Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem-Vth Examination December 2010

Subject code: 152801

Subject Name: Chemistry of Intermediates & Dyes

Date: 13 /12 /2010 **Time: 03.00 pm - 05.30 pm**

Total Marks: 70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Describe in brief various postulates of resonance theory.	**10**
	(b)	Describe the chemical constitutions of dye.	**04**
Q.2	**(a)**	What is the difference between dye and color? Give a brief outline of physics of color.	**07**
	(b)	Give an account on eco-friendly consideration of dyes.	**07**
		OR	
	(b)	Describe non textile uses of dyes.	**07**
Q.3	**(a)**	Describe the synthesis, properties and application of following classes of dyes. (i) Disperse dye (ii) Metal complex dyes	**08**
	(b)	Describe Dow and Cumene processes.	**06**
		OR	
Q.3		Why the dyes were known as "Coal Tar dyes"? Discuss the destructive distillation of coal tar along with different products.	**14**
Q.4	**(a)**	Define nitration. Explain its mechanism and describe nitration of benzene and toluene	**10**
	(b)	Describe the reduction reactions.	**04**
		OR	
Q.4		Describe the synthesis, properties and applications of following classes of dyes: (i) Azoic colours (ii) Basic dyes and (iii) Reactive dyes.	**14**
Q.5	**(a)**	What is sulphonation? Explain its mechanism and describe sulphonation of naphthalene along with chemical reaction.	**10**
	(b)	Describe chemistry and applications solublised vat dyes.	**04**
		OR	
Q.5		Give a brief account on chemistry and classification of fluorescent brightening agents.	**14**

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