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C16-AEI-106

6013

BOARD DIPLOMA EXAMINATION, (C-16)

JANUARY/FEBRUARY—2022

DAEIE - FIRST YEAR EXAMINATION

BASIC ELECTRICAL ENGINEERING

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 the differences between active and passive circuits.
2. Define junction and branch in circuit.
3. Define the term phase.
4. Define Q factor.
5. Draw the phasor diagram of pure resistive circuit.
6. State about the heat produced due to flow of current.
7. Define thermal efficiency.
8. State the need for cooling methods of transformer.
9. State the losses in transformer.
10. Classify DC machines with reference to excitation.

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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. Explain the Kirchhoff's current and voltage laws.
12. Explain star and delta configuration.
13. Compare series resonance and parallel resonance.
14. Derive the relationship between voltage and current in pure capacitive circuit.
15. Explain the working of electric cooker with a diagram.
16. Explain the principle of transformer with a diagram.
17. Explain the principle of auto transformer and list their applications.
18. Explain the construction of DC machine.

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