

Total No. of Questions : 10]

SEAT No. :

**P172**

[Total No. of Pages : 1

**[5871]-693**

**B.E. (Chemical)**

**ENERGY CONSERVATION IN CHEMICAL PROCESS  
INDUSTRIES**

**(2015 Pattern) (Elective - III) (Semester - II)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *Answer Q.1 or Q2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q.10.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Use of logarithmic tables slide rule, ELECTRONIC POCKET CALCULATOR and steam tables is allowed.*
- 4) *Assume suitable data, if necessary.*

**Q1)** Discuss the energy needs of growing economy. **[10]**

OR

**Q2)** Give the Classification of energy sources. **[10]**

**Q3)** Define energy audit and explain the need, types of energy audit. **[10]**

OR

**Q4)** Explain the role, responsibilities and duties of Energy Manager. **[10]**

**Q5)** Discuss the Human aspect of energy conservation, involvement tree, elements of energy management program. **[16]**

OR

**Q6)** Discuss in detail about the Management and organization of Energy Conservation Programs in Industries. **[16]**

**Q7)** a) Give the checklist for energy conservation in Boilers. **[8]**

b) How and where the energy losses can be minimized in coolers. **[8]**

OR

**Q8)** Explain about the improving Process Operations for Energy Conservation in heat exchangers and evaporators. **[16]**

**Q9)** Explain Waste minimization and Resource Conservation in fertilizer industry. **[18]**

OR

**Q10)** Explain Waste Minimization and Resource Conservation in petroleum industry. **[18]**

