



C09-MNG-303

3263

**BOARD DIPLOMA EXAMINATION, (C-09)
MARCH/APRIL—2018
DMNG—THIRD SEMESTER 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.

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1. What is a storage battery?
2. List the parts of nickel-iron cell.
3. A capacitor of 50 F is connected to a 500 V and 50 Hz supply. What will be the current flowing through it?
4. Define alternating current.
5. What are the losses that take place in a transformer?
6. Define efficiency of a transformer.
7. Define slip.

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8. Classify the three-phase induction motors.
9. List the methods of controlling of glare.
10. Draw the cross-section of bitumen insulated cable.

PART—B

10×5=50

Instructions : (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. A series R - L - C circuit has $R = 5 \Omega$, $L = 0.5 \text{ H}$ and $C = 10 \mu\text{F}$. A 200 V and 50 Hz supply is applied across the circuit. Find the current and voltage across each element.
12. The voltage applied to a coil having $R = 200 \Omega$ and $L = 638 \text{ mH}$ is represented by $v = 200 \sin 314t$. Find the impedance, maximum value of current, power factor and average power taken by the coil.
13. Describe the constructional details of transformer with a neat sketch.
14. Describe the constructional details of an alternator.
15. Explain the direct online starter with neat sketch.
16. Explain the types of rotor used in three-phase induction motor.
17. Explain the effects of glare and methods of control.
18. Explain briefly the methods of improving illumination in underground mines.
