Roll No. ……..

MCA–19

Data Communication and Computer Network

Master of Computer Application (MCA-11/16/17)

Fifth Semester, Examination, 2018

Time : 3 Hours **Max. Marks : 80**

Note : This paper is of **eighty (80)** 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 nineteen (19) marks each. Learners are required to answer *two* (02) questions only.

1. What is ISO reference model ? Explain the functions of each layer in detail.
2. Describe the various technologies that can be used to form a LAN.
3. Discuss the important design issues for various layers. Write short notes on connection-oriented and connectionless services.
4. Distinguish between TCP/IP and OSI reference models. Which model is more popular and why ?

Section–B

(Short Answer Type Questions)

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

1. What is the difference between time division multiplexing and frequency division multiplexing ?
2. In classless addressing, can two different blocks have the same prefix length ? Explain.
3. What are the main responsibilities of network layer ? Explain each one in brief.
4. Explain in detail what are the various security threats.
5. What is virtual LAN ? Explain.
6. Explain what is SSL (Secure Socket Layer) in detail and its applications.
7. Explain the concept and purpose of DNS (Domain Name System) in detail.
8. What is IPv6 ? Explain.

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. A device that connects two Local Area Network :
   (a) Bridge
   (b) Repeater
   (c) ISP
   (d) None of the above

2. A network architecture for connecting dissimilar devices is :
   (a) HDLC
   (b) OSI
   (c) GATEWAY
   (d) None of the above

3. OSI model is an architecture of network communication with :
   (a) 5 layer
   (b) 6 layer
   (c) 7 layer
   (d) None of the above

4. Coaxial, twisted pair cables are example of :
   (a) radio frequency
   (b) broadband medium
   (c) telephone cable
   (d) None of the above

5. ..... is a set of protocols, that defines all transmission exchanges across the internet.
   (a) TCP/IP
   (b) SMTP
   (c) UDP
   (d) None of the above

6. ..... is a transport layer protocol.
   (a) TCP
   (b) UDP
   (c) HTTP
   (d) None of the above

7. ..... is a cable that accepts and transports signals in the form of light.

   (a) TWISTED PAIR

   (b) CO-AXIAL

   (c) OPTICAL FIBRE

   (d) None of the above

8. The most common twisted pair cable used in communication is referred to as ..... .

   (a) UTP

   (b) EHERNET

   (c) DNS

   (d) None of the above

9. OSI stands for ..... .

   (a) Open System Interconnection

   (b) Operating System Interface

   (c) Optical Service Implementation

   (d) None of the above

10. TCP/IP model does not have ..... layer but OSI model have this layer.

    (a) Transport layer

    (b) Session layer

    (c) Application layer

    (d) None of the above