# LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

**M.C.A.** DEGREE EXAMINATION – **COMPUTER APPLICATIONS**

THIRD SEMESTER – NOVEMBER 2016

**CA 3807 - DATA COMMUNICATION AND NETWORKS**

Date: 03-11-2016 Dept. No. Max. : 100 Marks
Time: 09:00-12:00

**PART – A**

**Answer all Questions:** **10 x 2 = 20**

1. Define protocol. What are its key elements?
2. What is topology? Mention its types.
3. What are connecting devices? List them.
4. What are the different Ethernet standards available for communication.
5. Define subnetting and supernetting
6. What is unicasting , multicasting and multiunicasting?
7. Differentiate hypertext and hypermedia.
8. What are the functions of SMI?
9. Differentiate connection and session.
10. What are the services of SSL?

**PART – B**

**Answer all Questions:** **5 x 8 = 40**

11.a. Explain the various types of multiplexing.

**(OR)**

b. Write short notes on transmission modes.

12.a. Explain the hidden and exposed terminal problem. How MACA avoids it?

**(OR)**

b. Write short notes on BLUETOOTH networks.

13.a. Illustrate the TCP state transition diagram.

**(OR)**

b. Explain the link state routing algorithm with an example.

14.a. Discuss the I,B,P frames in video compression.

**(OR)**

b. Illustrate the control characters used in enabling and disabling an options in TELNET.

15.a. Write short note on the categories of symmetric key ciphers.

**(OR)**

b. Explain RSA algorithm.

## PART – C

**Answer any TWO Questions:** **2 X 20 = 40**

16. Explain the different functionalities of the layers of the OSI model.

17.a. Discuss in detail the random access and control access protocols.

b. Explain the following in DHCP:

i. Transition states

ii. Exchange of messages

18.a. Illustrate the .phases of mail transfer.

b. Explain in detail the types of security attacks.

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