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Electrical Engg. Power Station Engg. Elect & Elx Engg.
Subject:- Electrical Machines - II

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 At start, the slip of the induction motor is (CO4)
a) zero b) 0.5
c) 1 d) infinite

Q.2 For high starting torque, the most suitable 3-phaseinduction motor is (CO3)
a) Slip ring b) squirrel cage
c) deep bar squirrel cage d) all of the above

Q.3 Slip rings of phase wound induction motor are made of (CO4)
a) carbon b) cast iron
c) steel d) copper

Q.4 For ceiling fans, generally the single phase induction motor used is (CO9)
a) Shaded pole
b) Capacitor start
c) permanent Capacitor type
d) Capacitor start and capacitor run

Q.5 The Shaft of an alternator is made up of (CO1)
a) Silicon steel b) mild steel
c) Brass d) cast iron

Q.6 The frequency of voltage generated in large alternators in India is (CO1)
a) 0Hz b) 25 Hz
c) 60 Hz d) 50 Hz

Q.7 Which motor is generally used in tape recorders (CO9)
a) Hysteresis motor b) Split phase motor
c) Reluctance motor d) Universal motor

Q.8 Synchronous speed in RPM of a 5HP, 400 V, 50 Hz, 4 poles three phase induction motor will be (CO6)
a) 750 b) 1500
c) 3000 d) None of the above

Q.9 The motor which is used in the control system are called (CO10)
a) Stepper motor
b) Linear induction motor
c) Servo motor
d) Synchronous motor

Q.10 A motor in which the rotor turns in discrete movement is called (CO10)
a) Servo motor
b) Linear induction motor
c) Stepper motor
d) Universal motor

SECTION-B

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

Q.11 The direction of 3-phase induction motor can be reversed by_____ (CO5)

Q.12 1-phase A.C. series motor is designed to operate at high speed. (True/False) (CO9)

Q.13 Over excited synchronous motor working at no load behaves like a _____ (CO3)

Q.14 Give expression % slip = (CO4)

Q.15 Give any two applications of slip ring induction. (CO3)

Q.16 Universal motor can work on _____and____supply (CO10)

Q.17 The rating of alternators is usually expressed in ____ (CO1)

Q.18 Write down full form of LIM. (CO10)

Q.19 Hunting in a synchronous motor can be minimised by using_____winding. (CO1)

Q.20 The value of distribution factor is always_____ than one. (CO4)

SECTION-C

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

Q.21 Explain the working principle of a 3-phase induction motor. (CO4)

Q.22 Write a short note on double revolving field theory. (CO9)

Q.23 Write a short note on stepper motor and its application. (CO10)

Q.24 Explain the various types of losses occur in a 3-phase induction motor. (CO4)

Q.25 Make a list of types 1-phase induction motor. And its applications. (CO9)

Q.26 Explain the working principle of a Hyteresis motor

and its uses. (CO9)

Q.27 Derive the condition for maximum torque of a 3-phase induction motor. (CO4)

Q.28 Write down the necessary conditions for parallel operation of alternators. (CO1)

Q.29 Write comparison between 3-phase induction and synchronous motor. (CO5,1)

Q.30 Define hunting, its causes and its preventive measures. (CO1)

Q.31 Write down the various applications of a synchronous motor. (CO2)

Q.32 Explain how a synchronous motor is made the self-starting. (CO1)

Q.33 Drive an expression for induced e.m.f of an alternator. (CO1)

Q.34 Explain the working of double cage Induction motor and its applications. (CO7)

Q.35 Draw and explain in brief about the torque-slip curve of a 3-phase induction motor. (CO4)

SECTION-D

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

Q.36 Explain the construction of an alternator with neat sketch. (CO1)

Q.37 Explain the construction, principle and working of a universal motor with neat sketch (CO9)

Q.38 Explain clearly the effect of change in excitation of a synchronous motor with phasor diagram. (CO2)

Note : Course Outcome (CO) mentioned in the question paper is for official purpose only.