Seat No.:	Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

		BE-III SEMESTER- V EXAMINATION – SUMMER-2014	
Su	bject	Code: 153604 Date: 07/05/2015	5
Sul	bject	Name: Technology of Intermediates and Colorants	
Tir	ne: 2.	.30PM-5.00PM Total Marks: 70	)
Inst	ruction		
	1.	• •	
	2. 3.	Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Define sulphonation as a unit process and explain different safety factors which one needs to consider.	07
	<b>(b)</b>	Write a note on continuous, semi batch and batch process and describe the principles of isomer separation.	07
Q.2	(a) (b)	What is fridel craft's reaction? Explain acylation and alkylation. Write down a note on safety aspect of the reactor.	07 07
	(1.)	OR	0.5
	<b>(b)</b>	Define reactive dyes. Give the classification of reactive dye.	07
Q.3	(a) (b)	Define nitration and explain different nitrating agents used for nitration. Write short note on halogenations.	07 07
		OR	
Q.3	(a) (b)	Give the synthesis of 2-aminophenol and H-acid  Define and explain DVS ratio.	07 07
<b>Q.4</b>	<b>(a)</b>	Explain ammonolysis and amination with examples.	07
	<b>(b)</b>	Explain different sulphonating agents and solvents used for sulphonation.  OR	07
Q.4	(a)	Which types of technologies are used in the production of Azo dyes and direct dyes? Compare their pros and cons also.	07
	<b>(b)</b>	Give the synthesis of anthraquinone and 2-naphthol.	07
Q.5	(a)	Write a short note on: a. Hydrogen as a reducing agent	07
	<b>(b)</b>	b. Bechamp reduction Draw Block flow diagram for "Nitration of Benzene" and list material of construction for various components.	07
0.5	(5)	OR  Uvdenlynin and bydenyydetion are similar or different symloin	Δ.
Q.5	(a) (b)	Hydrolysis and hydroxylation are similar or different explain.  Differentiate between process flow diagram and block flow diagram with the help of example (One unit process with description is necessary)	07 07

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