

MCA Semester-2 Examination

Advanced Networking

June-2024

Time : 3-00 Hours]

[Max. Marks : 50

Instructions:

- Write both the Sections in the separate answer book.
- Both Sections having equal weightage.
- Draw Diagrams wherever necessary.
- Make Assumptions wherever necessary.

SECTION – I**Marks**

- Q-1 Answer the followings: (Any three) 12**
1. List layers of OSI and TCP/IP model in bottom to top order and explain any 4 layers of OSI Model in detail.
 2. What is Domain Name? Explain Domain Name System
 3. Explain Email System.
 4. What is congestion? Describe how transport layer controls congestion.
 5. Explain TCP transmission policy.
 6. Draw diagram of TCP header and explain any four fields of it.
 7. What is socket and port? Discuss the transport layer primitives.
- Q-2 Answer the followings in brief (Any four) 08**
1. Differentiate TCP and UDP
 2. Differentiate POP and IMAP Protocols.
 3. Explain multiplexing and demultiplexing in context of transport layer.
 4. What is VPN?
 5. What is MIME type electronic mail.
 6. What are the tasks of user agent in electronic mail?
- Q-3 Answer the followings: (Any five) 05**
1. FTP uses _____ and _____ ports.
 - a. 20 and 21
 - b. 21 and 22
 - c. 21 and 23
 - d. None of these
 2. What are well known ports?
 3. POP service run on _____ port.
 4. IMAP service run on _____ port.
 5. Which Protocol is generally used for multicast?
 - a. TCP
 - b. UDP
 - c. A & B both
 - d. None of these
 6. Port numbers range from _____ to _____.
 - a. 0 to 65535
 - b. 1 to 65536
 - c. -65535 to 65536
 - d. 0 to 1024

- Q-4** Answer the followings in brief (Any three) **06**
1. Define piggybacking and its usefulness.
 2. List three categories of multiple access protocol of Datalink Layer (MAC Sublayer).
 3. State the difference between Circuit switching, message switching and packet switching.
 4. State the difference between Virtual-circuit subnet and Datagram subnet.
 5. Convert the IP address whose hexadecimal representation is C22F1582 to dotted decimal notation.
 6. A block of address is granted to a small organization. We know that one of the addresses is 205.16.37.39/28. What is the first address and last address in the block.
 7. What is socket and port?
- Q-5** Answer the followings in brief (Any four) **16**
1. What is error correction and error detection. Discuss Hamming Code technique.
 2. State the difference between IP4 and IPV6. Draw diagram of IPV4 header and explain any four fields of it.
 3. List all the important classes that used in Java socket programming and explain the use of ServletSocket and Socket classes with it important methods.
 4. What is the role of optional field in IP packet? Discuss the use of any 3 optional fields.
 5. Explain Link State protocol.
 6. Explain OSPF protocol with goals.
 7. Write steps to create connection-oriented java client or server program.
- Q-6** Answer the followings: (Any three) **03**
1. Which class implements a connectionless packet delivery service.
 - a. ServerSocket
 - b. DatagramSocket
 - c. InetAddress
 - d. DatagramPacket
 2. Socket Consists Of?
 - a. IP Address + Port number
 - b. Only IP Address
 - c. Only Port number
 - d. None of above
 3. Which classes are used for connection-less socket programming?
 - a. DatagramSocket
 - b. DatagramPacket
 - c. Both A & B
 - d. None of the above
 4. How to get list of IP address that are assigned to a network interface?
 - a. getInetAddresses()
 - b. getInterfaceAddresses()
 - c. A & B both
 - d. None of these
- X—