MCA-19

Data Communication and Computer Networks

Master of Computer Application (MCA–11/16/17) Fifth Semester, Examination, 2017

Time : 3 Hours

Max. Marks: 80

Note: This paper is of eighty (80) marks containing three (03) Sections A, B and C. Learners are required to attempt the questions contained in these Sections according to the detailed instructions given therein.

Section-A

(Long Answer Type Questions)

- **Note :** Section 'A' contains four (04) long answer type questions of nineteen (19) marks each. Learners are required to answer *two* (02) questions only.
- 1. Describe OSI reference model in detail.
- 2. Describe the distance vector routing protocol with example.
- 3. Explain various transmission media in detail.
- 4. Describe the mechanism by which congestion control is achieved in TCP.

Section-B

(Short Answer Type Questions)

- **Note :** Section 'B' contains seven (07) short answer type questions of eight (08) marks each. Learners are required to answer *four* (04) questions only.
- 1. Differentiate flow control and congestion control.

- 2. Differentiate between OSI and TCP/IP model.
- 3. Explain CSMA and CSMA/CD.
- 4. Differentiate UDP and TCP.
- 5. Explain SMTP and MIME.
- 6. Discuss the issues in the data link layer.
- 7. Explain IPv6.

Section-C

(Objective Type Questions)

- **Note :** Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this Section are compulsory.
- 1. The physical layer concerns with :
 - (a) bit by bit delivery
 - (b) process to process delivery
 - (c) application to application delivery
 - (d) None of these
- 2. Which transmission media has the highest transmission speed in a network ?
 - (a) Coaxial cable
 - (b) Twisted pair
 - (c) Optical fiber
 - (d) Electrical cable
- 3. The portion of physical layer that interfaces with the media access control sublayer is called :
 - (a) Physical signalling sublayer
 - (b) Physical data sublayer
 - (c) Physical address sublayer
 - (d) None of these

- 4. The data link layer takes the packet from and encapsulates then into frame for transmission.
 - (a) Network layer
 - (b) Physical layer
 - (c) Transport layer
 - (d) Application layer
- 5. Which one of the following tasks is not done by data link layer ?
 - (a) Framing
 - (b) Error control
 - (c) Flow control
 - (d) Channel coding
- 6. Header of a frame generally contains :
 - (a) Synchronization bytes
 - (b) Address
 - (c) Frame identifier
 - (d) All of these
- 7. The network layer concerns with :
 - (a) Bits
 - (b) Frames
 - (c) Packets
 - (d) None of these
- 8. Which one of the following is not a function of network layer ?
 - (a) Routing
 - (b) Internetworking
 - (c) Congestion control
 - (d) None of these

- 9. The 4 byte IP address consists of :
 - (a) Network address
 - (b) Host address
 - (c) Both (a) and (b)
 - (d) None of these
- 10. Which one of the following is a transport layer protocol used in internet ?
 - (a) TCP
 - (b) UDP
 - (c) Both TCP and UCP
 - (d) None of these

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