

Code: A-E223115-M

I SEMESTER EXAM - 2024-25

1 x 50

Std.: XI

Sub: Electrical Maintenance - II

Marks: 40

Date: _____

Roll No.: _____

Time: 2½ hrs

Q.1 Fill in the blanks attempt any four of the following :

(04)

- 1) The unit of magnetic flux is _____
a) Ampere b) Volts c) Weber
- 2) _____ Converts mechanical energy into electrical energy.
a) generator b) motor c) transformer
- 3) _____ Generator is known as the booster generator.
a) series b) shunt c) compound
- 4) The function of a commutator is to convert _____
a) AC to DC b) DC to AC c) DC to DC
- 5) The unit of capacitance is _____
a) Henry b) farad c) Ohms
- 6) The value of applied EMF is always _____ the applied voltage.
a) equal to b) less than c) more than

Q.2 Attempt any six of the following :

(12)

- 1) Define the following terms a) Magnetic flux b) Magnetic axis
- 2) Write the advantages of electromagnetism.
- 3) Write any four applications of the DC series motor.
- 4) What is meant by back EMF what is its relation to the applied voltage?
- 5) Define the following terms a) instantaneous value b) frequency
- 6) What is DC motor? On what principle it works?
- 7) Explain Faradays law of electromagnetic induction?

Q.3 Attempt any four of the following :

(12)

- 1) Explain with diagram flemings right hand rule.
- 2) What are the different types of DC motors explain any one of them with diagram.
- 3) Classify the dc generators.
- 4) A four pole wave wound armature has 500 conductors and flux of 0.02 Web per pole, find the EMF induced in the armature when running at the speed of 800 RPM.
- 5) A capacitor has a capacitance of 100 microfarad find its capacitive reactance if the capacitor is connected across a supply of 250 volt 50 hertz AC supply what current will it take.

Q.4 Attempt any three of the following :

(12)

- 1) Explain the construction and working of generation of alternating current.
 - 2) An inductive coil with the resistance of 50 ohms and an inductance of 0.35 Henry is connected to a 250 volt 50 Hertz supply find a) inductive reactance b) Impedance c) current d) power factor.
 - 3) Daw a neat labelled diagram of 3 point starter of a DC shunt motors.
 - 4) Draw a neat labelled diagram of 4 point starter for motor.
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