Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE-III SEMESTER– V EXAMINATION – WINTER-2013

Subject Code: 153608 **Date: 04/12/2013**

Subject Name: Chemistry of Intermediates and Colorants III

Time: 10:30-01:00 **Total Marks: 70**

Instructions:

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

Q.1	**(a)**	Write a note on environmental aspects of disperse dyes and give the example of dispersant free disperse dyes.	**07**
	(b)	Define the tem disperse dyes. Give the synthesis of any two monoazo and bisazo disperse dyes.	**07**
Q.2	**(a)**	Give the synthesis of Blankophor R and Tinopal BV with explanation.	**07**
	(b)	What is FWA? Give the synthesis of any two FWA based on coumarin.	**07**
		OR	
	(b)	Give the synthesis of 4-Acetylamino-n-butylnaphthalimide and Celephore White 5B FWA.	**07**
Q.3	**(a)**	How do reactive dyes differ from other classes of dyes such as acid, direct dyes etc? Describe the different kinds of reactive systems with structure	**07**
	(b)	High substantive reactive dyes also called law salt dye why? Write down structures of high substantive reactive dye.	**07**
		OR	
Q.3	**(a)**	Write down the advantages & disadvantages of reactive dyes.	**07**
	(b)	Reaction of sulfatoethylsulfone dyes (remazole type) with cellulosic fiber is which type of reaction? In neutral fixing reactive dyes what is the name of leaving group, also write the structure of the same.	**07**
Q.4	**(a)**	What is effect of metalizing of azo dyes on the shade of a dye, bathochromic shift or hypsochromic shift? Write the structure of yellow & red multifunctional reactive dyes.	**07**
	(b)	Write a note on various kind of electronic application of dyes.	**07**
		OR	
Q.4	**(a)**	Explain various high-tech applications of dye other than textile application.	**07**
	(b)	Write the full form of LASER dyes; write the uses of laser dyes.	**07**
Q.5	**(a)**	Write a note on non-linear optical properties of dyes.	**07**
	(b)	Write down various examples of heterocyclic azo coupling components used in disperse dyes.	**07**
		OR	
Q.5	**(a)**	Define the term: 1) Dyes, 2) Pigments, 3) Dyeing, 4) Chromophore, 5) Auxochrome, 6) Fastness properties, 7) Colour	**07**
	(b)	Write a note on development in color and chemical constitutions.	**07**

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