B.Tech. SEM -IV (Chemical) 2014 Course (CBCS) : SUMMER - 2019

SUBJECT: CHEMICAL PROCESS INDUSTRIES

Day: Saturday
Date: 01/06/2019

S-2019-2595

Time: 10.00 AM TO 01.00 PM
Max. Marks: 60

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.

Q.1 Define unit operation and unit processes. And give at list 6 examples of each. **[10]**

OR

Illustrate the significance of block diagram and process flow diagram with a suitable example.

Q.2 Describe the manufacturing process for soda ash by Dual process with a neat process flow diagram. **[10]**

OR

Describe the manufacturing of soda-ash by solvay process in detail.

Q.3 Compare contact process v/s chamber process for the manufacture of sulfuric acid. **[10]**

OR

Describe the DCDA process for the manufacture of sulfuric acid.

Q.4 Describe the manufacturing process of urea with a neat process flow diagram. Also mention major engineering problems involved in it. **[10]**

OR

Illustrate kinetics and mechanism of aromatic nitration.

Q.5 Name various sulfating agents and describe their applications in detail. **[10]**

OR

Describe the commercial sulfonation process in detail.

Q.6 Write short notes on: **[10]**

i) Uses of ethylene glycol
ii) Production of methanol

OR

i) Uses of etheloamine
ii) Production of ethylene oxide

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