

1st internal Examination
Energy Conversion - II
5th Semester, Diploma
Electrical Engineering.

Full marks = 20.

1. Answer all the questions
 - (a) In which motor high starting torque is produced and why?
 - (b) What do you mean by distribution factor?
 - (c) What do you mean by plugging?
 - (d) What is slip in induction motor?
 - (e) Why slip of an induction motor varies?
2. A 20 kW, 4 pole, 50 Hz, 3- Φ induction motor has friction and winding loss of 3% of the output. The full load speed of the motor is 1440 rpm. Find ~~the~~ for full-load (i) rotor copper loss (ii) rotor input (iii) shaft torque (iv) gross electromagnetic torque.
3. Derive the condition for maximum starting torque in a 3- Φ induction motor.

End Internal Examination
Energy Conversion - II
5th Semester, Diploma
Electrical Engineering

Full marks = 20

1 Answer all the questions

(a) Why transformer rating is expressed in kVA ?

(b) Which type of Alternator is used for hydroelectric power plants and why ?

(c) What is hunting ?

(d) Why a starting winding is needed for single phase

motor ?
(e) Write the application of universal motor ?

2. A 3- ϕ , 6600V, 50Hz, star connected synchronous motor takes 50 A current. The resistance and synchronous reactance per phase are 1Ω and 20Ω respectively. Find the power supplied to the motor and induced emf when pf is (i) 0.9 lagging and (ii) 0.9 leading.

3. Write notes on maintenance of transformer.