

MGM University, Chhatrapati Sambhajnagar
Jawaharlal Nehru Engineering College

CA 1 Examination

Course: B. Tech in chemical engineering final year

Sem: VII

Date:-02.02.2024

Subject Name: Process Dynamics and control

Subject Code: 20UCH603D

Max Marks: 10

Duration:- 1 Hr.

Instructions to the Students:-

- i. Answer the following questions.
- ii. Assume suitable data, if required and draw neat sketches whenever needed.
- iii. Figure to right indicate full marks

CO BL Marks

		CO	BL	Marks
Q. 1	What are advantages of process control in chemical plant?	1	Und	5
Q.2	a thermometer having a time constant of 0.1 min is at steady state temperature of 90 °F. at time t=0 ,thermometer is placed in temperature bath maintained at 100 °F. Determine the time needed for thermometer to read 98 °F.	1,2	Apply	5
Q.3	Develop the mathematical model for chemical mixing process.	1,2	Apply	5

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Continuous Assessment 1																			
Course: B. Tech in Chemical Engineering		Semester: VI																	
Subject Name: Chemical Reaction Engineering II																			
Subject Code: 20UCH602D																			
Max Marks: 10	Date:-02-02-2024	Duration:- 1 Hr.																	
Instructions to the Students: <ol style="list-style-type: none"> 1. Answer all the questions. Write down all parts of the question in same place. 2. Databook (clean copy) and calculator are allowed. Exchange of data book and calculator are not permitted. 3. Missing data may be suitably assumed, if any 																			
Solve Any Two of the following																			
		BL	Marks																
Q. 1	Explain in detail the dispersion model for non-ideal flow & list its uses.	CO1	3 5																
Q. 2	Explain the relation between E, F and C curve.	CO1	3 5																
Q. 3	From time V/s tracer concentration data in the reactor effluent stream, calculate fractional concentration for a first order chemical reaction whose rate constant is $5 \times 10^{-2} \text{sec}^{-1}$	CO1	3 5																
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Jawaharlal Nehru Engineering College
Chemical Engineering Department

AY: 2023-24

Part-I

Subject: Heat Transfer Operation

CA-I: CT-I

Date: 02/02/2024

Solve any two. Each question carries equal Marks.

Question (CT/ Question Bank)	Difficulty Level	CO attainment
1) Derive equation for steady state conduction in composite wall	3	CO1
2) What is thermal conductivity and its units?	2	CO1
3) write down modes of heat transfer,	1	CO1

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AY: 2023-24

Subject: Mass Transfer Operation-II CT-I

Part-II

Date: 02/02/2024

Solve any two. Each question carries equal Marks.

Question (CT/ Question Bank)	Difficulty Level	CO attainment
1) Describe Positive deviation from ideality	2	CO1
2) Derive Rayleigh equation	3	CO1
3) Express enthalpy concentration diagram.	1	CO1

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AY: 2023-24

Subject: Mass Transfer Operation-II CT-I

Part-II

Date: 02/02/2024

Solve any two. Each question carries equal Marks.

Question (CT/ Question Bank)	Difficulty Level	CO attainment
1) Describe Positive deviation from ideality	2	CO1
2) Derive Rayleigh equation	3	CO1
3) Express enthalpy concentration diagram.	1	CO