Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – II SEMESTER– IV (NEW SYLLABUS) EXAMINATION- SUMMER 2016

Subject Code: 2143604 **Date: 03/06/2016**

Subject Name: Chemistry of Intermediates & Colorants II

Time: 10:30AM to 01:00PM **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	Define the term bathochromic effect.	1
	2	What do you mean by mordant dye?	1
	3	Differentiate hot brand and cold brand reactive dye.	1
	4	Give the structure of N-Phenyl-J-acid.	1
	5	Give the structure of 1-Phenyl-3-methyl-5-pyrazolone and show its coupling position.	1
	6	Define the term optical brighteners.	1
	7	Define the term diazotization.	1
	8	What do you mean by azoic dye?	1
	9	Define the term vat dye.	1
	10	Give the structure of phenolphthalein.	1
	11	What do you mean by pigment?	1
	12	Define the term chromophore.	1
	13	Give the examples of electron donating and electron withdrawing groups.	1
	14	Give the structure of alizarin.	1
Q.2	**(a)**	Define the term disperse dye. Give the classification of disperse dyes.	**03**
	(b)	Give classification of reactive dye.	**04**
	(c)	Give the synthesis of Direct Violet 7 and Direct Red 31.	**07**
		OR	
	(c)	Give the classification of dies based on chromophore.	**07**
Q.3	**(a)**	What do you mean by coupling reaction? Explain coupling rule with examples.	**03**
	(b)	Give the synthesis of Caledone Jade Green with explanation.	**04**
	(c)	Explain modern theory of color and chemical constituents.	**07**
Q.3	**(a)**	Give the synthesis of Acid Orange I and Acid Red 29.	**03**
	(b)	Give the mechanism of diazotization.	**04**
	(c)	Give the synthesis of Tinopal BV and 3-phenyl coumarin.	**07**
Q.4	**(a)**	Give the synthesis of Disperse Yellow 23.	**03**
	(b)	Give the synthesis of Malachite Green and Rose-Aniline	**04**
	(c)	Give the synthesis of Auramine O and Crystal Violet.	**07**
		OR	
Q.4	**(a)**	Give the synthesis of Solway Ultrablue B.	**03**
	(b)	Give the classification and characteristic properties of optical brighteners.	**04**

	(c)	Give the synthesis of Naphthol AS and Fast Orange GGD base.	**07**
Q.5	**(a)**	Give the synthesis of Astrazone Yellow 3G	**03**
	(b)	Give the synthesis of Alizarin Orange and Alizarin Blue.	**04**
	(c)	Explain Sandmayer's and Bayer process for the synthesis of indigoid dyes.	**07**

OR

Q.5	**(a)**	Give the synthesis of Congo Red.	**03**
	(b)	Give the synthesis of copper phthalocyanine from phthalonitrile and phthalic anhydride.	**04**
	(c)	Give the synthesis of Flavanthrone and Pyranthrone.	**07**

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