

Roll No

EE/EX-605

B.E. VI Semester

Examination, December 2016

Energy Conservation And Management

Time : Three Hours

Maximum Marks : 70

- Note:** i) Answer five questions. In each question part A, B, C and D is compulsory.
ii) All parts of each question are to be attempted at one place.
iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.
iv) Except numericals, Derivation, Design and Drawing etc.

Unit - I

1. a) What are primary and secondary energy sources?
b) What parameters are measured with the following instruments.
i) Pilot tube ii) Power analyser
c) Which diagram is used to represent energy balance of a system and why?
d) What are the various measures required for maximizing system efficiency and what do you understand by optimizing input energy requirement?

OR

What are the elements of monitoring and targeting system, explain them.

Unit - II

2. a) Explain why heat rate for back pressure turbine is greater than condensing turbine.
b) What is tribo-logical innovations?
c) Difference between predictive and preventive maintenance.

- d) Discuss the significance of second law of Thermodynamics and entropy in energy conservation.

OR

What are the different techniques in waste heat recovery in thermal system?

Unit - III

3. a) What is DSM and its significance?
b) What are the special features of two-part tariff?
c) Why fresh investments are needed for energy conservation in industry?
d) How payback period calculated when comparing feasibility of energy management technique?

OR

How energy can be stored in electrical and mechanical form?

Unit - IV

4. a) Name only two automatic power factor control methods.
b) How friction and windage losses be reduced in motors?
c) Define ILER and its significance.
d) List the factors affecting energy efficiency in motors. Explain the ways to improve energy efficiency in motors.

OR

How energy conservation in electric traction system can be achieved?

Unit - V

5. a) What do you understand by the term colour rendering index?
b) What is an HVAC system?
c) What are the major areas where the cogeneration system in applicable?
d) What are energy conservation equipments? Explain their role in modern industries.

OR

What are the various challenges faced by industry in energy conservation?
