

Printed Pages : 3



EME065

(Following Paper ID and Roll No. to be filled in your Answer Book)

**PAPER ID : 140861**

Roll No.

--	--	--	--	--	--	--	--	--	--

**B. Tech.**

(SEM. VIII) THEORY EXAMINATION, 2014-15  
**ENERGY MANAGEMENT**

Time : 3 Hours]

[Total Marks : 100

**NOTE :** Attempt all question of the following.**1** Attempt any Five question : **5x4=20**

- (i) Explain the briefly about the various energy conservation schemes.
- (ii) What do understand by energy index and cost index? Explain.
- (iii) List out four objectives of energy management.
- (iv) Distinguish between regenerator and recuperators.
- (v) Write a short note on Energy security.
- (vi) Define renewable and non-renewable energies with two examples of each.
- (vii) What is BEE? State its role in Energy conservation Act –2001.

**2** Attempt any TWO questions. **10x2=20**

- (a) Explain the energy- management center. Also discuss the advantages and limitations of energy management center.
- (b) Discuss the distributed centers and power pool management. Also mention their advantages and disadvantages. Discuss the functions performed at a centralized management center in power system environments.
- (c) Explain the production control and load management economic dispatch in power system environments. Enlist the advantages and disadvantages of load management economic dispatch in systems.

**3** Attempt any TWO questions. **10x2=20**

- (a) Explain the multicontrol centers systems. Also mention their salient features and advantages.
- (b) When a Heat Exchanger was designed its overall heat transfer coefficient was  $600 \text{ Kcal/hr.m}^{20}\text{C}$ . The Heat Transfer area provided is.  $10 \text{ m}^2$ . After a period of time its overall heat transfer coefficient was  $450 \text{ Kcal/Hr.m}^{20}\text{C}$  due to fouling.

Calculate how much additional area is to be added to maintained same rate of heat transfer.

Data :

- (1) Sp. Heat of hot fluid =  $1 \text{ Kcal/ Kg } ^\circ\text{C}$
- (2) Hot fluid entering Temp. =  $80 ^\circ\text{C}$
- (3) Hot fluid leaving Temp. =  $60 ^\circ\text{C}$
- (4) Cold fluid entering Temp. =  $25 ^\circ\text{C}$
- (5) Cold fluid leaving Temp. =  $40 ^\circ\text{C}$

- (c) Conduct energy audit in an engineering industry. Give the methodology of energy audit and audit report.

**4** Attempt any FOUR questions. **4x5=20**

- (a) Discuss briefly about the different method of auditing.
- (b) Explain in details about in various energy sources.
- (c) Explain the energy audit of combustion process.
- (d) What do you mean by Computer aided energy management?
- (e) Discuss briefly about the unites of energy and laws of thermodynamics.

**5** Attempt any FOUR questions. **4x5=20**

- (a) Explain the energy environment interaction and issues.
- (b) Discuss the depletion of ozone layer and energy economy interaction?
- (c) What are national energy plan and energy pricing.
- (d) Discuss briefly about the introduction of energy, form of energy and sources of energy.
- (e) State with reasons the need of Energy Audit in any industry.