

2014

B.E. (Electrical and Electronics Engineering)

Sixth Semester

EE-613: Energy Management and Auditing

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Part.

x-x-x

1. (a) What is energy conservation? What is its importance?
- (b) Write main objectives of energy management.
- (c) Define contract demand and billing demand.
- (d) Write about the control gears that are used in lightning equipments?
- (e) What is role of Ballast in electric circuit?

(5*2)

PART-A

2. Discuss the latest energy scenario in India. Also, discuss role of renewables in today's energy scenario. (10)
3. Write and explain any four key instruments used for energy audit. Write their specific features. (10)
4. (a) Write various responsibilities and duties of Energy Manager as per The Energy Conservation Act, 2001.
- (b) What are different elements of energy monitoring and targeting system? (5, 5)

PART-B

5. (a) A 3-phase, 415 V, 100 kW induction motor is drawing 50 kW at a 0.75 pf. Calculate the capacitor rating requirements at motor terminals for improving pf to 0.95. also calculate the reduction in current drawn and kVA reduction, from the point of installation back to the generated side due to the improved pf.
- (b) What are total harmonic distortion and its effects on electric system? (5, 5)
6. Discuss step by step methodology of lighting system for energy efficiency study. (10)
7. (a) Explain Maximum Demand controllers.
- (b) Explain various Variable Speed Drives of induction motor. (5, 5)

x-x-x