Roll No. | | | | | | | | | | |

No. of Printed Pages—2

IC–602

B. TECH.

SIXTH SEMESTER EXAMINATION, 2003-2004

DATA ACQUISITION & TELEMETRY

Time : 2 Hours *Total Marks : 50*

Note : Attempt **ALL** questions. From each question attempt two parts only.

1. *(a)* Discuss and describe the functioning of ANTI-ALIASING filters by giving appropriate schematic diagrams and requisite justifications. (7)

   (b) What are the "Error Detection and Error Correction" codes ? Explain and justify the utility of such codes (at least one example of each) for correct and secure data transmission. (7)

   (c) Explain frequency shift keying. How is it used to transmit binary data ? (7)

2. *(a)* Discuss the advantages of Data loggers. Where and how are they used ? (6)

   (b) Describe, in brief, the various major methods of signal conditioning. (6)

   (c) Elaborate at least one PC-based data acquisition system. How is a good data acquisition system identified ? Enumerate various parameters for the above. (6)

3. *(a)* What are Bit-interleaved multiplexers ? Justify the bit stuffing process M12 frame by giving one example. (6)

156

uptuonline.com

(b) How does a Data Modem function ? Describe its functioning in brief. (6)

(c) Discuss and describe the international standards, set for Interfacing and Bus standard. What are its advantages ? (6)

4. (a) Describe the Tone Digital command system along with its complete schematic. (6)

(b) Enlist and introduce various system components for operational security arrangements. (6)

(c) What are pipelines ? How are the pipelines controlled ? Justify the same by discussing algorithm for the same. (6)