

Registration No. :

--	--	--	--	--	--	--	--	--	--

Total number of printed pages – 2

B. Tech  
PCCS 4302

**Fifth Semester Examination – 2013**  
**DATA COMMUNICATION AND COMPUTER NETWORKS**

**BRANCH : IT, CSE**

**QUESTION CODE : C- 340**

**Full Marks – 70**

**Time : 3 Hours**

*Answer Question No. 1 which is compulsory and any **five** from the rest.  
The figures in the right-hand margin indicate marks.*

1. Answer the following questions : 2 × 10
- (a) Distinguish between analog and digital signal.
  - (b) Define Line coding and explain.
  - (c) What is the significance of modulation ?
  - (d) What is switching ? Why is it required ?
  - (e) Give an example of an error detection code that doesn't correct.
  - (f) Differentiate between point to point and multipoint communication.
  - (g) What is the total number of cable links required in a star, bus, ring and mesh topology for n number of devices in a network ?
  - (h) With a neat diagram mention the frame format of IP datagram.
  - (i) Distinguish between TCP and UDP.
  - (j) Differentiate between FTP and HTTP.
2. (a) Describe about various transmission media in details. 5
- (b) What do you mean by block coding ? Discuss various types of block encoding schemes with suitable examples. 5



P.T.O.

3. (a) Given the following information, find the minimum bandwidth for the path
- (i) FDM multiplexing
  - (ii) Five lines each requiring 4000 Hz 5
- (b) Describe the working of packet switching network. Explain with the example of a few packets communicating with such a network. 5
4. (a) Explain the mechanism of error correction using Hamming Encoding Algorithm. Construct the Hamming code for the bit sequence 10011101. 5
- (b) Given a sequence 101001110 and a divisor 1011, find the CRC. Check your answer. 5
5. (a) Give an account of various automatic repeat request methods. 6
- (b) Explain the working of wireless networks under protocol IEEE 802.11. 4
6. (a) What are the various types of ARP messages that can be sent by the ARP protocol? 5
- (b) What is ICMP? Explain about various messages of ICMP. 5
7. (a) What is a Client-Server model? Explain the working principle of connection-oriented Concurrent server with suitable client and server Algorithms. 5
- (b) What is an E-mail? Name two mail access protocols. Explain the various stages of mail delivery from sender to receiver. 5
8. Write short notes on any **two** of the following : 5×2
- (a) Sampling
  - (b) Channelization
  - (c) Socket interface.

