

Total No. of Questions : 20

Total No. of Pages : 01

Roll No. _____

Paper Code
2C8122

MCA II Sem(Main/Back) Exam 2026
MCA-202 Computer Networks
2C8122

Time: 3 Hours

Maximum Marks: 70

Attempt all Ten questions from Part A. All Five questions from Part B and three questions out of five questions from Part C.

Schematic diagrams must be shown wherever necessary. Any data missing may suitably be assumed and stated clearly. Units of quantities used/ calculated must be stated clearly.

Use of following supporting material is permitted during examination(As mentioned in form No.205)

1. _____

2. _____

Part A (Word limit 25)

- Q.1 Define Data Communication.
- Q.2 What is the difference between Simplex and Duplex modes?
- Q.3 List any two elements of a protocol.
- Q.4 What is the purpose of modulation?
- Q.5 Mention any two types of transmission media.
- Q.6 Define framing in the Data Link Layer.
- Q.7 What is ALOHA in network protocols?
- Q.8 State the role of a gateways in networking.
- Q.9 What is the function of DNS?
- Q.10 What are digital signatures?

10 x 2 = 20

Part B (Word limit 100)

- Q.1 Explain the key features of TCP/IP Model.
- Q.2 Explain the analog and digital signal types.
- Q.3 What is Switched, fast and Gigabit Ethernet?
- Q.4 Explain Links State Routing algorithm.
- Q.5 Explain the purpose and working of SMTP and POP3 in email communication.

5 x 4 = 20

Part C (Any three)

- Q.1 Explain the OSI reference model with its layers.
- Q.2 Describe various error detection and correction techniques used in Data Link Layer.
- Q.3 Explain the role of Switches, Hubs, Routers and Repeaters.
- Q.4 Write short notes on:
 - a) IPv4 and IPv6
 - b) Transport Layer Protocols - UDP and TCP
- Q.5 Discuss network security concepts including encryption, decryption, private and public keys.

3 x 10 = 30