

Assignment-2

Program Name – B.TECH (Chemical Engg)

Semester: 6

Course Name- Energy Resources and Utilization

Last date of submission-20/4/2018

Course Code- ECHE-361

Instructions: 1. Write the response to the assignment in your own handwriting. 2. Submit the response to your HOD within the due date. 3. Write your Name, Programme, and Enrolment no. clearly at the top of the page.

Q1

- a) . Explain construction and working of solar heating element
- b) . Explain Fuel cell and also explain origin and formation of coal.

Q2.

- a) .Explain hydroelectric potential and also explain nuclear energy.
- b). Explain wind energy production.

Assignment-2

Program Name – B.TECH (Chemical Engg)

Semester: 6

Course Name- Optimization techniques in Chemical Engg.

Last date of submission-20/4/2018

Course Code- ECHE-362

Instructions: 1. Write the response to the assignment in your own handwriting. 2. Submit the response to your HOD within the due date. 3. Write your Name, Programme, and Enrolment no. clearly at the top of the page.

Q.1.

A).Name types of dynamic programming and also Name all region elimination methods?

B). Name all unconstrained one dimensional search methods? What are the advantages of optimization?

Q.2

A) .What is Quasi-Newton method and also explains Graphical simplex method.

B). Explain Linear Programming and also explain Principle of optimality.

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Program Name – B.TECH (Chemical Engg)

Semester: 6

Course Name- Mass Transfer Operations-II

Last date of submission-20/4/2018

Course Code- ECHE-363

Instructions: 1. Write the response to the assignment in your own handwriting. 2. Submit the response to your HOD within the due date. 3. Write your Name, Programme, and Enrolment no. clearly at the top of the page.

Q.1

- (a). Describe azeotropic distillation column with proper diagram.
- (b). Explain thermal condition of feed in distillation column. Discuss differential distillation column with proper diagram.

Q.2

- (a): Differentiate between physical and chemical absorption also Describe Freundlich adsorption isotherm.
- (b). Explain Mc-Cabe Thiele method for calculating number of theoretical plates in distillation column.

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Program Name – B.TECH (Chemical Engg)

Semester: 6

Course Name- Process Dynamics and control

Last date of submission-20/4/2018

Course Code- ECHE-364

Instructions: 1. Write the response to the assignment in your own handwriting. 2. Submit the response to your HOD within the due date. 3. Write your Name, Programme, and Enrolment no. clearly at the top of the page.

Q.1

A) What is servo problem and regulator problem?

(B) Explain types of feedback controller and also explain Ziegler Nichols controller tuning method.

Q.2

(A). What are under damped, critically damped and over damped system?

(B). Explain Root locus Analysis to determine the stability of a process?

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Program Name – B.TECH (Chemical Engg)

Semester: 6

Course Name- Process Equipment Design

Last date of submission-20/4/2018

Course Code- ECHE-365

Instructions: 1. Write the response to the assignment in your own handwriting. 2. Submit the response to your HOD within the due date. 3. Write your Name, Programme, and Enrolment no. clearly at the top of the page.

Q.1

(a). Write the equation for longitudinal and circumferential stress for cylindrical and spherical vessel.

(B) .what is general condition for designing a pressure vessel. Define minimum and total reflux?

Q.2

(a). Describe shell and tube heat exchanger with proper diagram?

(b). Explain types of heads and closures with neat and clean diagram.