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ECH024

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

PAPER ID : 151657

Roll No. | | | | | | | | | |

B.Tech

(SEM. VI) THEORY EXAMINATION 2014-15
PROCESS FLOW SHEET SIMULATION

Time : **2** Hours]   [Total Marks : **50**

Note: Attempt **all** the questions.

1   Attempt any **four** parts of the following: **3x4=12**

(a)   Give the criterion for the selection of simulation software. Explain with suitable example.

(b)   Describe the term 'modules and components' with a suitable example in a process simulation package.

(c)   Discuss advantages and limitation of a simulation package.

(d)   Write short note on 'Canonical modeling'.

(e)   What do you mean by flow sheet presentation? Explain tearing with the help of suitable examples.

(f)   What are the procedures for the process modeling.

2 Attempt any **two** parts of the followings: 6x2=12

(a) Compare the sequential, modular and equation oriented approach of simulation.

(b) Describe the procedure for the preparation of thermo-physical properties banks. Explain with suitable example.

(c) What do you mean by simulation packages. Also discuss the features of 'ASPEN PLUS' and 'HYSIS'.

3 Attempt any **two** parts of the followings: 7x2=14

(a) Discuss the advantages and disadvantages of modular based flow sheeting.

(b) Explain degree of freedom in a flow sheet. Give the detail steps of the flow sheet simulation of Vinyl Chloride Monomer (VCM).

(c) Give the detail procedure for the design and simulation of sulphuric acid plant.

4 Write short notes on any four parts of the following:
3x4=12

(a) Computer aided flow sheeting
(b) Steady state and Dynamic simulation
(c) UniSim and TK-Solver
(d) Differential algebraic equation system
(e) ICARUS
(f) Molecular modeling.