

Time: 3hrs

Total marks: 80

N.B:

- (1) Attempt **four** questions, question **no:1** is Compulsory.
- (2) Assume suitable data wherever required.
- (3) Answers to the questions should be grouped together.
- (4) Figure to the **right** of question indicates **full** marks.

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| 1) Attempt any four: | 20 |
| (a) Draw block diagram for generalized measurement system and explain its components. | |
| (b) Explain the working of strain gauge and its application in load measurement. | |
| (c) Significance of four and half digit display. | |
| (d) List names of bridges for RLC measurement with proper classification | |
| (e) Brief out classifications of errors in measurement | |
| 2. (a). Explain with neat diagram the working principal of LVDT. Give its applications | 10 |
| (b). Describe how Q meter is used for the measurement of low impedance. What are various sources of errors in Q Meter | 10 |
| 3. (a). Explain Kelvin's Double bridge and its application in very low resistance measurement | 10 |
| (b). Draw neat block diagram of CRO and explain its functioning. Comment on role Sweep in CRO | 10 |
| 4. (a). Discuss DSO with the help of block diagram along with various modes of operation. Also explain its applications | 10 |
| (b). What is the basic principal of wave analyzer and explain Heterodyne type wave analyser and its applications | 10 |
| 5. (a) Draw and explain weighted resistor network type DAC for 3 bits input taking suitable example | 10 |
| (b) Draw and discuss Maxwell bridge and its applications for measurement of inductance | 10 |
| 6. (a) Explain single and multichannel data acquisition system with neat labelled separate block diagram | 10 |
| (b) Compare the temperature transducers, RTD, Thermistors and thermocouples on the basis of principle, characteristics, range and applications | 10 |

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