

## Important Question of Electrical Machine-II

Q1 Explain the working and construction of synchronous motor

Q2 A 4-pole, 50Hz, 7.4 KW motor, at rated voltage and frequency has a starting torque of 150% and a maximum torque of 200% of full load torque. Calculate

(i) Full load slip

(ii) slip at maximum torque

Q3 Explain Torque-slip curve for 3 phase Induction motor

Q4 Draw and explain the equivalent circuit of a 3-phase Induction motor

Q5 Describe the construction of induction of induction motor

Q6 Differentiate between squirrel cage and slip induction motor

Q7 Discuss graphically how a rotating field is produced in the air-gap of three phase induction motor. What is the speed of this field and how it's rotational direction is reversed.

Q8 Can a single phase motor be self starting? If not, how can they be started?

Q9 Explain in brief the principal of operation of servo motor and give their applications.

Q10 Derive the equation for emf in case of synchronous machine.

Q11 Explain the working principle of synchronous motor. Give it's applications

Q12 Give the differences between induction machine and synchronous machine.

Q13 Explain how efficiency of a dc machine can be found out without actually loading the machine.

Q14 If the emf in the stator of an 8-pole induction motor has a frequency of 50Hz, and that in the rotor 1.5Hz, at what speed is the stator running and what is the slip.

Q15 The power input to a three-phase induction motor is 50kw and the corresponding stator losses are 2kw. Calculate (a) the total mechanical power developed and the rotor  $I^2 R$  losses when the slip is 3per cent, (b) the output horse power of the motor if the friction and windage losses are 1.0kw, and (c) efficiency of the motor

Q16 Explain why an induction motor draws heavy current as compared to it's full load current at starting.

Q17 Explain why the power of an induction motor is very low at starting.

Q18 Explain why an induction motor cannot run at synchronous speed ?

Q.19 What is the relative speed between rotor field and armature field.

Q20 Define synchronous speed.

Q 21 How do we keep the terminal voltage of synchronous voltage constant

Q 22 Explain armature reaction for different load power loads of synchronous generator

Q23 Describe power angle curve .

Q24 Define V curves.

Q25 How the rotating field is developed in case of induction motor using mmf.