Note: Answer all questions from Part – A and any five questions from Part – B.

PART – A

1. What is a computer network? Give an example.
2. Discuss the design issues for layers.
3. What are the advantages and disadvantages of flooding?
4. What are the uses of MAC sublayer?
5. List the design goals of network layer.
6. Define congestion. What are the factors that lead to congestion?
7. What are the applications of UDP?
8. List down few types and subtypes of MIME format used by E-mail system.
9. Differentiate between virtual circuit and datagram subnet.
10. Differentiate between symmetric key and public key algorithm.

PART – B

11. a) Write in detail about OSI reference model.
    b) What is the need for sliding window protocol?
12. a) Explain about ALOHA multiple access protocol.
    b) Compare circuit switching with packet switching.
13. a) Give the classification of routing algorithm and explain any two of them in detail.
    b) Explain the reason for fragmentation and differentiate between transparent and non transparent fragmentation.
14. a) Draw the header of TCP protocol and explain all fields.
    b) Write any four primitives of transport services.
15. a) Explain different message formats used in E-mail.
   b) What are all the techniques of encryption? Write public key cryptographic algorithm.

16. a) Discuss any one congestion prevention technique.
   b) List the quality of service parameters, briefly explain methods for achieving good quality of service.

17. Write short notes on any two:
   a) Tunneling
   b) Digital signature
   c) IPV4.