

Code : 15EC34T

Register
Number

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III Semester Diploma Examination, April/May-2019
ELECTRONIC MEASUREMENTS AND
INSTRUMENTATION

Time : 3 Hours]

[Max. Marks : 100

- Instructions :** (i) Answer any six questions from Part – A. ($5 \times 6 = 30$ marks)
(ii) Answer any seven full questions from Part – B. ($7 \times 10 = 70$ marks)

PART – A

1. Draw the block diagram of generalized measurement system and explain. 5
2. Define Transducer. List the types of transducers. 5
3. Explain the principles of PMMC meter. 5
4. Explain with neat figure the principles of Electrodynamometer type voltmeter. 5
5. Explain the concept of dual trace CRO. 5
6. List the features of spectrum analyser. 5
7. Describe successive approximation Digital Voltmeter with neat block diagram. 5
8. Draw the block diagram of digital multimeter and explain. 5
9. Write a short note on Grounding and Shielding. 5

PART – B

10. (a) Define error. List the types of errors. 5
- (b) A set of independent current measurements was taken by six observers and recorded as 12.8 mA, 12.2 mA, 12.5 mA, 13.1 mA, 12.9 mA and 12.4 mA.
Calculate :
 - (i) Arithmetic mean
 - (ii) The deviation from the mean. 5

11. (a) Compare AC and DC bridges. 5
(b) Sketch LVDT and briefly explain the working principle. 5
12. Write note on 10
(a) Thermistor
(b) Piezo-electric
13. (a) Explain the concept of calibration of meters. 5
(b) Explain electrodynamic type voltmeter. 5
14. Explain the working of solid state voltmeter using Op-Amp. 10
15. (a) Define CRO probe and list the types of CRO probes. 5
(b) List the applications of CRO. 5
16. (a) Describe standard RF signal generator with block diagram. 5
(b) List the features of wave analyzer. 5
17. Explain how ramp type DVM can be used for measuring voltage. 10
18. (a) List the applications of digital LCR meter. 5
(b) Explain the neat block diagram the working of digital frequency meter. 5
19. Explain the procedure for generalized troubleshooting with flowchart. 10
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