Regn. No.



V SEMESTER B.TECH (COMPUTER SCIENCE AND ENGINEERING) DEGREE EXAMINATIONS, NOV-DEC 2016 SUBJECT : DATA COMMUNICATIONS(CSE 4025) REVISED CREDIT SYSTEM DATE: 07-05-2016

TIME:03 HOURS

MAX.MARKS:50

2M

2M

Instructions to Candidates:

- Answer ANY FIVE FULL questions.
- Missing data, if any, may be suitably assumed.
- Draw the relevent Diagrams neatly wherever necessary.

1A. Explain following fundamental characteristics of Data Communication:

- 1. Delivery
- 2. Accuracy
- 3. Timeliness
- 4. Jitter
- 1B. What is a composite signal? Explain the process of decomposition of a composite 4M periodic signal in time and frequency domain?
- 1C. What are the different transmission impairments in transmission Media? Explain. 4M
- 2A. Distinguish between signal element versus data element.
- 2B. Draw the components of PCM encoder.Explain different sampling methods for 4M PCM.
- 2C. Explain with its implementation-Binary Frequency Shift Keying with neat diagram.Give the bandwidth expression. 4M
- 3A. We have an available bandwidth of 100 KHz which spans from 200 to 300 kHz. 2M What should be the carrier frequency and bit rate if we modulated our data by using FSK with d=1?
- 3B. Received Message at the Receiver end is 01000110101010. Determine whether Message is received without error or not when Pattern P=110101. Design a hardware circuit using shift registers.

3C.	Explain the construction, working principle and propagation modes of Optical Fibre Cables.	4M
4A.	Explain the strategies of data rate management in Time Division Multiplexing(TDM) with neat Diagrams.	2M
4B.	Explain Character oriented framing. Describe the process of byte-stuffing and un- stuffing.	4M
4C.	Explain different High Level Data Link Control(HDLC) frame types and its fields with suitable diagrams.	4M
5A.	Describe CSMA/CA protocol with the help of neat Diagrams.	4M
5B.	List and Explain Different Access Control algorithms in MAC sublayer	4M
5C.	What is Hidden Station Problem and Exposed station Problem in wireless LANs?Explain with Diagram.	2M