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. Classify the bridge circuits.

2. List the different torques needed for driving the analog instrument.

3. Draw the diagram of wheatstone bridge.

4. List any three specifications of digital multimeter.

5. List any three specifications of digital LCR meter.

6. State the necessity of time base generator.

7. List any three conditions for stationary waveforms.

8. List any three specifications of CRO.

9. List any tthree specifications of AF Oscillator.

10. State the necessity of recorders.

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

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

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

11. Explain the construction and principle of shunt type ohm meter with diagram.

12. (a) Explain the resistance measurement using wheat stone bridge circuit.

(b) Draw and explain the principle of operation of extending the range of DC voltmeter.

13. Explain the working of Ramp type digital voltmeters with block diagram.

14. (a) Explain the working of digital LCR meter with block diagram.

(b) Explain the working of digital multimeter with block diagram.

15. (a) Explain the dual trace oscilloscope with a block diagram.

(b) Explain the basis principle of digital oscilloscope with a block diagram.

16. Explain the procedure for measurement of voltage(DC & AC), frequency, phase using CRO.

17. Explain the working of AF oscillator (sine & square) with bolck diagram.

18. (a) Explain the working of Q meter with diagram.

(b) Explain the working of plotter with diagram.