. 5

UNIT—V

9. Answer any *two* of the following questions : 2×2=4

(a) Write short note on DNS.

(b) Write down the functions of application layer.

(c) Differentiate between HTTP and HTTPS.

10. Answer any *one* from the following questions :

(a) *(i)* Explain the architecture of www with diagram. 5

(ii) Explain the services performed by transport layer. 5

(b) *(i)* Explain the well-known ports of UDP. Also explain the user datagram format. 7

(ii) Briefly explain the connection establishment phase in TCP. 3

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