

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-III (New) EXAMINATION – WINTER 2015

Subject Code:2133604**Date:18/12/2015****Subject Name: Chemistry of Intermediates and Colorants - I****Time: 2:30pm to 5:00pm****Total Marks: 70****Instructions:**

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

		MARKS
Q.1	Short Questions	14
	1 Give the prerequisites of the true dyes.	
	2 Elaborate the term pigments.	
	3 Discuss about stripping.	
	4 Draw the structure of ethylene oxide and pyrole.	
	5 Discuss about hyperchromic shift.	
	6 What is meant by D.V.S. Ratio?	
	7 Enlist the nitrating agents used in nitration reaction.	
	8 Give the properties of acid dyes.	
	9 What is Sulphonation reaction?	
	10 Give the properties of disperse dyes.	
	11 Write down the example of disperse dyes.	
	12 Draw the structure of 1-nitro-2-naphthol and p- nitrosophenol.	
	13 Elaborate the chlorination reaction.	
	14 Give the ingredients required for preparation of 2,7 disulphonic acid.	
Q.2	(a) Give the synthesis of Amino J acid.	03
	(b) Write a note on Vat dyes.	04
	(c) Explain the Reduction Reaction with the help of suitable reaction scheme.	07
	OR	
	(c) Explain the following terms:	07
	(i) Absorption	(ii) Bathochromic shift
	(iii) Desorption	(iv) Auxochromes
Q.3	(a) Give the synthesis of naphthalene 1, 5 disulphonic acid.	03
	(b) Write down the reaction of nitration of toluene.	04
	(c) Explain the following Friedel craft reaction with the help of suitable reaction scheme. (i) Acylation with aliphatic acid anhydride (ii) Aroylation with aromatic acid anhydride.	07
	OR	
Q.3	(a) Elaborate the concept of reduction reaction.	03
	(b) Explain the relation between colour and chemical constitution.	04
	(c) Explain following dyes with its properties, application and suitable example (i) Basic dyes (ii) Vat dyes	07

- Q.4** (a) Discuss the concept of pigment dispersion. **03**
(b) How do you prepare α -Naphthalamine? **04**
(c) How do you prepared following intermediates: **07**
(i) Amino G acid ii) “ J ” acid

OR

- Q.4** (a) Give the synthesis of Nitrobenzene with its application. **03**
(b) Write a note on Dyeing. **04**
(c) Explain the following properties of dyes: **07**
(i) Light fastness (ii) Sublimation fastness (c) Colour fastness
- Q.5** (a) How do you differentiate between dyes and pigments. **03**
(b) Write a note on Basic dyes. **04**
(c) Explain the reaction of sulphonation of nathalene. **07**

OR

- Q.5** (a) Write a note on Amination reaction. **03**
(b) Discuss about heterocyclic intermediates. **04**
(c) Explain the Nitration of α -naphthol and β -naphthol reaction. **07**
