Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III (NEW) • EXAMINATION – SUMMER-2015

Subject Code: 2133604 **Date: 27/05/2015**

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	**7**
(b)	Define the term Electrophile and Nucleophile. Explain Electrophilic aromatic substitution reaction with the mechanism.	**7**
Q.2 (a)	How do you prepared following intermediates: i) 'H' acid (ii) Koch acid	**7**
(b)	Give Synthesis of typical dyestuff intermediates based on benzene and toluene.	**7**
	OR	
(b)	Explain the sulphonation of α- Napthalamine& β- Napthalamine.	**7**
Q.3 (a)	What is meant by diazotization reaction? Explain the direct diazotization method with suitable reaction scheme.	**7**
(b)	Explain the Bucherer reaction and Reverse Bucherer reaction with suitable reaction scheme.	**7**
	OR	
Q.3 (a)	How do you prepared following intermediates: i) Fast Red A (ii) Metanil yellow	**7**
(b)	Explain following dyes with its properties, application and suitable examples i) Reactive dyes (ii) Disperse dyes	**7**
Q.4 (a)	Give the synthesis of naphthols with suitable reaction scheme.	**7**
(b)	How do you prepared following intermediates: (i) Naphttholsulphonic acid (ii) Naphthylaminesulphonic acid	**7**
	OR	
Q.4 (a)	Write down only chemical reactions involved in following conversions: a. Naphthalene → Koch acid b. Koch acid → H-acid	**7**
(b)	How do you synthesized of Anthracene by Hawarth method.	**7**
Q.5 (a)	Give the synthesis of following dyestuff intermediates: (i) Diketene (ii) Acetoacetanalides.	**7**
(b)	How do you prepared following intermediates: (i) Acetoacetic ester (ii) Malonic ester	**7**
	OR	
Q.5 (a)	Discuss the malononitrile& their use in synthesis of dyestuff intermediates	**7**
(b)	Discuss hammet substitution constant.	**7**

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