C09-MNG-303

3263

BOARD DIPLOMA EXAMINATION, (C-09)
OCTOBER/NOVEMBER-2018
DMNG-THIRD SEMESTER EXAMINATION

BASIC ELECTRICAL ENGINEERING

Time : 3 Hours] [Total Marks: 80

PART-A

3X10=30

Instructions : 1. Answer **All** questions.
2. Each question carries THREE marks
3. Answer should be brief and straight to the point

1. Briefly write about the construction of a nickel-Iron cell.
2. What is a storage battery?
3. What are the values of form factor and peak factor of an alternating sinusoidal quantity?
4. Draw the circuit diagram of an RLC series circuit with the Vector diagram.
5. State the working principle of a transformer.
6. What are the losses that take place in a transformer?
7. Classify the three phase induction motors.
8. A 4 pole, 3Φ induction motor operating from a supply has synchronous speed as 300 r.p.m. Calculate the frequency of the supply.
9. Draw the diagram of Bitumen insulated cable.
10. Define glare.

PART-B

10X5=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 coil having a resistance of 6Ω and an inductance of 0.03H, is connected across a 230V, 50Hz supply. Find (a) Current (b) Phase angle (c) power factor (d) volt-ampere.
12. A capacitor of 20μF is connected in series with a resistor of 100Ω, across an A.C supply of 50 Hz. If the voltage across capacitance is 25V. Find the supply voltage.
13. Explain the (i) Losses in a transformer (ii) efficiency of transformer and (iii) voltage regulation of transformer.
14. Describe the constructional details of an induction motor.
15. Describe the salient pole rotor with a neat sketch.
16. Explain the working of star-delta starter with a neat sketch.
17. Explain effects of glare and methods of controlling it.
18. Explain cable jointing methods of U/G vertical shafts.

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