Roll No. | | | | | | | | | | | | |

Total No. of Pages : 01

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M.Tech. (EE) (2013 Batch E-III) (Sem.–3)

ENERGY EFFICIENT MACHINES

Subject Code : MTEE-301A

M.Code : 72238

Time : 3 Hrs. Max. Marks : 100

INSTRUCTION TO CANDIDATES :

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

Q.1 a) Brief about methods of determining energy cost .What are feature of two part tariff system ?

b) What are possible ways of energy conservation options in sugar industry? Explain

Q.2 What are type of energy auditing? Explain the procedure for detailed energy auditing and its reporting format.

Q.3 Write mathematical formulas used for improvement in energy efficiency. Also, show through the characteristics curves for the impact of electrical parameters to save energy.

Q.4 What are causes of harmonics generation ? Explain various methods for elimination of harmonics for loss reduction.

Q.5 What do you mean by constant load torques electric motor operation? Write applications of constant load torque motor with justification for the purpose.

Q.6 Discuss the principle and operation of adjustable frequency power supply to polyphone induction motor. What are advantages and disadvantages of frequency adjustable drive ?

Q.7 An 8 pole, 50 Hz, 3-phase induction motor develops a maximum torque of 150 N-m at 650 rpm .The rotor resistance is 0.5Ω per phase. Find torque at 4% slip. Neglect the stator impedance.

Q.8. Write short notes on :

a) Energy efficient motor standards

b) Loss segregation method

c) Saving and payback analysis

d) Over motoring.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.