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

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 2143604 **Date: 06/06/2017**

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

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	Give the structure of acetoacetanilide.	1
	2	What do you mean by solvent 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-chloro-5-pyrazolone and show its coupling position.	1
	6	Define the term hypso-chromic effect.	1
	7	What do you mean by diazotization?	1
	8	What do you mean by azoic dye?	1
	9	Define the term vat dye.	1
	10	Define the term optical brighteners.	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 phenolphthalein.	1
Q.2	**(a)**	Define the term reactive dye. Give the classification of reactive dyes.	**03**
	(b)	Give classification of disperse dyes.	**04**
	(c)	Give the synthesis of Direct Violet 51 and Direct Red 31.	**07**
		OR	
	(c)	Give the various synthesis of Indanthrone Yellow 4 GK.	**07**
Q.3	**(a)**	Give the synthesis of Disperse Yellow 23.	**03**
	(b)	Give the synthesis of Malachite Green and Perarose-Aniline	**04**
	(c)	Give the synthesis of Auramine G and Methyl Violet.	**07**
		OR	
Q.3	**(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.4	**(a)**	Give the synthesis of Acid Orange II and Acid Red 29.	**03**
	(b)	Give the mechanism of diazotization.	**04**
	(c)	Give the synthesis of Tinopal BV and 3-phenyl Coumarine.	**07**
		OR	
Q.4	**(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.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**
		OR	
Q.5	**(a)**	Give the synthesis of Astrazone Pink FG.	**03**
	(b)	Give the two synthesis of preparation of Aurin.	**04**
	(c)	Explain Sandmayer's and Bayer process for the synthesis of indigoid dyes.	**07**

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