



**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**

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

THIRD SEMESTER – NOVEMBER 2015

**CA 3807 - DATA COMMUNICATION AND NETWORKS**

Date : 05/11/2015

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 are the propagations of unguided signals?
3. What are the categories of connecting devices?
4. What are the services and phases of PPP?
5. List the ICMP error messages.
6. Differentiate multicasting and multiunicasting.
7. What are the ways of organizing a domain name space?
8. What is SIP? List its messages.
9. Mention the components of modern block cipher.
10. What are the protocols of SSL?

**PART – B**

**Answer all Questions:**

**5 x 8 = 40**

- 11.a. Explain the types of multiplexing.  
(OR)  
b. Write short notes on polar encoding schemes.
- 12.a. Explain CRC and checksum with example.  
(OR)  
b. Write short notes on BLUETOOTH networks.
- 13.a. Illustrate the TCP state transition diagram.  
(OR)  
b. Write short notes on:
  - i. slow start
  - ii. additive inverse
- 14.a. Elucidate email architecture.  
(OR)  
b. Write short notes on mail transfer phases.
- 15.a. Write short notes on the types of security attacks.  
(OR)  
b. Explain RSA algorithm.

**PART – C**

**Answer any TWO Questions:**

**2 X 20 = 40**

16. Explain the following:

- i. OSI Model (14 marks)
- ii. types of topology (6 marks)

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

b. Explain the following in TCP:

- i. simultaneous open
- ii. simultaneous close
- iii. denying a connection
- iv. aborting a connection

18.a. Illustrate the image compression.

b. Explain QoS characteristics and the techniques to improve it.

\*\*\*\*\*