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Question Paper Code : 40396

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2021.

Fifth/Sixth Semester

Computer Science and Engineering

CS 8591 — COMPUTER NETWORKS

(Common to Computer and Communication Engineering/Information Technology)

(Regulations 2017)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Justify the need for layer five in the OSI model.

2. List the types of Transmission media.

3. Examine how Network Interface Card works.

4. What is High Level data link control?

5. List the difference between IPv4 and IPv6.

6. Define the function of a Router.

7. What is a Port?

8. Define Stream control Transmission Protocol.

9. Identify the Port number of HyperText Transfer Protocol and Telnet.

10. Define File Transfer Protocol.

PART B — (5 × 13 = 65 marks)

11. (a) (i) Illustrate Network types with neat diagram. (6)

   (ii) Differentiate circuit switching and packet switching with suitable application example. (7)

Or

   (b) Differentiate the protocol layering of TCP I/P protocol suite and OSI model. Explain both with the diagram.

12. (a) Discuss the effectiveness of Selective Repeat ARQ among the Sliding window Protocols.

Or

   (b) Discuss about

   (i) Piconets and Scatternets. (7)

   (ii) List the application of Bluetooth technology. (6)

13. (a) Explain what is Distance Vector Routing and Demonstrate how distance table gives routing table

Or

   (b) (i) Illustrate IPV4 header format and compare with IPv6.

   (ii) Explain when is multicasting used and explain how it differs from unicasting.

14. (a) (i) Draw the TCP header format. (6)

   (ii) Demonstrate how TCP three-way handshake works. (7)

Or

   (b) (i) List the applications of UDP. (3)

   (ii) Explain the UDP header format (6)

   (iii) Difference between TCP and UDP. (4)

15. (a) Examine how E-mail in send and received using SMTP.

Or

   (b) Demonstrate how request of a Domain name fetches its IP address from DNS server and establish connection with the server.

PART C — (1 × 15 = 15 marks)

16. (a) Illustrate the working of CRC code with C(7, 4)

Where n = 7, k = 4, Codeword = 1001110

Give the division in the CRC decoder for two cases

(i) Dataword accepted (ii) Dataword Discarded

Or

(b) An employee of an organization bring his own device and connects it to network and request for a webpage in the given scenario illustrate the operation of each layer of OSI Model with neat diagram.

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