Reg. No. :

Question Paper Code : 80447

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2024.

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. List out various wired transmission medium used in computer networks.

2. What is Topology? Give its types.

3. Compared Wired LAN with Wireless LAN.

4. How Bluetooth exhibit Master Slave architecture?

5. Differentiate Unicast from Multicast.

6. Write down the significance of IPV6.

7. In Transport layer, what is the function of Port Number?

8. Provide the comparison between TCP and UDP.

9. What is the significance of DNS?

10. What is web 3.0?

PART B — (5 × 13 = 65 marks)

11. (a) (i)   What is the purpose of protocol layering?   (3)

        (ii) Compare OSI model with TCP/IP model with necessary stack
              diagrams.   (10)

                                    Or

    (b) (i)   How Switching is employed in computer networks?   (3)

        (ii) Compare circuit switching with packet switching, provide diagrams
              if necessary.   (10)

12.   (a)   (i)   Data Link Layer has two sub– layers, what are there?   (3)

      (ii)   Explain HDLC with necessary sketch.   (10)

                              Or

      (b)   (i)   Scheduling is a function of data link layer. How does it work?   (3)

      (ii)   Explain CSMA/CA with necessary scenario.   (10)

13.   (a)   Explain with suitable network topology, the working mechanism of any one Uni–cast Routing Protocol adopted in computer networks.

                              Or

      (b)   Discuss with suitable network topology, the working mechanism of any one Multi-cast Routing Protocol adopted in computer networks.

14.   (a)   Discuss the mechanism used in transport layer to handle congestion control.

                              Or

      (b)   Explain with necessary scenario, the working mechanism of SCTP.

15.   (a)   HTTP, FTP and Email are essential protocols involved in Internet Technology. Through light on them with suitable scenarios.

                              Or

      (b)   Explain the role of TELNET and WWW in application layer.

                  PART C — (1 × 15 = 15 marks)

16.   (a)   Aditya does browsing with multiple website; he wonders how could it be done. Teach him how socket programming, concept of Port number and client–server architecture aid in realizing the above scenario.

                              Or

      (b)   Internet of Things based applications is realizable with the evolution of IPV6. Explain how IPV6 addressing works on these applications.