MCA–19

Data Communication and Computer Networks

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

Time : 3 Hours   **Max. Marks : 60**

Note : This paper is of **Sixty (60)** marks containing **three (03)** sections A, B and C. 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 fifteen (15) marks each. Learners are required to answer *two* (02) questions only.

1. What is communication protocol ? Why are communication protocol required in creating Networks ?

2. List major hardware components of local area network and briefly describe what each component does.

3. Describe the routing table for distance vector and link state routing.

4. Answer the following :

    (a) Explain about the error detection and error correction.

    (b) Compare circuit, packet and message switching.

Section–B
(Short Answer Type Questions)

Note : Section 'B' contains eight (08) short answer type questions of five (5) marks each. Learners are required to answer *four* (04) questions only.

1. Explain briefly the coaxial cable.
2. How does OSI model work ? Explain.
3. Explain about Transport layer services.
4. What is meant by virtual circuit ?
5. Explain different types of transmission media.
6. What is the mechanism of stop and wait ARQ error control proctocol ?
7. Explain Address Resolution Protocol .
8. Explain CSMA/CD protocol.

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. How many pins in RS-45 corrector are required when used in 10 Base T Network ?

   (a) 8

   (b) 4

   (c) 2

   (d) 6

2. What is a broadcast IP address ?

    (a) IP address of a broadcasting host

    (b) IP address with all host bit set to zero

    (c) IP address with all Network bit set to 1

    (d) IP address with all host bit set to 1

3. Which is OSI layer with physical addressing of the device ?

    (a) Ethernet

    (b) Physical

    (c) Address

    (d) Data link

4. Which of the following can be measured for the reliability of a computer network ?

    (a) Mean time between failure

    (b) Implanted protocol

    (c) Type of host

    (d) Protection Software used on host

5. A dedicated physical link between two hosts is said to be :

    (a) Mesh link

    (b) Shared link

    (c) Point to point

    (d) Duplex

6. Which of the following is a disadvantage for Network with bus topology ?

    (a) Less cabling than ring

    (b) Need a control device

    (c) Cable fault down entire network

    (d) Cheaper connection

7. In a router, what is the name of structure that tells when to deline IP packet ?

   (a) Routing address

   (b) Routing table

   (c) Delivery table

   (d) Default table

8. Which of the following is not one of the seven OSI layers ?

   (a) Adaptation

   (b) Session

   (c) Network

   (d) Transport

9. What is the purpose of preable bit in an ethernet frame ?

   (a) Intialization of ARP

   (b) Prebit counting

   (c) Synchronization

   (d) Error check

10. Which of the following is not an advantage of Optical Fiber media ?

    (a) Has high bandwidth

    (b) Low EMI

    (c) High capacity

    (d) Requires high tech. equipment