

(3 Hours)

[Total Marks: 80]

N.B. :

- 1) Question No.1 is compulsory
- 2) Answer any three questions from remaining question.
- 3) Draw suitable diagrams wherever required.



1. Answer any **four** of the following questions: - 20
 - (a) Discuss the control parameter in gas turbine.
 - (b) Explain the drying rate curve.
 - (c) Explain capacity and economy with respect to evaporator.
 - (d) Explain the need of safety interlock associated with boiler.
 - (e) List primary and secondary products of refinery unit.
2. (a) Explain instrumentation and control used in atmospheric tray dryer. 10
 (b) Explain with neat sketch milk pasteurization process and its control. 10
3. (a) Explain the need and operation of selective control scheme for two effect evaporator. 10
 (b) List out the raw materials required for Penicillin-G production. Draw process flow diagram and explain production process for Penicillin-G. 10
4. (a) Explain column pressure control scheme for distillation column. 10
 (b) Explain construction and operation of circulation magma crystallizer. 10
5. (a) Explain hazardous area classification as per IEC & NEC standard. 10
 (b) Draw and explain process flow of refinery industry. 10
6. Write short note on- 20
 - (a) Bypass control scheme in Heat Exchanger
 - (b) Startup heater
 - (c) Process of crystallization
 - (d) Instrumentation used in Iron and steel industry