

MASTER OF TECHNOLOGY (CHEMICAL ENGINEERING) (CBCS - 2015 COURSE)

M. Tech. (Chemical Engineering) Sem-II :SUMMER- 2022

SUBJECT : SYNTHESIS & DESIGN OF CHEMICAL PROCESSES

Day : Monday

Time : 10:00 AM-01:00 PM

Date : 1/8/2022

S-14181-2022

Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the **RIGHT** indicate **FULL** marks.
 - 3) Answer to both the sections should be written in **SEPARATE** answer book.
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SECTION – I

Q.1 Describe the significance of Synthesis Design in chemical process industry. (10)

OR

With help of appropriate example, illustrate the approach to process design.

Q.2 Describe the factors influencing the choice of reactors. (10)

OR

Illustrate the types of reactor systems with example.

Q.3 Describe the importance of distillation column sequencing. (10)

OR

Describe the significance of residue curves for heterogeneous systems.

SECTION – II

Q.4 Why heat exchanger network is essential in process industry? (10)

OR

Illustrate the Pinch diagram method.

Q.5 Describe the need of personnel protective equipments in chemical process industry. Also mention various PPEs used in industry. (10)

OR

Describe chemical hazard classification.

Q.6 Enumerate the different steps involved in setting up a chemical plant. (10)

OR

Describe the various steps involved in commercialization of a process.

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