

Roll No.

Total No. of Questions : 09]

[Total No. of Pages : 02

MCA (Sem. - 2nd)

DATA COMMUNICATION & NETWORKS

SUBJECT CODE : MCA - 203(N2)

Paper ID : [B0108]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

- 1) Attempt any one question from each Sections A, B, C & D.
- 2) Section - E is **Compulsory**.
- 3) Use of Non-programmable **Scientific Calculator** is allowed.

Section - A

(1 × 10 = 10)

- Q1)** What is error correction? Explain the procedure to correct an error using hamming code with an example.
- Q2)** Explain the relative advantages and disadvantages of SDM, FDM, TDM and STDM.

Section - B

(1 × 10 = 10)

- Q3)** Describe the functions of various layers of OSI reference model.
- Q4)** Describe the construction, working principle and applications of twisted pair and coaxial cable.

Section - C

(1 × 10 = 10)

- Q5)** Explain and compare the ALOHA and CSMA/CD protocols with examples.
- Q6)** Discuss the network layer design issues.

Section - D

(1 × 10 = 10)

- Q7)** Describe the transport layer design issues.
- Q8)** Explain the TCP connection management principles in brief.

Section - F

(10 × 2 = 20)

Q9)

- a) List the layers of TCP/IP model.
- b) Define bit rate.
- c) What is FSK?
- d) What is circuit switching?
- e) What is critical angle?
- f) What is the local loop?
- g) List any two functions of data link layer.
- h) What is routing?
- i) What is parity check?
- j) What is class A IP address?

