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C14–MNG–302

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BOARD DIPLOMA EXAMINATION, (C–14)

MARCH/APRIL—2018

DMNG—THIRD SEMESTER EXAMINATION

BASIC ELECTRICAL AND ELECTRONICS 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 and shall not exceed *five* simple sentences.

1. State Flemings right hand rule.

2. Classify the DC generators based on excitation.

3. Define *(a)* frequency and *(b)* time period.

4. Define *(a)* active element and *(b)* passive element in electrical circuit.

5. Classify the losses in transformers.

6. State voltage regulation of a transformer.

7. Define torque of an induction motor.

8. Classify the starters used in three phase induction motors.

9. Identify majority and minority carriers in Pand N type materials.

10. Sketch forward bias V-I characteristics of diode.

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. Explain constructional details of DC generators with a neat sketch.

12. Describe with connection diagram of a DC three point starter.

13. A pure resistance of 50 is connected in series with a pure capacitance of 100 F across 100 V, 50 HZ supply. Find *(a)* impedance, *(b)* current, *(c)* voltage across resistor and capacitor *(d)* power factor and *(e)* power consumed in the circuit.

14. Explain the maintenance aspects of transformer.

15. Explain the constructional details of an alternator with a neat sketch.

16. Explain the construction and working principle of a dynamometer type wattmeter with neat sketch.

17. Explain the working of *P-N-P* and *N-P-N* transistors.

18. Explain the working of LED and mention any three applications of it.

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