



Name of Programme of Study....., Roll No:

(To be filled by the Student)

MID Term Examination
Semester 4th

Name of the Course: Computer Networks

Course Code: MCA 519

Time: 90 minutes

Maximum Marks: 40

Note:

1. Answer Sections A, B & C in the answer book provided.
2. Comply with the instructions given in the Main Answer Book carefully.

SECTION – A

VERY SHORT ANSWER TYPE QUESTIONS

(10x1=10 Marks)

1. Answer all the following TEN questions with ONE mark each.
 - i. What are nodes in a computer network?
 - a) the computer that routes the data
 - (b) the computer that terminates the data
 - (c) the computer that originates the data
 - (d) all of the mentioned
 - ii. How is a single channel shared by multiple signals in a computer network?
 - a) multiplexing
 - (b) analog modulation
 - (c) digital modulation
 - (d) phase modulation
 - iii. A message is encrypted using public key cryptography to send a message from sender to receiver. Which one of the following statements is True?
 - a) Sender encrypts using the receiver's public key
 - b) Sender encrypts using his public key.
 - c) Receiver decrypts using the sender's public key.
 - d) Receiver decrypts using his public key.
 - iv. What is the term for an endpoint of an inter-process communication flow across a computer network??
 - a) Port
 - (b) Machine
 - (c) Socket
 - (d) Pipe.
 - v. Which of this is not a network edge device?
 - (a) Switch
 - (b) PC
 - (c) Smartphones
 - (d) Servers
 - vi. In _____ network topology, a single backbone cable is shared by all the devices.
 - (a) Bus
 - (b) Tree
 - (c) Mesh
 - (d) Star
 - vii. If a link transmits 4000 frames per second, and each slot has 8 bits, what is the transmission rate of the circuit using Time Division Multiplexing (TDM)?
 - a) 500kbps
 - (b) 32kbps
 - (c) 32bps
 - (d) 500bps
 - viii. Which layer is responsible for process-to-process delivery in a general network model??
 - (a) Session layer
 - (b) data link layer
 - (c) transport layer
 - (d) network layer

- ix. What does MIME stand for?
- (a) Multipurpose Internet Mail Extra (b) Multi Internet Mail End
(c) Multipurpose Internet Mail Email (d) Multipurpose Internet Mail Extension
- x. Choose the best matching between **Group 1** and **Group 2** :
- | Group -1 | Group - 2 |
|--------------------|---|
| P. Data link layer | 1. Ensures reliable transport of data over a physical point-to-point link |
| Q. Network layer | 2. Encodes/decodes data for physical transmission |
| R. Transport layer | 3. Allows end-to-end communication between two processes |
| | 4. Routes data from one network node to the next |
- (a) P - 1, Q - 4, R - 3 (b) P - 2, Q - 4, R - 1
(c) P - 2, Q - 3, R - 1 (d) P - 1, Q - 3, R - 2

SECTION - B SHORT ANSWER QUESTIONS

(2x5=10 Marks)

Answer any TWO out of the following five questions.

2. What is Hybrid Topology? Design a hybrid topology with a star backbone and four-ring networks.
3. What does FTP stand for? Discuss its working.
4. Discuss the OSI model in detail.
5. Write a note on DNS.
6. Differentiate between OSI and TCP/IP models.

SECTION - C LONG ANSWER ESSAY TYPE QUESTIONS

(2x10=20 Marks)

Answer any TWO out of the following four questions.

7. What is meant by transmission media? Discuss different types of guided and unguided media.
8. Describe various network topologies and cite the 2 advantages and disadvantages of each type with a suitable diagram.
9. What are the various hardware devices involved in the OSI Model? Discuss.
10. What do you mean by switching? Discuss various switching techniques in detail.