



C16-EE-302

6238

BOARD DIPLOMA EXAMINATION, (C-16)
OCTOBER/NOVEMBER—2023
DEEE - THIRD SEMESTER EXAMINATION

DC MACHINES AND 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. State Fleming's right hand rule.
2. Compare LAP and WA less VE winding in any three aspects.
3. State any three conditions for build up of EMF in DC generator.
4. List any three applications of DC motors.
5. State the necessity of speed control of DC motors.
6. List different tests of DC motors.
7. Define precision.
8. Classify the electrical measuring instruments.
9. State any three precautions to be taken while using CT.
10. List any three advantages of digital instruments over analog instruments.

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PART—B

10×5=50

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

- 11.** Draw and explain constructional features of a DC generator. 10
- 12.** Explain the armature reaction with legible sketches. 10
- 13.** A 250 V DC shunt machine has an armature and field resistances of 0.1Ω and 125Ω . Find the induced e.m.f. when the machine acts as a motor taking 20 kW input. 10
- 14.** (a) Explain the power stages in DC motor. 5
(b) Explain flux control method for DC shunt motor speed control. 5
- 15.** Explain the working of 3 point starter with legible sketch. 10
- 16.** Explain the construction and working of single-phase induction type energy meter. 10
- 17.** (a) Explain the method of extending the range of moving coil ammeter with the help of shunt. 5
(b) Explain the working of rectifier type voltmeter. 5
- 18.** Explain the working of digital multimeter with a neat sketch. 10

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