

**M. TECH. –II (CHEMICAL ENGINEERING) (CBCS – 2015
COURSE) : SUMMER - 2018**

SUBJECT: SYNTHESIS AND DESIGN OF CHEMICAL PROCESSES

Day : **Friday**
Date : **15/06/2018**

S-2018-3021

Time: **11.00 AM TO 02.00 PM**
Max. Marks: 60.

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Answer to both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the **RIGHT** indicate full marks.
- 4) Assume suitable data, if necessary.

SECTION-I

Q.1 Write note on: **[10]**

- a) Vapour cycle and purges
- b) Process yield

OR

Write notes on:

- a) Significance of Synthesis and design of chemical processes
- b) Reactor performance

Q.2 Describe various considerations in selection of reactor. **[10]**

OR

Compare continuous and batch processing.

Q.3 Discuss reactor heat-effects. **[10]**

OR

Justify the need of distillation column sequencing.

SECTION-II

Q.4 Describe flexibility criteria for pinch. **[10]**

OR

Describe the various considerations in Heat exchanger design.

Q.5 Write notes on: **[10]**

- a) Personal protective equipments
- b) Environmental acts

OR

Write notes on:

- a) Chemical hazards
- b) Safety aspects is CPI pertaining to handling of chemicals

Q.6 Describe the role of CAD – applications in chemical process design. **[10]**

OR

Describe various scale-up methods used in chemical process industries.

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