

- Q.26 Explain the working of shaded pole motor.
- Q.27 What is significance of back e.m.f.?
- Q.28 How can a synchronous motor can be made self-starting?
- Q.29 State the function of damper windings in synchronous motor.
- Q.30 Explain Lenz's law.
- Q.31 What are the advantage of 3- phase motor over single phase?
- Q.32 Explain the construction of transformer.
- Q.33 What are the methods of speed control of dc motor.
- Q.34 Explain the principle of 3-phase induction motor.
- Q.35 Explain permanent magnet stepper motor.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain construction and working of hybrid stepper motor.
- Q.37 State different applications of synchronous motor .
- Q.38 Explain working of a 3 point dc shunt motor starter.

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**3rd Sem / Eltx,EI,IC,Medical Eltx(5thsem)
Power Eltx, Elect. & Eltx. Engg.
Subject:- Electrical machines**

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Various phases of 3 phase system have a phase difference of
- a) 60
 - b) 120
 - c) 90
 - d) 180
- Q.2 Power in a three phase system can be measured by
- a) 3 Wattmeter
 - b) 2 Wattmeter
 - c) using 3 phase wattmeter
 - d) any of above method
- Q.3 Core of transformer is generally made of
- a) Mild steel
 - b) Silicon steel
 - c) Non-magnetic material
 - d) Cast iron
- Q.4 An ideal transformer is considered to have
- a) Zero resistance
 - b) No leakage of magnetic current

- c) Zero iron loss
d) All of above
- Q.5** A machine that converts electrical energy into mechanical energy is called
 a) Generator b) Motor
 c) Both a & b d) None of these
- Q.6** When observer looks in the direction of rising potential it is represented by
 a) dot in a circle b) cross in a circle
 c) both a & b d) None of these
- Q.7** Number of parallel paths in a 6 pole wave wound armature of dc machine is
 a) 6 b) 3
 c) 2 d) 12
- Q.8** A dc series motor is suited for driving a
 a) Lathe b) Machine tool
 c) Crane d) Constant speed load
- Q.9** The relative speed of stator flux of an induction motor is zero w.r.t.
 a) Statorwinding b) rotor
 c) rotor flux d) Space
- Q.10** Synchronous speed of induction flux motor depends upon
 a) Frequency b) No. of stator poles
 c) Applied voltage d) Both a & b

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SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 What is stepping frequency ?
 Q.12 Define step angle ?
 Q.13 What is transformation ratio ?
 Q.14 What is step down transformer ?
 Q.15 What is the function of primary winding ?
 Q.16 Define induced E.M.F.
 Q.17 Define motor .
 Q.18 What is electromagnetic induction ?
 Q.19 Define commutator ?
 Q.20 What is lap winding ?

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Comparison between star and delta system ?
 Q.22 Explain two wattmeter method .
 Q.23 State faraday's laws of electromagnetic induction.
 Q.24 Explain losses of transformer .
 Q.25 Describe construction and working of a single phase induction motor .

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