Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2133604 **Date: 31/05/2017**

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

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.**

			MARKS
Q.1		**Short Questions**	**14**
	1	List out the names of various dyes.	
	2	Give the systematic name of "J" acid.	
	3	What are reactive dyes?	
	4	Give the role of Intermediates in dyes.	
	5	Give the name of principal substrates were the disperse dyes is applicable	
	6	Which are the various nitrating agents used in Nitation.	
	7	What is meant by D.V.S. Ratio?	
	8	Write down the examples of acid dyes.	
	9	What is meant by electrophilic substitution reaction?	
	10	Give the difference between dyes and pigment.	
	11	Why mixing acids is mostly used in the nitration reaction?	
	12	Why the many of the dyes are water soluble?	
	13	What is meant by Chromophores? Give two examples.	
	14	What is Azo dyes.	
Q.2	**(a)**	Discuss the prerequisites of true dye.	**03**
	(b)	Explain the acid dyes with suitable examples.	**04**
	(c)	What is Intermediates? Explain the sulphonation reaction which is useful in the preparation of dyes.	**07**
		OR	
	(c)	Discuss the various dyes with its class, principal application substrates, method of application.	**07**
Q.3	**(a)**	Explain direct diazotization method for suitable scheme.	**03**
	(b)	Discuss the Friedel craft alkylation reactions.	**04**
	(c)	Give the difference between dyes & pigments. Explain terms Auxochrome and Chromophore with examples.	**07**
		OR	
Q.3	**(a)**	How will you prepared anthraquinone?	**03**
	(b)	How will you synthesize. "H" – Acid	**04**
	(c)	Explain the synthesis of typical dyestuff intermediates based on benzene.	**07**
Q.4	**(a)**	Explain the Halogenation reaction.	**03**
	(b)	Explain the Acetoacetic ester its use in synthesis of dyestuff intermediate.	**04**
	(c)	Discuss the methods of reduction. Explain the manufacturing of aniline from nitrobenzene by Bechamp reduction	**07**
		OR	
Q.4	**(a)**	Discuss about hydroxylation reaction.	**03**
	(b)	What is a Dye? Discuss the prerequisites of true dye.	**04**
	(c)	Explain the importance of Nitration reaction for the preparation of dyes.	**07**

Q.5	**(a)**	Write a note on Vat dyes.	**03**
	(b)	Explain Nucloeophilic aromatic substitution reaction	**04**
	(c)	Explain the synthesis of typical dyestuff intermediates based on benzene.	**07**

OR

Q.5	**(a)**	Give the sulphonation of β-naphthyl amine	**03**
	(b)	Explain the importance of Nitration reaction for the preparation of dyes.	**04**
	(c)	Write a brief note on : (i) Bucherer reaction (ii) Reverse Bucherer reaction	**07**

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