LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – **PHYSICS**

THIRD SEMESTER – **NOVEMBER 2018**

16/17PPH3ES02– DATA COMMUNICATION AND COMPUTER NETWORKS

Date: 29-10-2018 Dept. No. Max. : 100 Marks

Time: 09:00-12:00

PART - A

Answer ALL questions. **(10 x 2 = 20 marks)**

1. Distinguish between the MODEM and CODEC.
2. Give the expansion of ARPA, IBM, NNTP and XML.
3. Give the structure of a hybrid model.
4. What is 'piggy backing' in reliable services?
5. If Hamming distance is 5, estimate how many errors can be detected and corrected?
6. Mention two differences between datagram subnet and virtual subnet.
7. Define 'jitter'.
8. List down the service primitives.
9. What is overprovisioning?
10. Write a brief note on cookies with an example.

PART - B

Answer **ANY FOUR** questions. **(4 x 7.5 = 30 marks)**

11. Explain the physical description, application and transmission characteristics of (a) twisted pair and (b) coaxial cable. **(3+4.5)**
12. Discuss the CRC method of error detection with a suitable example.
13. Discuss the salient features of the TCP/IP Model and its critique.
14. Explain the leaky bucket algorithm for congestion control and achieving good quality of service.
15. With relevant examples of your own explain the DNS.
16. Give a detailed account of business applications of Computer Networks.

PART - C

Answer **ANY FOUR** questions. **(4 x 12.5 = 50 marks)**

17. Discuss the basic modulation techniques of transforming digital data into analog signals.
18. Describe the basic characteristics and frame structure of High-level data link control (HDLC) protocol.
19. Give a detailed description of Network Hardware Examples.
20. Explain the different methods of 'framing' with suitable examples.
21. Discuss in detail, the Email architecture and services.
22. What are transmission impairments? Discuss the most significant impairments.

****