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221534

3rd Sem / Branch : Instrumentation & Control
Sub.: Electrical Machines

Time : 3Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 The armature of a DC machine is laminated
- a) To improve heat dissipation in the armature
- b) To reduce copper losses
- c) To reduce iron losses
- d) To increase flux density

Q.2 Power drawn by a transformer on no load is required to meet mainly
- a) Copper losses b) Iron losses
- c) Rotational losses d) Load losses

Q.3 The starter is used in a DC motor
- a) To increase the starting torque
- b) To increase back EMF.
- c) To reduce the speed of the motor
- d) To reduce the starting current

Q.4 A good servo motor should provide high torque at all
- a) Loads b) Frequencies
- c) Speeds d) Voltages

Q.5 An ideal transformer is considered to have

a) Zero resistance of the primary and secondary winding

b) Zero iron loss

c) No leakage of magnetic flux

d) All of the above

Q.6 The core of a transformer is generally made of

a) Mild steel b) Silicon steel

c) Non magnetic d) Material Cast iron

SECTION-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Write one application of the DC machine.

Q.8 Define flux.

Q.9 What is torque angle?

Q.10 Define generator.

Q.11 Define DC motor.

Q.12 What is back E.M.F. in D.C.motor?

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 What is the importance of voltage regulation of a transformer?

Q.14 Why stator of an induction motor is laminated?

Q.15 What are the different types of excitation of DC machines?

Q.16 Write the advantages and disadvantage of a servo motor.

Q.17 Write about the application of a synchronous machine.

Q.18 Write about the main parts of a transformer.

Q.19 Explain the function of the commutator in a DC machine.

Q.20 Write about the double field revolving theory.

Q.21 State the difference between a motor and a generator.

Q.22 Write the application of the DC machine.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Explain various parts of DC motor.

Q.24 Explain the principle of operation and constructional details of single phase transformer.

Q.25 Explain the construction and working of single phase induction motor.