

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2020****Subject Code:3153620****Date:01/02/2021****Subject Name:Synthetic Colourants****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		Marks
Q.1	(a) Define: diazotization and coupling	03
	(b) What will happen if we fail to maintain temperature of reaction in the range of 0-4 °C during dye synthesis?	04
	(c) Give the various applications of synthetic colorants?	07
Q.2	(a) Write a short note on: Mordant Azo Dyes	03
	(b) Give the properties of: 1. Aniline yellow 2. Methyl Red	04
	(c) Give the synthesis of methyl orange with reaction mechanism?	07
Q.3	(a) What do you mean by chromogens?	03
	(b) Classify reactive dyes on the basis of its functionality?	04
	(c) Discuss reactive dyes with vinyl sulphone reactive system?	07
Q.4	(a) Explain the steps of reactive dyeing	03
	(b) What do you mean by fixation?	04
	(c) Explain Hot Brand and Cold Brand Reactive Dyes?	07
Q.5	(a) What is difference between solution & dispersion?	03
	(b) What are AQ azo dyes? Explain with example?	04
	(c) Elaborate synthesis and applications of disperse dyes?	07
Q.6	(a) What is neutral fixing?	03
	(b) Explain anthraquinone dyes with its applications?	04
	(c) Discuss anthraquinone disperse dyes with reference to heterocyclic diazo & coupling components	07
Q.7	(a) What is the practical significance of bathochromic shift?	03
	(b) Explain the application of CPC Blue pigments?	04
	(c) With properties, applications and method of synthesis, explain Phthalocyanine Pigments?	07
Q.8	(a) Most of the market is occupied with azo pigments. Justify	03
	(b) i) Basic Yellow 21 ii) Basic Orange 21	04
	(c) With properties, applications and method of synthesis, explain Prussian Blue pigments?	07