

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

MCA (2012 & Onward) (Sem.-2)
DATA COMMUNICATION AND NETWORKS

Subject Code : MCA-204

Paper ID : [B0136]

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTION TO CANDIDATES :

- 1. SECTIONS-A, B, C & D contains TWO questions each carrying TWENTY marks each and students has to attempt any ONE question from each SECTION.**
- 2. SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.**
- 3. Use of non-programmable scientific calculator is allowed.**

SECTION - A

1.
 - a) How does information get passed from one layer to the next in OSI reference model? Explain.
 - b) What is Modulation? What are the various methods for analog to digital modulation? Describe.
2.
 - a) What is ISDN? What are its main types? What major services does ISDN offer? Discuss.
 - b) How would you correlate the layers of TCP/IP to the layers of OSI reference models? Describe with relevant diagrams.

SECTION - B

3.
 - a) How frame boundaries are marked at data link layer? Brief out various methods with short examples.
 - b) What do you mean by Carrier Sense? What are various Carrier Sense Multiple Access (CSMA) Protocols? Describe.
4.
 - a) How does Go Back n ARQ work during following cases?
 - i. Normal
 - ii. Lost Frame
 - iii. Lost Acknowledgement
 - b) Outline the overall architecture of Wireless LAN protocols.

SECTION - C

5. a) How Hierarchical routing is better than other routing techniques? Describe.
b) What are various classes of Internet Addresses in IP version4? Mention their range, format and usage.
6. a) What is Congestion? What factors do cause congestion? How can these be taken care of? Discuss.
b) Discuss following :
 - i. IPConfig command
 - ii. Nslookup command
 - iii. Load shedding
 - iv. ARP

SECTION - D

7. a) What is World Wide Web (WWW)? How large pool of information is organized in WWW? Discuss.
b) What is the format of User Datagram in UDP at transport layer? Mention. Also list down some uses of UDP.
8. a) What is HTTPS? How it is different from HTTP? Discuss.
b) Discuss the role of User Agent (UA) and Mail Transfer Agent (MTA) in an E-mail system.

SECTION - E

9. **Write briefly :**
 - a) What is Packet Switching?
 - b) What are various Noise Impairments?
 - c) What is Cellular Radio?
 - d) What is one bit sliding protocol?
 - e) What do you mean by Dynamic Channel Allocation?
 - f) What do you mean by Adaptive Routing?
 - g) What is a Subnet?
 - h) What is the use of socket address?
 - i) What is FTP?
 - j) Why is Domain Name System used?