C14-EC-303

4238

BOARD DIPLOMA EXAMINATION, (C–14)

OCT/NOV—2016

DECE—THIRD SEMESTER EXAMINATION

ELECTRONIC MEASURING INSTRUMENTS

Time : 3 hours] [*Total Marks* : 80

3×10=30

PART—A

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. List the characteristics of an ideal ammeter.
2. What is loading effect in measuring instruments?
3. List any three important specifications of digital frequency meters.
4. List any three advantages of digital instruments over analog instruments.
5. Mention the conditions for flicker-free waveforms in a CRO.
6. Define deflection sensitivity of CRO.
7. List the applications of function generators.
8. List the specifications of RF generator.
9. Define stray capacitance of a coil.
10. State the need for plotters and recorders.

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PART—B

10×5=50

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Explain the construction and principle of series type ohmmeter. 3+7

12. Explain inductance measurement using Maxwell's bridge. 3+7

13. Draw the block diagram of successive approximation type digital voltmeter and explain. 3+7

14. *(a)* Draw the block diagram of digital LCR meter. 5

(b) Explain the importance of shielding in RF generators. 5

15. Explain the procedure for measurement of voltage, frequency, phase angle, time interval and depth of modulation using CRO. 10

16. Explain the function of various controls on front panel of CRO. 10

17. Draw the block diagram of AF sine and square wave oscillator and explain its working. 3+7

18. Draw the block diagram of distortion factor meter and explain its working. 4+6

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