

Examination May-2014
Data Communication and Networks
Subject Code : MCA - 204
Paper ID:B0136

Time : 3 Hours**Maximum Marks : 100**

Instructions to candidates : *Attempt Five questions in all, selecting One question each from Section A, B, C and D. Section E is compulsory.*

SECTION-A

- Q1. a) Discuss various switching techniques with suitable examples. (10)
b) Discuss TCP/IP reference model in detail. (10)
- Q2. a) Explain the concept of layers. Protocols, interfaces and services. (10)
b) Discuss the internal structure of fiber optic cable. How data is transmitted through them. (10)

SECTION-B

- Q3. a) Discuss various services provided by data link layer to network layer. (10)
b) Discuss IEEE 802.5 standard in detail. (10)
- Q4. a) Discuss various framing techniques used at data link layer in detail. (10)
b) Explain CSMA protocols in detail. (10)

SECTION-C

- Q5. a) What do you understand by network troubleshooting? Discuss any four commands used for network troubleshooting. (10)
b) Define congestion. Discuss any two congestion control techniques for datagram subnets. (10)
- Q6. a) Discuss shortest path routing algorithm with suitable example. (10)
b) Discuss IPv4 protocol in detail. (10)

SECTION-D

- Q7. a) Discuss User Datagram Protocol (UDP) format in detail. How UDP is useful over TCP? (10)
b) What is Domain Name Space? how is it distributed? How Name-Address resolution is performed in Domain name System ? (10)
- Q8. a) What do you understand by process to process delivery? What kind of services are provided by transport layer? (10)
b) Discuss the components of an E-mail system. (10)

SECTION-E

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| Q9. | a) | What is Frequency Division Multiplexing? | (2) |
| | b) | What is a VSAT? | (2) |
| | c) | Differentiate between flow control and congestion control. | (2) |
| | d) | how pure ALOHA is different from slotted ALOHA? | (2) |
| | e) | What is hidden station problem in a wireless LAN? | (2) |
| | f) | What is optimality principle? | (2) |
| | g) | What is a virtual circuit? | (2) |
| | h) | How MAC address is different from IP address? | (2) |
| | i) | What is anonymous FTP? | (2) |
| | j) | What is a full duplex communication? | (2) |

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