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C09–EC–405

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BOARD DIPLOMA EXAMINATION, (C–09)

MARCH/APRIL—2016

DECE—FOURTH 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 various bridges.

2. Draw the neat sketch of differential voltmeter.

3. Define sensitivity of voltmeter.

4. List the advantages of digital instruments over analog instruments.

5. Draw the neat block diagram of digital LCR meter.

6. List the specifications of digital multimeter.

7. What is sensitivity of a CRO?

8. List the applications of recorders.

9. List various types of signal generators with reference to frequency.

10. What is a bolometer? List its various types.

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 working of *Q*-meter with neat diagram.

12. Explain the construction and working of a series-type ohmmeter.

13. Explain the working of logic analyzer with neat block diagram.

14. Explain the working of digital frequency meter with neat block diagram.

15. Draw the block diagram of dual-trace oscilloscope and explain the function of each block.

16. *(a)* Draw the block diagram of general purpose CRO. 4

(b) An electrically-deflected CRT has an accelerating voltage of 2000 V and parallel deflecting plates 1·5 cm long and 5 mm apart. If the screen is 59 cm from the centre of deflecting plates, find *(i)* velocity of the beam, *(ii)* deflection sensitivity of the tube and *(iii)* the deflection factor of the tube. 6

17. Explain the working of RF signal generator with neat block diagram.

18. Draw the block diagram of a function generator and explain its working.

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