Q.24 Explain the construction and working of hybid stepper motor.

Q.25 Write a short note on following

a) Current transformer and Potential transformer.

b) Micro-motors

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3rd Sem / Instrumentation & Control

Subject : Electrical Machines

Time : 3 Hrs. M.M. : 60

SECTION-A

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

Q.1 Core of transformer is laminated to reduce to:

a) Eddy current loss b) Hyteresis loss

c) Copper loss d) All of these

Q.2 In electromechanical energy conversion device, the angle between rotor field and main magnetic field is called:

a) Mechanical angle b) Electrical angle

c) Torque angle d) None of these

Q.3 Starter is used in a dc motor:

a) Reduce starting current

b) To increase starting torque

c) To increase back emf

d) To reduce speed of motor

Q.4 Synchronous speed of induction motor depends on:

a) Frequency b) No. of stator poles

c) Applied voltage d) Both a & b

Q.5 A servomotors should provide high torque at all

a) Loads b) Frequencies

c) Speeds d) Voltages

Q.6 A good servo motor should provide high torque at all:

a) Loads b) Frequencies

c) Speeds d) Voltages

SECTION-B

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

Q.7 Name the working principle of transformer.

Q.8 Define generator.

Q.9 Armature of dc machine is laminated to reduce_____.

Q.10 What is power factor?

Q.11 Define DC motor

Q.12 What is back emf?

SECTION-C

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

Q.13 What is torque development by alignment of two fields?

Q.14 Explain losses of transformer.

Q.15 Explain Lenz law.

Q.16 Write any two applications of the DC machine.

Q.17 Stator of an induction motor is laminated. Why?

Q.18 How can we control the speed of dc servo motor?

Q.19 Give the expression for efficiency of transformer?

Q.20 Explain the working principle of dc motor.

Q.21 Write down the main parts of the transformer.

Q.22 What is cross field theory.

SECTION-D

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

Q.23 Explain the working and types of transformer.