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**II Semester M.C.A. Degree Examination November/December- 2025**

**COMPUTER SCIENCE**

**Computer Networks**

**(CBCS Scheme 2020)**

**Paper : 2 MCA 3**

**Time : 3 Hours**

**Maximum Marks : 70**

**Instructions to Candidates:**

- 1. Answer any five questions from Section - A.**
- 2. Answer any Four questions from Section - B.**

**SECTION - A**

**Answer any Five questions. Each question carries 6 marks.**

**(5×6=30)**

1. Define the term data communication. What are its characteristics? Explain its components.
2. Explain transmission impairment.
3. Explain the layers of TCP/IP protocol suit.
4. Define ALOHA. Differentiate between pure ALOHA and slotted ALOHA.
5. Briefly explain ICMPv4 Error messages.
6. What is Mobile IP? Explain different Components of Mobile IP.
7. Differentiate between TCP and UDP.
8. Explain WWW in Detail.

**SECTION-B**

**Answer any Four questions. Each question carries 10 marks.**

**(4×10=40)**

9. With a neat diagram explain the functions of each layer in the OSI reference model.
10. Explain Error Detection and correction methods in Data link layer.

**[P.T.O.]**



- 11. a) Discuss CSMA/CD and CSMA/CA.
- b) Write a note on Channelization. (6+4)
- 12. a) Explain HDLC frame format.
- b) With a neat diagram explain how connection is established in TCP using 3 - way handshaking. (5+5)
- 13. Explain in detail Domain Name system.
- 14. Write short notes on : (Any 2) (5+5)
  - a) Go - Back - N - ARQ and Selective Repeat
  - b) EMAIL
  - c) TCP congestion control
  - d) IPv4.

SECTION-B

Answer any four questions. Each question carries 10 marks.

9. With a neat diagram explain the functions of each layer in the OSI reference model.

10. Explain flow detection and congestion methods in Data link layer.