

AR-2508

Faculty of Engineering & Technology
M.C.A. First Year Semester—II (C.G.S.) Examination

DATA COMMUNICATION

(15513)

Paper—2 MCA 4

Time : Three Hours]

[Maximum Marks : 80

INSTRUCTIONS TO CANDIDATES

- (1) All questions carry marks as indicated.
 - (2) Due credit will be given to neatness and adequate dimensions.
 - (3) Assume suitable data wherever necessary.
 - (4) Illustrate your answers wherever necessary with the help of neat sketches.
 - (5) Use pen of Blue/Black ink/refill only for writing the answer book.
1. (a) Define : Data Communication. Describe the model for Data Communication. Also explain the basic components of Data Communication network. 7
 - (b) Explain voice mail. State its features. 6
- OR**
2. (a) What are the functions of mobile switching center ? 6
 - (b) Differentiate between circuit switching and store-and-forward switching. 7
3. (a) Explain various types of network architectures. 7
 - (b) Discuss the significance of hosts, clients and circuits in data communication. 7
- OR**
4. (a) Explain multiplexers and demultiplexers. 7
 - (b) What is the need of protocol converters ? Explain. 7

5. (a) Explain with example parallel and serial transmission of ASCII characters. 7
 (b) What is Modulation ? Explain three fundamental modulation techniques. Define QAM. 7

OR

6. (a) Explain the concept of digitizing an analog signal. What are the methods used for it ? 7
 (b) Explain the term modem. State various modem standards. What are the features of most popular modems available in the market ? 7
 7. (a) Explain the architecture of ISO-OSI model for network communication. Describe functions of each layer. 7
 (b) What is forward error correction ? Explain the Hamming Code Method for error correction. 6

OR

8. (a) Explain various sources of errors in data communication and what are the ways to minimize them. 7
 (b) Explain transmission efficiency with suitable data. 6
 9. (a) Define : Topology. Explain various network topologies. 7
 (b) Distinguish between static and dynamic routing. 6

OR

10. (a) Explain how TCP is different from UDP. 7
 (b) Explain the features of X.25 protocol. 6
 11. (a) How to improve LAN performance ? Explain. 6
 (b) Explain :
 (i) Arcnet
 (ii) Apple Talk. 7

OR

12. (a) Explain ethernet and its importance in LAN. 6
 (b) Explain the concept of token ring in detail. 7