Seat No.: _____   Enrolment No._____

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 ^0C 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 disperses 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 Pthalocyanine 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**