238   Register No.: [   ]

April 2024

[N.B.   1.   Answer all questions under Part-A. Each question carries 3 marks.

2.   Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.]

PART – A

1.   What is Electromagnetic induction?

2.   What are the effects of armature reaction?

3.   What is meant by back emf?

4.   Draw the speed-torque curve of DC shunt motor.

5.   What is transformer?

6.   What is step up and step down transformers?

7.   Mention the four vector groups of 3 phase transformer.

8.   Write the equations of load shared by two transformers having equal and unequal ratings.

9.   State the objectives of the plant maintenance.

10.   What is meant by earthing?

[Turn over.....

PART – B

11. (a) (i) Derive EMF equation of DC generator. (7)

    (ii) A DC generator having 8 poles develops an emf of 500 V at 400 rpm. The armature has 144 slots and each slot contains 6 conductors. The winding is lap connected. Calculate the flux per pole. (7)

    (Or)

    (b) Explain the load characteristics of DC shunt generator.

12. (a) Explain with a neat sketch, the principle of working of DC motor.

    (Or)

    (b) Explain the various speed control methods for DC series motor.

13. (a) Explain with a neat diagram the constructional details of core type transformer.

    (Or)

    (b) Explain with a neat diagram the constructional details of auto transformer.

14. (a) Explain the constructional details of 3 phase transformer.

    (Or)

    (b) Explain about any three transformer accessories.

15. (a) Explain the resurfacing process of commutator in DC machines.

    (Or)

    (b) Explain about BDV test with a neat diagram.

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