Assignment 8

Due on: 2018-10-25, 23:59 IST

1. A rectangular permanent magnet 15 cm wide is to be a quasi-adiabatic current of 250 J/pole pair, such that the current density is constant throughout. The magnetic field is given by the formula: $B = \frac{H}{4\pi}$. Find the current density $j$ in the magnet.

2. The torque applied to the motor in Nm is 4.5 Nm. Calculate the input power $P$ in W if the efficiency is 85%.

3. The length of a rectangular distribution board is 1.8 m. Calculate the distance between the two adjacent poles of the board.

4. The operating mode of synchronous/motor driven motor for speed less than base speed is:

5. A machine of the following type should be procured and used for overhead hoisting soar
tamer (OOS):

6. Effect of deflection of enclosure depended on:

7. Consider the following statement: A motor is assumed to have a constant efficiency of 85% and a constant power factor. Calculate the input power $P$ in W if the output power is 1.5 kW.

8. A machine is to operate at a constant speed of 1000 rpm. Calculate the corresponding frequency of the supply

9. A 3-phase induction motor is connected to a 440 V, 3-phase, 50 Hz supply. Calculate the motor's slip.

10. A single-phase induction motor is connected to a 230 V, 50 Hz supply. Calculate the motor's slip.

11. A 3-phase induction motor is connected to a 440 V, 3-phase, 50 Hz supply. Calculate the motor's slip.

12. A 3-phase induction motor is connected to a 440 V, 3-phase, 50 Hz supply. Calculate the motor's slip.

13. A 3-phase induction motor is connected to a 440 V, 3-phase, 50 Hz supply. Calculate the motor's slip.

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