



C14-AEI-305

4218

BOARD DIPLOMA EXAMINATION, (C-14)

OCT/NOV—2017

DAEI—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 specification of DC voltmeter.

2. State the use of Meggar for insulation measurements.

3. Classify the analog measuring instruments.

4. List the specifications of digital multimeter.

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

6. List the specifications of CRO.

7. State the conditions for flicker free waveform in CRO.

- * 8. Write the expression for deflection sensitivity.
9. List the specifications of RF signal generator.
10. State the necessity of 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. Explain the construction and principle of operation of moving iron instrument.
12. (a) Explain the construction and principle of operation of series type voltmeter. 5
- (b) Explain the operation of Schering bridge with a neat sketch. (Diagram 2 marks, Explanation 3 marks) 2+5
13. Explain the working of successive approximation type digital voltmeters with block diagram. (Diagram 2 marks, Explanation 8 marks) 2+8
14. (a) Explain the working of digital LCR meter with block diagram. (Diagram 2 marks, Explanation 3 marks) 2+3
- (b) Explain the working of digital frequency meter with a neat diagram. (Diagram 2 marks, Explanation 3 marks) 2+3
15. Draw the block diagram of CRO and describe the function of each block. (Diagram 2 marks, Explanation 8 marks) 2+8

- * **16.** (a) Explain triggered sweep with necessary circuit, and mention its advantages. (Diagram 1 mark, Explanation 2 marks, advantages 2 marks) 1+2+2
- (b) Explain the Dual trace oscilloscope with a block diagram. (Diagram 2 marks, Explanation 3 marks) 2+3
- 17.** (a) Explain the working of function generator with block diagram. (Diagram 2 marks, Explanation 3 marks) 2+3
- (b) Explain the working of function generator with block diagram. (Diagram 2 marks, Explanation 3 marks) 2+3
- 18.** (a) Explain the working of plotter with a neat diagram. (Diagram 2 marks, Explanation 3 marks) 2+3
- (b) Explain the working of logic analyser with block diagram. (Diagram 2 marks, Explanation 3 marks) 2+3
