Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V(New) • EXAMINATION – WINTER 2016

Subject Code:2153608 Date:30/11/2016

Subject Name:Chemistry of Intermediates & Colorants-III(Department Elective- IV)

Time:10:30 AM to 01:00 PM Total Marks: 70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1		**Short Questions**	**14**
	1	Define the term disperse dye.	
	2	Give the synthesis of *Disperse Blue 165.*	
	3	What is dispersing agent?	
	4	Explain the function of dispersing agent used in dyeing of disperse dyes.	
	5	What is FBA?	
	6	Give the structure of *C. I. Fluorescent Brightener 179.*	
	7	Define the term Reactive dye.	
	8	Define the term substrate.	
	9	Draw the structure of *C. I. Reactive Blue 19.*	
	10	Define the term diazotization.	
	11	Define the term chromophore.	
	12	Define the term auxochrome.	
	13	Draw the structure of paper dye *C. I. Direct Red 81*.	
	14	Draw the structure of leather dyes *C. I. Direct Black 168.*	
Q.2	**(a)**	Explain how reactive dyes are superior to direct dyes and vat dyes.	**03**
	(b)	Give the synthesis of *Reactive Orange 13.*	**04**
	(c)	Briefly explain constitution of reactive dyes with structure.	**07**
		OR	
	(c)	High substantive reactive dyes also called law salt dye why? Write down structures of high substantive reactive dye.	**07**
Q.3	**(a)**	Give any one synthesis of pyrazoline derivative of FBA.	**03**
	(b)	Give the synthesis of Mikawhite AT.	**04**
	(c)	Explain the basic concept of Fluorescence with necessary diagram and define the terms Fluorescence, Phosphorescence and Luminescence.	**07**
		OR	
Q.3	**(a)**	Give the classification of FBA based on their method of application.	**03**
	(b)	Write down the properties of FBA.	**04**
	(c)	Give the synthesis of Blankophor R and Tinopal BV with explanation.	**07**
Q.4	**(a)**	Write a brief note on application of sulfur dyes.	**03**
	(b)	Give the synthesis of any two monoazo and bisazo disperse dyes.	**04**
	(c)	Write a note on environmental aspects of disperse dyes and give the example of dispersant free disperse dyes.	**07**
		OR	
Q.4	**(a)**	Give the synthesis of benzanthrone and dibenzanthrone.	**03**

	(b)	Give any two synthesis of anthraquinone based disperse dyes.	**04**
	(c)	Briefly explain properties of Sulfur dyes.	**07**
Q.5	**(a)**	Give the synthesis of paper dye *C. I. Direct Red 239.*	**03**
	(b)	Direct method of diazotization.	**04**
	(c)	With example briefly explain tanning agents used for leather dyes.	**07**

OR

Q.5	**(a)**	Give the synthesis of paper dye *C. I. Direct Orange 102.*	**03**
	(b)	Indirect method of diazotization.	**04**
	(c)	Briefly explain aniline leather dyes.	**07**

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