 LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

**M.Sc.** DEGREE EXAMINATION - **PHYSICS**

SECOND SEMESTER – **APRIL 2012**

# PH 2954 - DATA COMMUNICATION & COMPUTER NETWORKS

Date : 24-04-2012 Dept. No. Max. : 100 Marks

Time : 9:00 - 12:00

**PART - A**

**Answer ALL questions: (10x2=20)**

1. Differentiate half duplex and full duplex data exchange
2. Write a note on Cross talk.
3. Define transmission time and propagation time in a communication system.
4. Explain the two link configuration defined by HDLC.
5. Enumerate the types of Network in Network Hardware.
6. Give some examples for Network.
7. Write an algorithm for computing the checksum in error detecting mechanism.
8. What is meant by Optimality principle?
9. Write a note on Hypertext Transfer Protocol.
10. Enumerate the functions supported by e-mail system.

**PART - B**

**Answer any FOUR questions: (4x7.5 = 30)**

1. Explain the advantages of Fibre optical cable over other media.
2. Describe the techniques i) NRZ-L and ii) NRZI to encode digital data into digital signals.
3. Explain briefly (a) Stop-and-wait flow control and (b) Sliding-window flow control.
4. Outline the general principles of Local Area Network (LAN), Metropolitan Area Network (MAN) and Wide Area Network (WAN).
5. Explain Uniform Resource Locators with suitable examples.

**PART - C**

**Answer any FOUR questions: (4x12.5 =50)**

1. Discuss in detail the physical description, application and transmission characteristics of (i) twisted pair (ii) coaxial cable and (iii) optical fibre.
2. Describe the characteristics of Frequency Division Multiplexing (FDM) and explain the uses of multiplexing in data communication.
3. Describe the different layers of open systems interconnection (OSI) reference model.
4. What is a routing algorithm? Explain the functions of (a) Multicast and (b) Broadcast routing.
5. Discuss the architectural overview of World Wide Web.

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