Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

 Roll No .....

EI/IC-601

B.E. VI Semester

Examination, June 2017

Data Communication and Computer Networks

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.
ii) All question carry equal marks.

1. Explain the TDM, FDM and WDM techniques with respect to its use in telecommunication technology.

2. Differentiate between:
   a) Asynchronous and synchronous transmission
   b) Parallel and serial transmission

3. Draw a neat sketch describing various stages of ISDN circuit switched call. Explain how the call moves through various stages to destination.

4. Briefly explain the pin diagram for X.21 data interface standard.

5. Explain the TCP/IP in detail giving an example of TCP/IP operation.

6. List the classification of networks in detail according to the area covered.

7. a) List the data link layer design issues.
   b) What is Framing? List all methods used for framing and explain any two in detail.

8. Answer any four of the following:
   a) Explain the difference between Simplex, Half Duplex and Full Duplex modes of transmission along with examples.
   b) Explain synchronous and asynchronous MODEM in detail.
   c) What is the significance of switching in communication? Compare packet switching and circuit switching.
   d) Suppose message 11010111 is to be sent using the CRC with the polynomial $x^3 + x^2 + 1$ as generator polynomial. Calculate parity bits.
   e) What is the vulnerable time in pure aloha protocols and how is it related to frame time in slotted aloha protocols.
   f) Why is it required to define the maximum and minimum frame size of Ethernet?

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