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C14–EC–303

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BOARD DIPLOMA EXAMINATION, (C–14)

MARCH/APRIL—2016

DECE—THIRD SEMESTER EXAMINATION

ELECTRONIC MEASURING INSTRUMENTS

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

PART—A 3×10=30

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

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

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

1. What is the need for high input impedance for voltameters?

2. Mention the use of AC bridges.

3. List any three advantages of digital instruments over analog instruments.

4. List any three specifications of digital LCR meter.

5. Draw the triggered sweep circuit.

6. Mention the conditions for flicker-free waveforms in a CRO.

7. List the specifications of RF signal generator.

8. List any three applications of power meters.

9. Define distortion factor.

10. State the need for recorders and plotters.

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 operation of PMMC instrument. 6+4=10

12. Draw the Schering bridge circuit. Explain the capacitance measurement using Schering bridge. 4+6=10

13. Explain the working of successive approximation type digital voltameter with a block diagram. 5+5=10

14. Draw the block diagram of general purpose CRO and explain the function of each block. 5+5=10

15. Explain the procedure for measurement of phase angle and depth of amplitude modulation by using CRO. 5+5=10

16. Explain the working of AF sine and square wave oscillator with block diagram. 5+5=10

17. *(a)* Explain basic principle of operation of digital frequency meter. 5

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

18. Explain the working of Q meter with circuit diagram. 6+4=10

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