Section-D

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

Q.23 Explain the working principle of voltage generation in the secondary winding of a single phase transformer.

Q.24 Explain the construction and working theory of a stepper motor with its two applications.

Q25 What is synchronous motor, explain the working behaviour of a single phase synchronous motor?

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3rd Sem. / Instrumentation & Control Engineering
Subject : Electrical Machines

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

Q.1 What is the working principle of a Transformer?

a) Transformer works on the principle of Self induction

b) Transformer works on the principle of mutual induction

c) Transformer works on the principle of ampere law

d) Transformer works on the principle of coulomb law

Q.2 What is the most common type of feedback sensor used in servo motors?

a) Encoder b) Potentiometer

c) Hall sensor d) Tachometer

Q.3 Commutator is DC generator is used for

a) Collecting of Current

b) Reduce losses

c) Increase efficiency

d) Convert AC armature current into DC

Q.4 Starting winding of a single phase induction motor is place at

a) Rotor b) Armature

c) Field d) Stator

Q.5 Power factor of an induction motor is :

a) Low at light loads

b) Low at heavy loads

c) Low at rated loads

d) Low at light loads as well as heavy loads

Q.6 A stepper motor is a

a) AC to DC convertor

b) DC to DC convertor

c) DC to AC convertor

d) Digital to Analog convertor

Section-B

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

Q.7 Define Iron losses in a transformer.

Q.8 What is servo motor?

Q.9 Write one application of synchronous motor.

Q.10 What is the use of field winding in a DC motor?

Q.11 What do you understand by electromotive force?

Q.12 How three phase supply in different from single phase supply?

Section-C

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

Q.13 Write down different applications of a DC motor.

Q.14 Write the concept and uses of micrometers.

Q.15 What is a transformer and classify it on the basis of core construction?

Q.16 What are the factors which determines the speed of a DC motor?

Q.17 State the Farady's law of electromagnetic induction.

Q.18 How commercial efficiency is different from all-day efficiency of a transformer?

Q.19 Write a comparison between a generator and a motor.

Q.20 What are the advantages and disadvantages of a synchronous motor?

Q.21 Briefly explain the types of servo motor.

Q.22 Define following terms

a) Magnetic Flux b) Step up transformer

c) Commutator d) CVT