Printed Pages—2 TIC707

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 0301 Roll No. | | | | | | | | | |

B.Tech.

(SEM. VII) ODD SEMESTER THEORY EXAMINATION 2010-11

TELEMETRY AND DATA TRANSMISSION

Time : 3 Hours *Total Marks : 100*

Note : (1) Attempt **all** questions.
(2) All questions carry equal marks.
(3) Be precise in your answers.

1. Attempt any **four** part : **(4×5=20)**
   (a) Write down the principle of PLL and give the application.
   (b) Discuss the data transmission over telephone lines.
   (c) Define FSK, PSK and draw the block diagram of QPSK receiver.
   (d) Explain with block diagram Dual slope integrator type AID converter.
   (e) State and prove Shannon sampling theorem.
   (f) Describe serial interface with RS-232C.

2. Attempt any two parts of the following : **(2×10=10)**
   (a) Explain tone digital command system and data command system with suitable examples of industrial processes.
   (b) What types of display systems are used in Telemetry application ? Explain them with few examples.
   (c) What is bit acquisition and bit slip ? What is the use of bit synchronizer ?

3. Attempt any **two** parts : **(2×10=20)**

(a) Write in brief :

(i) Frame Structure

(ii) Frame Timing

(iii) Traffic Burst Structure.

(b) What is PLC ? How it is useful in factory automation ? Explain.

(c) Explain the principle of Time division multiplexing.

4. Attempt any **two** parts : **(2×10=20)**

(a) Describe cross talk and give some possibilities for reducing its effects.

(b) Draw the block diagram of tone raised command system and explain it.

(c) (i) Explain TDM and T_1 frame channel synchronization in TDM.

(ii) Write a short note on Reliability of tele control installations.

5. Attempt any **four** parts : **(4×5=20)**

(i) Explain aliases.

(ii) Explain PCM with the help of suitable diagrams.

(iii) Explain the principle FDM.

(iv) Explain the purpose of Signal conversion with the help of examples.

(v) What is sampling theorem ?

(vi) What is Telemetry, Tracking & Command System ?