



MONAD UNIVERSITY, HAPUR (UP)

Programme: B.Tech. (CHEMICAL ENGG)

Semester: 8

Course: OPERATIONS RESEARCH

Course Code: ECHE-481

Assignment No: 1

Due date of submission: 12.03.2018

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 No. clearly at the top of the page.

Q.1

- (a) As you are aware of the operations research, explain scope and functions of operations research in making managerial decision ?
- (b) State the environment of decision making.

Q2. (a) As you are aware of linear programming problems, solve the following programming problem by graphical method:

$$\begin{aligned} \text{Max. } Z &= 8x_1 + 7x_2 \\ \text{s.t. } 3x_1 + x_2 &\leq 66000 \\ x_1 + x_2 &\leq 45000 \\ x_1 &\leq 20000 \\ x_2 &\leq 40000 \\ \text{and } x_1, x_2 &\geq 0 \end{aligned}$$

- (b) Solve the above problem by simplex method.

Assignment-I

Program Name – B.TECH (Chemical Engg) , Semester: 8

Course Name- Advanced Separation Technology

Last date of submission-12/3/2018

Course Code- ECHE-482

Instructions: 1. Write the response to the assignment in your own handwriting.

2. Submit the responseto your HOD within the due date.

3. Write your Name, Programme, and Enrolment no. clearly at the top of the page.

Q.1

(a) Discuss energy requirement for separation processes?

(b) Explain liquid membrane separation processes?

Q.2

(a) Explain Ideal cascades?

(b) Explain Dialysis and Electro dialysis?

Assignment-I

Program Name – B.TECH (Chemical Engg), Semester: 8

Course Name- Transport Phenomena,

Last date of submission-12/3/2018

Course Code- ECHE-483

Instructions: 1. Write the response to the assignment in your own handwriting.

2. Submit the response to your HOD within the due date.

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Q.1

- (a) Explains phenomena similarity between momentum, heat and mass transfer.
- (b) Discuss basic laws of fluid motion, Newton's second law of motion, and principle of balance between momentums.

Q.2

- (a): Explain Principles of conservation of momentum, mass and energy.
- b) .Explain Newton's law of viscosity, science of rheology and prediction of viscosity.

Assignment-I

Program Name – B.TECH (Chemical Engg), Semester: 8

Course Name- Petroleum Refining Technology,

Last date of submission-12/3/2018

Course Code- ECHE-484

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) Explain Desalting of crude oils.

(b) Explain viscosity index?

Q.2

(a) Write the characteristics and constituents of crude oils?

(b) What are the classifications of crude oils?