



2018 VI 12

1430

Seat No. :

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Time : 2 Hours

ELECTRONIC AND ELECTRICAL MEASUREMENTS

Subject Code

V	3	4	1
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Total No. of Questions : 5

(Printed Pages : 2)

Maximum Marks : 50

- INSTRUCTIONS:** i) Answer **each** question on a **fresh** page.
ii) Write the number of **each** question and sub-question **clearly**.
iii) **All** questions are **compulsory**.
iv) Figures to the **right** indicate **full** marks.

1. A) Fill in the blanks : [2]
i) In induction type wattmeter, the coil which carries a load current is known as _____
ii) Clip-on meter is also called _____
- B) Answer the following : [6]
i) Explain the working of function generator with a neat block diagram.
ii) Explain the power factor meter with a neat diagram.
- C) Answer the following : [2]
State two advantages of spring control method for providing controlling torque.
2. A) Define the following : [2]
i) Seebeck effect
ii) Sensitivity of PMMC instrument.
- B) Answer the following : [6]
i) Draw a neat block diagram of CRO. Name any 2 probes used in a CRO.
ii) With a neat diagram of Wheatstone's bridge, derive an expression for unknown resistance.



- C) Answer the following : [2]
State any four advantages of digital multimeter over analog multimeter.
3. A) Fill in the blanks : [2]
i) Megger is a combination of generator and _____
ii) The instrument used to measure angular speed is _____
- B) Answer the following : [3]
Explain the Repulsion type moving iron instrument with a neat diagram.
- C) Answer **any one** of the following in detail : [5]
i) Explain the cup-type Anemometer with a neat diagram. State the use of Anemometer instrument.
OR
ii) Explain the output power meter with a neat block diagram. State the use of output power meter.
4. A) Answer the following : [2]
i) Name any 2 asymmetrical crystalline materials used in Piezoelectric transducer.
ii) Name the circuit that converts the unknown frequency into pulses in a digital frequency meter.
- B) Answer the following : [3]
Draw a neat diagram of DC tachometer generator. State any one advantage.
- C) Answer **any one** of the following in detail : [5]
i) Explain the working of LVDT with a neat diagram.
OR
ii) Explain the capacitive transducer with a neat diagram. State one advantage.
5. Answer the following : [10]
i) Distinguish between single phase energymeter and single phase wattmeter. (4 points)
ii) State and explain any two applications of CRO.
iii) Explain the calibration of DC voltmeter using potentiometer with a neat diagram.
iv) State any four uses of Megger.
v) Define pH value of a solution. Write the pH values for acidic and alkaline solution.