

नोट: दोनों खण्डों से निर्देशानुसार उत्तर दीजिए। प्रश्नों के अंक उनके दाहिनी ओर अंकित हैं।

Note: Answer From Both the Section as Directed. The Figures in the right-hand margin indicate marks.

Section-A

1- Choose the correct option:

1x10=10

- (a) _____ refers to the variation in the packet arrival time.
 (i) Delivery (ii) Timeliness (iii) Jitter (iv) None of these
- (b) _____ refers to the structure or format of data, meaning the order in which they are presented.
 (i) Semantics (ii) Syntax (iii) Timing (iv) All of these
- (c) The sharing of a medium and its link by two or more devices is called _____.
 (i) Fully duplexing (ii) Microplexing (iii) Multiplexing (iv) Duplexing
- (d) Which transmission media provides the highest transmission speed in a network?
 (i) Coaxial cable (ii) Twisted Cable (iii) Optical Fiber (iv) Electrical Cable
- (e) _____ mechanism used to control the congestion.
 (i) Buffering (ii) Choke packet (iii) Over provisioning (iv) None of these
- (f) Identify the class of the following IP4 address : 229.1.2.3
 (i) A (ii) B (iii) C (iv) D
- (g) The ports ranging from 49,152 to 65,535 are called the _____ ports.
 (i) Well known (ii) Registered (iii) Dynamic (iv) None of these
- (h) _____ is a repository of information linked together from points all over the world.
 (i) The WWW (ii) HTTP (iii) HTML (iv) None of these
- (i) The _____ is the original message before transformation:-
 (i) Cipher-text (ii) Plain-text (iii) Secret-text (iv) None of these
- (j) In a(n) _____ cipher the same key is used by both the sender and receiver.
 (i) Symmetric Key (ii) Asymmetric key (iii) Asynchronous key (iv) None of these

2- Answer the short type question:-

2x5=10

- (a) What are the different components of data communication?
- (b) Write the functions of MODEM.
- (c) What are the meaning of Broadcasting and Multicasting.
- (d) What is socket address?
- (e) What are the different channels which are used in ISDN?

Section-B

Answer the long type questions solve any one part from each unit:-

12x5=60

Unit-I

- 3- (a) Explain the evolution of computer network.
 (b) Explain the functionality of any two layers of OSI model.

Or

- (a) Explain the design issue of physical layer of OSI model.
 (b) What is standard? Explain why it is needed.

Unit-II

- 4- (a) What is multiplexing? Explain any one multiplexing technique.
 (b) Explain any one analog to digital conversion scheme.

Or

- (a) Explain difference between circuit switching and packet switching.**
- (b) Explain different types of fiber optic cable.**

Unit-III

- 5- (a) A slottd ALOHA network transmits 200 bits frame using shared channel with 200 kbps bandwidth. Find the throughput if the system produces 500 Frames per second.**
- (b) Define routing in network. Explain conflict between fairness and optimality.**

Or

- (a) Explain count to infinity problem of distance vector routing algorithm and their solution.**
- (b) What is flow control in data link layers? Explain selective repeat ARQ.**

Unit-IV

- 6- (a) Draw header format of TCP. Explain each field of TCP Header.**
- (b) What is electronic mail? How it works?**

Or

- (a) Explain different types of resolution in DNS.**
- (b) What is World Wide Web? Explain it with proper diagram.**

Unit-V

- 7- (a) What is ISDN? Explain PRI interface of ISDN.**
- (b) Explain DES technique of encryption.**

Or

- (a) Write short note on:**
 - (i) Frame Relay**
 - (ii) SONET**
- (b) Explain RSA algorithm of encryption.**