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C14–EC–303

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BOARD DIPLOMA EXAMINATION, (C–14)

OCT/NOV—2017

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

1. List the applications of wheatstone bridge.

2. Mention the conditions for AC bridge balance.

3. List the factors affecting the accuracy and resolution of a frequency meter.

4. List the specifications of digital LCR meter.

5. Define the pulse parameters *(a)* rise time and *(b)* duty cycle.

6. Write the conditions to have flicker-free waveform on CRO.

7. Mention any three applications of RF signal generators.

8. What is the need for shielding in RF generators?

9. Define stray inductance and stray capacitance of a coil.

10. What are the needs of plotters and recorders?

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. Draw the circuit and explain the working of FET input voltmeter.

12. Explain the measurement of capacitance using Schering bridge.

13. Explain the working of successive approximation type digital voltmeter with block diagram.

14. *(a)* List the advantages of digital instruments over analog instruments. 5

(b) Explain the working of AF power meter. 5

15. Draw the block diagram and explain the function of each block of general purpose CRO.

16. Explain the procedure for measurement of phase angle and depth of modulation using CRO.

17. Draw and explain the working of function generator with block diagram.

18. Explain the working of *Q*-meter with block diagram.

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