

[illegible]

Total No. of Questions : 8

ENERGY EFFICIENT MACHINES

Paper ID : [51075]

Max. Marks : 60

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWELVE marks.

1. (a) What are the factors affecting the performance of operation of an Induction Motor?
(b) Name the instruments required for an Energy Audit.
2. (a) What are high efficiency motors ? How they are different from ordinary motors?
(b) How can you improve the efficiency of a motor under low load condition?
3. (a) With a typical case analysis explain the energy saving in an electric fan cooling system.
(b) How do you select a motor for a particular application?
4. (a) Explain the tariff options for Demand side Management.
(b) Give an account of Energy conservation Act - 2001.
5. (a) What are variable frequency drives ? Mention their benefits over other drives.
(b) What are the various losses that occur in Electrical Drive Systems?
6. It is desired to correct a 50-hp motor with a power factor of 87% up to a 95% under rated load. The motor's efficiency at rated load is 91 %.
7. (a) Explain the characteristics of an induction motor operating on adjustable- frequency power supply.
(b) Discuss the application of adjustable speed system to FANS.
8. Write notes on :
(a) Direct saving and pay back analysis in energy efficient motor system.
(b) Impact of motor efficiency.