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Total No. of Pages : 02

Total No. of Questions : 09

**MCA (2019Batch) (Sem.-2)**  
**DATA COMMUNICATION AND NETWORKS**  
Subject Code : MCA-204  
M.Code : 26055

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.

**SECTION-A**

- Q1 a) Discuss different switching techniques of data communication.
- b) What are wireless networks? Explain the concept of Internetworks.
- Q2 Write a short notes on the following :
- a) Twisted pair
  - b) Transport layer of OSI
  - c) ATM
  - d) Satellite Communication

**SECTION-B**

- Q3 a) What is meant by error control? Why is it required? Explain.
- b) Discuss the services offered by IEEE 802.4 and IEEE 802.5 standards.
- Q4 What are limited contention protocols? Discuss wireless LAN in detail.

### SECTION-C

- Q5 a) Differentiate Hierarchical and shortest path routing.  
b) What is meant by IP protocol? Explain its working in detail.
- Q6 Explain the following :
- a) ARP
  - b) Token Bucket Algorithm
  - c) Traceroute
  - d) Ping

### SECTION-D

- Q7 a) Discuss the concept of flow control at transport layer.  
b) Discuss the working of UDP protocol in detail.
- Q8 Explain the following by taking suitable example :
- a) Email
  - b) HTTP and HTTPS

### SECTION-E

- Q9 **Write briefly :**
- a) What is World Wide Web?
  - b) Name the different layers of TCP/IP model.
  - c) Discuss briefly about fiber optics communication.
  - d) Why is logical link layer required?
  - e) Comment on “*channel allocation*”.
  - f) Describe the services offered by MAC layer.
  - g) Enlist any two issues of Flooding algorithm.
  - h) How is troubleshoot provided by netstat?
  - i) Discuss two features of TCP.
  - j) Name any two protocols at Application layer of TCP/IP model.

**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.**