



C09-EE-402

3474

BOARD DIPLOMA EXAMINATION, (C-09)

MARCH/APRIL—2021

DEEE - FOURTH SEMESTER EXAMINATION

AC MACHINES - I

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 the word 'Transformer'.
2. Distinguish between Shell Type and Core Type Transformers.
3. List the power losses occur in a Transformer.
4. State the advantages of Three Phase Transformers over Single Phase Transformers.
5. State the applications of Autotransformer.
6. State the location and function of Breather and Conservator in Transformer.
7. Name the main parts of an Alternator and specify the materials used for those parts.
8. Define Voltage Regulation of an Alternator.
9. Define the term Synchronous Impedance.
10. State the conditions for synchronization of alternators.

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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. Explain the working of single phase transformer.
12. Explain the procedure for finding R_o and X_o from No Load test.
13. Develop the vector diagram of a Transformer on Load with Unity Power Factor.
14. Differentiate between distribution transformer and power transformer.
15. Explain any two methods of Cooling of Power Transformers.
16. Explain the working principle and working of Alternator.
17. Explain Armature Reaction in Alternator at different Power Factors.
18. Explain the procedure of Synchronization using Lamps.

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