

(Following Paper ID and Roll No. to be filled in your
Answer Books)

Paper ID : 151663

Roll No.

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B.TECH.

Theory Examination (Semester-VI) 2015-16

PROCESS FLOW SHEET SIMULATION

Time : 3 Hours

Max. Marks : 100

Note: Attempt any five questions :

1. Attempt the followings : (4×5=20)

- (a) Discuss background and history of process simulation.
- (b) Define the terms modules and components with a suitable example in a process simulation package.
- (c) Write a short note on manual flow sheet calculations.
- (d) Define structure and functionality of commercial simulation tools.

2. Attempt the following : (10×2=20)

- (a) Discuss canonical modeling concept in detail.

- (b) Discuss degree of freedom in process flow sheet
Compare the sequential, modular and equation oriented approach of simulation.

3. Attempt the following : (10×2=20)

- (a) Discuss various simulation packages in detail.
- (b) Give the detail procedure for the design and simulation of Nitric acid plant.

4. Attempt the following : (10×2=20)

- (a) Give the detail steps of the flow sheet simulation of flashing of light hydrocarbon.
- (b) Explain method of structuring in complex chemical process.

5. Write short notes on the following: (4×5=20)

- (a) Molecular Modeling
- (b) ASPEN PLUS
- (c) Synthesis of Azeotropic separation systems
- (d) Plant Automation

6. Write short notes on the following: (4×5=20)

- (a) ICARUS

- (b) Flowsheet Presentation
- (c) What do you mean by partitioning and tearing of a flowsheet.
- (d) What are the different approaches to process simulation?

