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***B.Tech. Degree III Semester Supplementary Examination  
April 2018***

**IT 15 - 1306 DATA COMMUNICATION AND NETWORKING  
(2015 Scheme)**

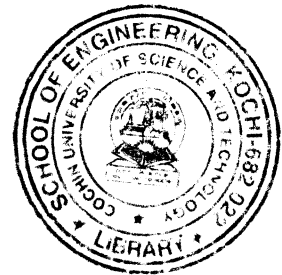
Time: 3 Hours

Maximum Marks: 60

**PART A  
(Answer *ALL* questions)**

(10 × 2 = 20)

- I. (a) Differentiate Low-pass and Band-pass channels.  
(b) Write short notes on transmission impairments.  
(c) What is meant by multiplexing?  
(d) Write short notes on types of transmission media.  
(e) What is meant by channelization?  
(f) What are the main functions of datalink layer?  
(g) Differentiate switch and router.  
(h) What is meant by piggybacking?  
(i) Write short notes on WWW.  
(j) Discuss different congestion control mechanisms available in a network.



**PART B**

(4 × 10 = 40)

- II. Explain ISO/OSI layers with their functions in detail. (10)
- OR**
- III. (a) Explain different polar encoding schemes with suitable diagrams. (6)  
(b) Explain different types of network topologies. (4)
- IV. What is meant by redundancy? How can we use it for Error detection? Explain. (10)
- OR**
- V. (a) Explain HDLC protocol. (4)  
(b) Explain different error and flow control mechanisms in datalink layer. (6)
- VI. (a) Explain classfull addressing. (6)  
(b) Explain IPV4 packet format. (4)
- OR**
- VII. Explain different types of ICMP packets in detail. (10)
- VIII. (a) Explain TCP connection establishment and termination. (5)  
(b) Discuss about DHCP protocol. (5)
- OR**
- IX. Write short notes on: (10)  
(i) SMTP.  
(ii) FTP.  
(iii) DNS.  
(iv) HTTP.