Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 70443

B.E./ B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2023.

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. Mention the different types Network.
2. Define Packet Switching.
3. Define Data-Link Layer Protocols.
4. What is HDLC?
5. What are unicast routing protocols?
6. What are State Routing protocols?
7. Write the significant of port number in TCP connection.
8. Write the difference between TCP and UDP.
9. What is FTP? Write the application of FTP.
10. List the application layer protocols used for email communication.

PART B — (5 × 13 = 65 marks)

11. (a) Demonstrate the importance and the basic functions that are performed by the Physical Layer of the OSI Model.

Or

(b) Illustrate the four important and essential types of Physical Topology or Network Topology that helps to perform the device linking geographical.

12. (a) Illustrate the different tasks functions performed by the Data-link Layer on behalf of the OSI Model upper Layer.

Or

(b) Demonstrate the Logical Link Control Sub-Layer and Media Access Control Sub-Layer functionalities of Data-Link Layer.

13. (a) Illustrate the differences and benefits between IPV4 and IPV6 protocols.

Or

(b) Illustrate the working principles of the IPV4 addressing and also explain IPV6 address shorthand with an example.

14. (a) Illustrate the data transmission mechanism of UDP and TCP protocols.

Or

(b) Illustrate the name of the Well-Known Port used by TCP, and the Services provided by the TCP/ UDP protocols.

15. (a) Describe the functionality of the DNS, HTTP and FTP.

Or

(b) Explain Port numbers and the functions of the TELNET, TFTP, NFS, SMTP, and SNMP.

PART C — (1 × 15 = 15 marks)

16. (a) Illustrate the Computer Network ISO-OSI Network Architecture with a schematic block diagram that reveals the communications between the sender and receiver.

Or

(b) Describe in detail the design issues related to services provided, frame synchronization, flow control, Error Control with Data Link Layer.