

Total No. of Questions : 10]

SEAT No. :

P2887

[4958]-1078

[Total No. of Pages : 2

T.E.(Instrumentation & Control)

UNIT OPERATIONS & POWER PLANT INSTRUMENTATION

(2012 Pattern)(Semester-II)

Time :2½Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data, if necessary.*

Q1) Enlist any five Unit operations used in Chemical Industry? Explain the principle & purpose of same. **[10]**

OR

Q2) Draw the neat sketch of Distillation column & explain its working in brief.[10]

- Q3)** a) Explain the Evaporation Principle & types of evaporation. **[6]**
b) Explain Nucleation and Crystal Growth in relation with crystallisation.[4]

OR

- Q4)** a) Explain Block diagram of PV system. **[5]**
b) Explain Renewable and non- renewable energy generation resources in brief. **[5]**

- Q5)** a) Explain with block diagram working of thermal power plant. **[8]**
b) Explain air to fuel ratio control in boilers. **[8]**

OR

- Q6)** a) Explain different boiler interlocks in detail. **[8]**
b) Explain principle & working of chemical dosing systems in thermal power plant. **[8]**

- Q7)** a) Explain excess air- combustion chemistry in detail. **[9]**
b) Write note on turbine instrumentation. **[9]**

OR

P.T.O.

Q8) a) Explain condition monitoring & power distribution instrumentation concept in brief. [9]

b) Explain steam temperature control system in Power plant. [9]

Q9) a) Explain effluent management and handling system in power plant. [8]

b) Explain any one type of the reactor used in Nuclear Power Plant with neat sketch. [8]

OR

Q10)a) Compare & contrast hydroelectric & wind power plant. [8]

b) Explain construction and working of electrostatic precipitator. [8]

