

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

Sixth Semester

Computer Application — Core

COMPUTER NETWORKS

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. _____ networks have a single communication channel that is shared by all the machines on the network.
(a) Point-to-point (b) Broadcast
(c) Packet (d) Frames
7. The routing algorithm is that part of the _____ layer.
(a) physical (b) data link
(c) network (d) session
8. Name the routing algorithm in which every incoming packet is sent out on every outgoing line except the one it arrived on
(a) Shortest path (b) Flooding
(c) Dijkstra (d) Optimal
9. _____ refers to the process of creating messages and answers.
(a) Send (b) User agents
(c) Composition (d) Spam
10. _____ is a character-for character or bit-for-bit transformation.
(a) Code (b) Date
(c) Cipher (d) Text

2. FDDI is another example of a _____ network.
(a) Bus (b) Star
(c) Mesh (d) Frames
3. _____ consists of a stiff copper wire as the core, surrounded by an insulating materials.
(a) Fiber optic (b) Twisted pair cable
(c) Coaxial cable (d) Radio waves
4. Which transmission media has the highest transmission speed in a network?
(a) coaxial cable (b) twisted pair cable
(c) optical fiber (d) electrical cable
5. The data link layer divides the stream of bits received from the network layer into data units called
(a) segments (b) frames
(c) datagrams (d) messages
6. The _____ layer detects and retransmits damaged or lost frames.
(a) network (b) session
(c) transport (d) datalink

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Compare broadcast links with point-to-point links.
Or
(b) Comment on bus and ring topology.
12. (a) Write note on magnetic media.
Or
(b) Describe the characteristics of radio transmission.
13. (a) Give an algorithm for computing checksum.
Or
(b) Explain the process of unrestricted simplex protocol.
14. (a) Compare adaptive routing algorithm with non-adaptive routing algorithm.
Or
(b) Mention the policies that affect congestion.

15. (a) Illustrate the fundamental cryptographic principles.

Or

- (b) Write note on SMTP.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Explain the OSI reference model.

Or

- (b) Examine the features of LAN.

17. (a) Discuss the features of fiber optic cable.

Or

- (b) Write note on electromagnetic spectrum.

18. (a) Explain about error-detecting codes.

Or

- (b) Describe the features of carrier sense multiple access protocols.

19. (a) Discuss the distance vector routing algorithm.

Or

- (b) Illustrate the steps in making a remote procedure call.

20. (a) Write note on DES.

Or

- (b) Explain the concept digital signatures using message digests.