

**ASSIGNMENT NO:2 ,DIPLOMA (CHEMICAL ENGG) , V SEM**

COURSE: DIPLOMA (CHEMICAL ENGG) , V SEM , CHEMICAL REACTION ENGG,  
DCHE-353

ASSIGNMENT NO:2

Due date of submission: 10.11.2016

Instructions

1. Write the response to the assignment in your own handwriting.
2. Submit the response to your HOD within the due dates
3. Write your name, programmed and enrolment No. clearly at top of the page

Q.1)

A) Define half life of a reaction and Define expansion factor.

B) Write material balance of A (on mole basis) and energy balance for an element of the reactor volume.

Q.2)

a) The half life period for a certain first order reaction is  $2.5 \times 10^3$  seconds. How long will it take 1/4 of the reactant to be left behind?

b) Define ideal reactor and make classification of ideal reactor.

COURSE: DIPLOMA (CHEMICAL ENGG) , V SEM , AUTOMATIC PROCESS CONTROL, DCHE-354

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Q.1)

- a) What is forcing function and Define Time constant?
- b) Explain 1<sup>ST</sup> order system for a mixing process.

Q.2)

- a) Explain proportional derivative control.

B).Determination of system function or transfer function of the Stirred tank heater with (Sketch physical diagram and block diagram)

COURSE: DIPLOMA (CHEMICAL ENGG) , V SEM , MASS TRANSFER OPERATIONS,  
DCHE-352

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Q.1

- a) Discuss in brief simple distillation and differential distillation.
- b) Explain Diffusion in the gas phase-Equimolecular counters diffusion.

Q.2

- a) . Write short note on Properties of tower packing.
- b).Explain Description and construction of Tray dryer.

**COURSE: DIPLOMA (CHEMICAL ENGG), V<sup>TH</sup> SEM , FUEL AND MATERIAL TECHNOLOGY ,DCHE-351**

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### Q.1

- A). Explain and experimental determination by bomb calorimeter.
- B). Explain any one theory of corrosion.

### Q.2

- a). Give various method of corrosion control
- b) Make classification of polymer.