ASSIGNMENT NO: 1

B.TECH (CHEMICAL ENGG), 5TH SEM

MONAD UNIVERSITY HAPUR (UP)

Programme: **B.Tech.**

Semester: **V**

Course: **ECHE-351,COMPUTER BASED NUMERICAL METHODS**

Assignment No: **1**

Due date of submission: **11.09.2017**

Instructions

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HOD within the due date.
3. Write your Name, Programme and Enrolment Number clearly at the top of the page.

Q.1

a) What are truncation and round off errors ? Define with examples.

b) Find the real root of the equation $x^2 + 4\sin x = 0$ correct to four places of decimal by using Newton Raphson's formula.

Q.2

a) By Gauss elimination method, solve

$$x + 2y + z = 8$$

$$2x + 3y + 4z = 20$$

$$4x + 3y + 2z = 16.$$

b) Using Gauss-Seidel method, solve the following system of linear equations:

$$x+y - z=20\ ,\ \ -x+3y=2,\ \ \ x-2z= 3.$$

PROGRAMME: B.TECH (CHEMICAL ENGG), 5TH SEM,

CHEMICAL REACTION ENGG.-II, ECHE-353

ASSIGNMENT NO:1

Due date of submission: 11.09.2017

Instructions

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Q1)

a) Explain batch reactor with construction, advantage and disadvantage.

b) Write down material balance (mole basis) and energy balance for an element of the reactor volume.

Q.2)

a) Differentiate between holding time and space time for flow reactor.

b) Design a steady state plug flow reactor.

PROGRAMME: B.TECH (CHEMICAL ENGG), 5TH SEM,

MASS TRANSFER OPERATIONS-I, ECHE-352

ASSIGNMENT NO:1
Due date of submission: 11.09.17

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Q1)

a) Explain diffusion process.
b)Define dry bulb temperature. Define dew point .

Q.2
a) Define wet bulb temperature. What is humidification?

b)What is drying? What is molal absolute humidity?

PROGRAMME: B.TECH (CHEMICAL ENGG), 5TH SEM,

CHEMICAL TECHNOLOGY-II, ECHE-354

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Q.1)

a).Give chemical composition of Portland cement.

b).Give chemical composition of oleum.

Q.2)

A).Give chemical composition of Soda-Ash. Write the reaction involving the formation of phosphoric acid by HCL leaching.

B).Write the reaction to produce ammonia.

PROGRAMME: B.TECH (CHEMICAL ENGG), 5TH SEM,

PROCESS INSTRUMENTATION, ECHE-355

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Q1)

a) What do you mean by measurement and measurand. What do you mean by transducer?

b)What do you mean by error? What do you mean by thermometer?

Q2)

a) What do you mean by precision? Define indicated value?

b)Define absolute pressure and vacuum pressure.