aktuonline.com

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

aktuonline.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)