Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V (NEW) EXAMINATION – WINTER 2021

Subject Code:3153620 Date:27/12/2021

Subject Name:Synthetic Colourants

Time:02:30 PM TO 05:00 PM Total Marks: 70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

			Marks
Q.1	**(a)**	What do you mean by diazotization? Enlist the methods of it?	**03**
	(b)	Diazotization reaction is carried out at 0-4 ^{0}C. Justify.	**04**
	(c)	Explain the concept of diazotization and coupling with suitable reaction mechanism?	**07**
Q.2	**(a)**	What are mordant dyes? Give any one example.	**03**
	(b)	Write short note on: 1. Metanil Yellow 2. Methyl Red	**04**
	(c)	Give the synthesis of methyl orange with reaction mechanism?	**07**
		OR	
	(c)	Explain the synthesis of any one acid azo dye with reaction mechanism?	**07**
Q.3	**(a)**	What do you mean by chromophores?	**03**
	(b)	Explain reactive dyes with reference to Chemical constitution of reactive systems?	**04**
	(c)	Explain the classification of reactive dyes on the basis of its functionality?	**07**
		OR	
Q.3	**(a)**	What are reactive dyes? Give general structure?	**03**
	(b)	Explain the steps of reactive dyeing	**04**
	(c)	Explain the classification of reactive dyes on the basis of its dyeing temperature?	**07**
Q.4	**(a)**	What is dispersion?	**03**
	(b)	What are disperse azo dyes? Explain with example?	**04**
	(c)	Elaborate synthesis and applications of disperse dyes?	**07**
		OR	
Q.4	**(a)**	What is exhaustion?	**03**
	(b)	Explain anthraquinone dyes with suitable example?	**04**
	(c)	Discuss anthraquinone disperses dyes with reference to heterocyclic diazo & coupling components	**07**
Q.5	**(a)**	What is the practical significance of bathochromic shift?	**03**
	(b)	Explain the application of BONA pigments?	**04**
	(c)	With properties,applications and method of synthesis, explain Pthalocyanine Pigments?	**07**
		OR	
Q.5	**(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**