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Total No. of Pages : 02

Total No. of Questions : 09

**MCA (2015 & Onward) (Sem.-2)**  
**DATA COMMUNICATION AND NETWORKS**

Subject Code : MCA-204

M.Code : 72879

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTIONS-A, B, C & D contains TWO questions each carrying TEN marks each and students have to attempt any ONE question from each SECTION.
2. SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.

**SECTION-A**

1. What are the major components of data communication? Explain the role of Modulation and Multiplexing techniques.
2. Compare OSI and TCP/IP reference models layer by layer.

**SECTION-B**

3. Discuss the following function of Data-link layer:
  - a) Error Control
  - b) Framing
4. Explain the following IEEE standards:
  - a) IEEE 802.4
  - b) IEEE 802.5

**SECTION-C**

5. Describe the following Routing algorithm:
  - a) Shortest Path routing
  - b) Hierarchical routing
6. How Congestion control is achieved using leaky bucket algorithm? Explain.



**SECTION-D**

7. Discuss the procedure for establishing and releasing connection by transport layer in detail.
8. Write short notes on the following :
  - a) Domain Name System
  - b) HTTPS

**SECTION-E****9. Answer briefly :**

- a) Compare the working of LAN and MAN.
- b) How the communication satellites are deployed?
- c) What is the role of protocols?
- d) List the different channel allocation protocols.
- e) Briefly explain the working of ping command.
- f) How ARP protocol works?
- g) What is the significance of buffering?
- h) Compare TCP and UDP.
- i) List the drawbacks of wireless communication.
- j) How netstat command is used?

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**