3263

BOARD DIPLOMA EXAMINATION, (C-09)

MARCH / APRIL - 2019

DMNG – III 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) *Answer should be brief and straight to the point.*

1   Write the chemical equations during charging and discharging of Nickel Iron cell.

2   What is a storage battery ?

3   Write the equations of active and reactive components of current of an RI series circuit.

4   Draw the vector diagram of RLC series circuit if $X_L > X_C$.

5   Define transformer ?

6   What are the losses that take place in a transformer.

7   A 4 pole, 3Φ induction motor operating from a supply runs at synchronous speed of 300r.p.m. Calculate the frequency of the motor.

8   Classify the single phase induction motors.

9   List the places to be illuminated below the ground.

10   Define M.H.C.P.

PART - B 10×5=50

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

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

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

11 A sine wave has peak value 50V determine the following values a) rms value b) average value c) form factor d) peak factor e) sinusoidal voltage.

12 A capacitor of $20\mu F$ is connected in series with a resistor of 100 Ω, across a A.C supply of 50Hz. If the voltage across capacitance is 25V. Find the supply voltage.

13 Describe the i) losses in a transformer, ii) efficiency of a transformer and iii) voltage regulation of a transformer.

14 Describe the constructional details of an alternator.

15 Describe the constructional details of an induction motor.

16 Explain the Direct On line starter with neat sketch.

17 a) Explain the effects of glare.

b) Describe the methods of control of the glare.

18 Explain care and maintenance of underground cables.

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