



C20-AEI-106

7013

BOARD DIPLOMA EXAMINATION, (C-20)

SEPTEMBER/OCTOBER—2021 DAEI -

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. Define the term junction and branch.
2. Define the term ideal voltage source.
3. Define the term phase.
4. Write the formula of impedance and power in RL series circuit.
5. Define the term Q factor.
6. State the heat produced due to flow of current.
7. List the cooling methods of transformer.
8. State the losses in transformer.
9. Write the EMF equation of DC generator.
10. Define the term efficiency of DC machines.

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PART—B

8×5=40

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

11. Explain Star and Delta circuits with diagram.

OR

Explain Kirchhoff's laws with examples.

12. Derive the relationship between voltage and current in pure resistive circuit.

OR

Differentiate between series and parallel resonance.

13. Explain the construction and working of electric iron with diagram.

OR

Explain the construction and working of filament lamp with diagram.

14. Explain the working principle of transformer with diagram.

OR

Explain the working principle of autotransformer with diagram.

15. Explain the construction of DC machine with diagram.

OR

Explain the principle of alternator with diagram.

PART—C

10×1=10

- * **Instruction :** (1) Answer the following question that carries **ten** marks.

16. Derive the resonance frequency in parallel resonant circuit.

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