**TB154195A** **Reg. No.....**

**Name.....**

**B. Sc. DEGREE (C.B.C.S.S) EXAMINATION, MARCH 2017**
**SEMESTER IV – CORE COURSE (COMPUTER APPLICATION)**
**CAC4B10TB - DATA COMMUNICATION AND NETWORKS**

**Time: Three Hours** **Maximum Marks: 80**

## PART A

**I. Answer all questions. Each question carries 1 mark**

1. Why are standards needed?
2. Distinguish between analog and digital signal.
3. What are the three malor components of a telephone network?
4. List different types of satellites.
5. What is the number of bits in an IPv6 address?
6. What is the maximum size of the process data that can be encapsulated in a UDP datagram?

**(6x1=6)**

## PART B

**II. Answer any seven questions. Each question carries 2 marks**

7. Assume six devices are arranged in a mesh topology. How many cables are needed? How many ports are needed for each devices?
8. What is the purpose of OSI model?
9. Distinguish between baseband transmission and broadband transmission.
10. What is the interleaving? Explain.
11. What is the significance of the twisting in twisted-pair cable?
12. Discuss the concept of redundancy in error detection and correction.
13. Differentiate between active hub and passive hub.
14. What is a mask in IPv4 addressing? What is a default mask in IPv4 addressing?
15. What is atraffic descriptor?
16. Name the policies that can prevent congestion.

**(7x2=14)**

## PART C

**III. Answer any five questions. Each question carries 6 marks**

17. Briefly explain the specific functions of transport layer in OSI model.
18. What is multiplexing? Explain FDM process.
19. Compare and contrast a circuit-switched network and a datagram network.
20. Describe channelization
21. Write note on Cellular Telephony.

22. Briefly define subnetting and supemetting. How do the subnet mask and supemet mask differ from a default mask in classful addressing?
23. Explain Backpressure method in congestion control.
24. Describe about Domain name space.

**(5x6=30)**

## PART D

**IV. Answer any two questions. Each question carries 15 marks**

25. What is multiplexing? Compare and contrast different multiplexing methods.
26. Briefly describe about pure ALOHA.
27. Briefly explain about multicast routing protocols.
28. Describe about various congestion control mechanism used in TCP.

**(2x15=30)**