



(Time: 3 Hours)

[Total Marks: 80]

- N.B:
- (1) Question No.1 is **compulsory**.
 - (2) Answer any **three** questions from Question Nos. 2 to 6.
 - (3) Assume suitable data if necessary.

- 1 Answer any FOUR of the following questions:- 20
 - (a) Draw and explain crystallization curve.
 - (b) Explain capacity and economy with respect to evaporator.
 - (c) Discuss control parameters in gas turbine.
 - (d) What do you mean by runaway reaction?
 - (e) Explain intrinsic safety.
 - 2 (a) Draw process flow diagram of iron and steel industry and explain its process description. 10
 - (b) Discuss feedforward control scheme of steam heater with merits and demerits. 10
 - 3 (a) Draw and explain process flow diagram of refinery industry. 10
 - (b) What is dryer? Draw its process flow sheet symbol. Explain drying rate curve. 10
 - 4 (a) What is start up heater? Discuss its process and safety control. 10
 - (b) Discuss cascade control scheme of evaporator. 10
 - 5 (a) Explain the process of Penicillin-G production along with its control parameters. 10
 - (b) Discuss overhead and top product composition control scheme of distillation column. 10
 - 6 Write short note-
 - (a) Oxygen trimming combustion control in boiler. 10
 - (b) IEC and NEC hazardous area classification. 10
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