19. (a) Briefly define subnetting and supernetting. How do the subnet mask and supernet mask differ from a default mask in classful addressing?

Or

(b) Discuss about the delivery and forwarding techniques.

20. (a) What is SCTP? Explain the features of SCTP.

Or

(b) What is Electronic Mail? Explain the architecture of Electronic Mail.

5325/PCSC08 **NOVEMBER 2018**

COMPUTER NETWORKS

Time : Three hours Maximum : 100 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define: Data Communication.
2. What are the types connections?
3. What are the two approaches to Packet-switching?
4. What is the purpose of cladding in an optical fiber?
5. Define: Framing.
6. What are the types of errors?
7. What is the need for network layer?
8. What is the number of bits in an IPv4 address?
9. What is QoS?
10. Define: Multiplexing.

SECTION B — (5 × 6 = 30 marks)

Answer ALL questions choosing either (a) or (b).

11. (a) Describe the four levels of addresses in the TCP/IP protocol.

Or

(b) Differentiate between LAN and WAN.

12. (a) Explain the functions of twisted-pair cable.

Or

(b) What are the applications of infrared? Describe.

13. (a) Compare and contrast flow control and error control.

Or

(b) Write a short note on block coding.

14. (a) How can we distinguish a multicast address in IPv4 addressing? How can we do so in IPv6 addressing?

Or

(b) Explain about the static and dynamic mapping.

15. (a) What is congestion control? Explain the categories of congestion control.

Or

(b) Explain about the Domain Name System.

SECTION C — (5 × 10 = 50 marks)

Answer ALL questions choosing either (a) or (b).

16. (a) Discuss the functions of seven layers of the OSI Model.

Or

(b) What are the various categories of network topologies? Explain.

17. (a) What are the advantages and disadvantages of optical fiber? Describe.

Or

(b) Discuss about the circuit-switched network.

18. (a) Compare and contrast HDLC and PPP.

Or

(b) Explain the concept of redundancy in error detection and correction.