//.	MGM University, Chhatrapati Sambhajinagar Jawaharlal Nehru Engineering College CA 1 Examination			* .
	Course: B. Tech in chemical engineering final year Subject Name: Process Dynamics and control Max Marks: 10 Sem: VII Date:-02.02.2024 Subject Code: 20UCH603D Duration:-1 Hr.		2	
	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	30		it.
		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
		77 (T)	10	

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	Course: B. Tech in Chemical Engineering Semester: VI Subject Name: Chemical Reaction Engineering II Subject Code: 20UCH602D											
	Max Marks: 10			e:-02-02	2-2024			Duration	. 1 U.		1 4/4°	4.5
	Instructions to the S	tude						Duration	;- 1 Hr.			18/
	Answer all the questions. Write down all parts of the question in same place. Databook (clean copy) and calculator are allowed. Exchange of data book and calculator are not permitted. Missing data may be suitably assumed, if any											* 1
	Solve Any Two of the following										BL	Marks
Q. 1	Explain in detail th	e dis	persion	model	for non-ide	eal flow	& list its u	ses.		CO1	3	5
Q. 2	Explain the relation	bet	ween E	, F and	C curve.				* 1	CO1	3	5
Q. 3	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 $5 \times 10^{-2} \text{sec}^{-1}$							calculate nstant is	CO1	3	5	
	Time (sec)	0	20	40	60	90	100	1	,	9024, 123 1 1 2 2		₩.
	Concentration (gm/lit)	0	0.3	0.7	0.6	0.1	0.04	0				
- 500 ton a							13.15					. 4
	A TOTAL AND A PROPERTY.			**	* End ***			-	(**			

THE WEST			MGN	Univ	ersity A	uranga	had			-	Tak projek	7
V. 5	Course: B. Tech in Ch Subject Name: Chen Subject Code: 20UCH Max Marks: 10	nemic nical (al Engii Reactio	Continu neering n Engin	ous Asses eering II		uau	Semester:	VI			
- Menther and	1.78(1)(1)(1)(1)			e:-02-02	-2024	:		Duration:	- 1 Hr.		29 7 1423	
e and	Instructions to the Students: 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	follo	wing								BL	Mari
		-		-1							20.0	ividii
Q. 1	Explain in detail the				104	MESS TO M	& list its 1	ises.	a State	CO1	3	
Q. 2	Explain the relation	betv	veen E	, F and	C curve.	* F *	l la	100 y 1		CO1	3	- 1
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 $5 \times 10^{-2} sec^{-1}$									CO1	3	*
1 6	Time (sec)	0	20	40	60	80	100	120				11 23
	Concentration (gm/lit)	0	0.3	0.7	0.6	0.1	0.04	0				
	3 4 (22.5)			**	* End ***					•	0.000	7.0

MGM's

Jawaharlal Nehru Engineering College

Chemical Engineering Department

AY: 2023-24

Part-I

Subject: Heat Transfer Operation

CA-I: CT-I

Date: 82/02/2022

Solve any two. Each question carries equal Marks.

Question (CT/ Question Bank)	Difficulty Level	CO attainment		
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		

MGM's

Jawaharlal Nehru Engineering College

Chemical Engineering Department

AY: 2023-24

Part-II

Subject: Mass Transfer Operation-II

CT-I

Date: 02/02/2024

Solve any two. Each question carries equal Marks.

Question (CT/ Question Bank)	Difficulty Level	CO attainment
Describe Positive deviation from ideality	2	COI
2) Derive Rayleigh equation	3	× CO1
3) Express enthalpy concentration diagram.	ſ	COI
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Jawaharlal Nehru Engineering College

Chemical Engineering Department

AY: 2023-24

Part-II

Subject: Mass Transfer Operation-II

CT-I

Date: 02/02/2028

Solve any two. Each question carries equal Marks.

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