LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION - PHYSICS

THIRD SEMESTER – NOVEMBER 2013

PH 3954 - DATA COMMUNICATION & COMPUTER NETWORKS

Date : 09/11/2013   Dept. No.   Max. : 100 Marks
Time : 9:00 - 12:00

PART - A

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

1. Describe a physically twisted pair cable.
2. Define a computer network.
3. Give the components of data communication.
4. What is data encapsulation?
5. List the most popular Network Hardware.
6. What is Cyclic Redundancy Check (CRC)?
7. Briefly explain the Frequency-shift keying (FSK) technique.
8. Illustrate the relationship between network, transport and application layer.
9. Differentiate half duplex and full duplex data exchange.
10. What do you understand by delay distortion?

PART - B

Answer any **FOUR** questions   (4 x 7.5 = 30)

11. Explain the basic encoding or modulation techniques for transforming digital data into analog signals.
12. Explain the physical description, application and transmission characteristics of (a) twisted pair and (b) coaxial cable.   (3 + 4.5)
13. Explain briefly the features of the OSI Model.
14. What are noises in data transmission? Categorize noise and briefly explain them.
15. With a neat sketch explain the frame structure of High-Level Data Link Control (HDLC).

PART - C

Answer any **FOUR** questions   (4 x 12.5 = 50)

16. Discuss the (a) asynchronous and (b) synchronous approach to achieve synchronized transmission.   (7 + 5.5)
17. Discuss in detail the origin of the ARPANET and the Internet.
18. Give a detailed description of Network Hardware Examples.
19. Give a detailed description of the salient features of Fibre Optic Communication.
20. Discuss the architecture and Services of Electronic mail.

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