Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III • EXAMINATION – WINTER • 2014

Subject Code: 2133604 Date: 18-12-2014

Subject Name: Chemistry of Intermediates and Colorants - I

Time: 02.30 pm - 05.00 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	**(a)**	Explain the term dyes. Discuss in detail the prerequisites of true dyes	**07**
	(b)	Explain the sulphonation of α- Napthalamine & β- Napthalamine	**07**
Q.2	**(a)**	Discuss about Amination reaction. Explain the Bucherer reaction with the help of suitable reaction scheme.	**07**
	(b)	How do you prepared following intermediates: i) 'S' acid ii) Koch acid	**07**
		OR	
	(b)	How do you prepared following intermediates: i) Naphthalene disulphonic acid ii) 'H' acid	**07**
Q.3	**(a)**	What is meant by diazotization reaction? Explain the direct diazotization method with suitable reaction scheme.	**07**
	(b)	How do you prepared following intermediates: i) Fast Red A ii) Metanil yellow	**07**
		OR	
Q.3	**(a)**	Explain following dyes with its properties, application and suitable examples i) Acid dyes ii) Disperse dyes	**07**
	(b)	Write a note on Chemical Feedstock for dyestuff industry-fossil feedstock – coal, petroleum-coal-tar primaries	**07**
Q.4	**(a)**	Define the term Electrophile and Nucleophile. Explain Electrophilic aromatic substitution reaction with the mechanism.	**07**
	(b)	Give the synthesis of Amino G-acid and Amino J-acid.	**07**
		OR	
Q.4	**(a)**	How do you prepared following intermediates: i) Naphthol AS ii) ii) Fast Blue B-Base	**07**
	(b)	Give the synthesis of Acridine Yellow G and Astrazone Red 6 B.	**07**
Q.5	**(a)**	Explain the following terms: (i) Hypsochromic shift (ii) Bathochromic shift (iii) Chromphores (iv) Auxochromes	**07**
	(b)	Explain the concept of colour and chemical constitution in detail.	**07**
		OR	
Q.5	**(a)**	Explain the Sandmeryer's Process for the preparation of indigotin.	**07**
	(b)	How do you prepared following intermediates: i) Indanthrone Yellow 4 GK ii) Solway Ultra Blue B (Anthraquinone Acid Dye)	**07**

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