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C14-M-RAC-303

4251

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2021

DME - THIRD SEMESTER EXAMINATION

BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

Time : 3 hours]

[Total Marks : 80

PART—A

4×5=20

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **four** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Define electric flux and permeability.
2. State Faraday's laws of electromagnetic induction.
3. State Ohm's law and give the equation with units.
4. List the types of DC generator.
5. Draw the circuit diagram of 1-phase energy meter with load.
6. Define RMS value.
7. State the working principle of single-phase transformer.
8. State the applications of 3-phase induction motor.
9. Define conductor and semi-conductor.
10. State the necessity of earthing for electrical equipments.

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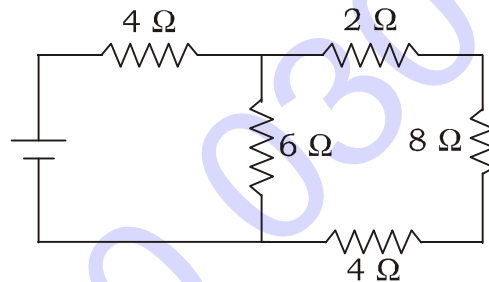
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PART—B

15×4=60

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

11. State and explain the Kirchoff's laws.
12. Find the total equivalent resistance of the circuit in the diagram given below :



13. Draw and explain the welding generator.
14. (a) Explain forward and reverse running of AC 3-phase induction motor.
(b) Draw the neat sketch of DOL starter.
15. Explain the working principle of AC 3-phase induction motor.
16. Explain the working principle of an alternator.
17. Draw and explain the pipe earthing in electrical system.
18. Explain the working of p-n junction diode.

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