GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V (NEW) - EXAMINATION - SUMMER 2016 Subject Code:2153604 Date:11/05/2016 Subject Name: Technology of Intermediate & Colorants (Department

Elective- III)

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

Instructions:

(b)

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

Q.1	(a)	Explain the Nitration Process with its mechanism and consideration of various	07
	(b)	important points in order to have safe reaction. Explain the reduction reactor used in manufacturing of aniline from nitrobenzene with reference to the material of construction, various parameters.	07
Q.2	(a)	Draw Block flow diagram for Aniline from nitro and list material of construction for	07
	(b)	various components. Give the synthesis of following: (i) H- acid (ii) BON Acid (iii) 2-hydroxynaphthalene OR	07
	(b)	Give the synthesis of following: (i) 2-napthol (ii) Phenol (iii) Aminonaphthol sulphonic acids	07
Q.3	(a) (b)	Explain the safer methods used for the sulphonation process. Explain the concept to agitation systems & particle size reduction OR	07 07
Q.3	(a) (b)	Discuss the some aspects of unit operations like filtration and drying. Explain the safer methods used for the Friedel Craft's reactions.	07 07
Q.4	(a)	How do you manufacturing of some important solvents used in dyestuffs &	07
	(b)	pigments industry. How do you manufacturing following raw materials: (i) Anthraquinone & its derivative (ii) Phthalic anhydride OR	07
Q.4	(a)	Write a note on:	07
	(b)	(i) Reduction (ii) HydrogenationHow do you manufacturing following raw materials:(i) Naphtylamine sulphonic acids (ii) Ionic liquids	07
Q.5	(a) (b)	Explain the continuous versus batch & semi-batch operations with examples Explain the methods of dyeing in detail.	07 07
Q.5	(a)	OR Discuss the solvents used in typical reactions with emphasis on selection criteria.	07
	(b)	Define and explain DVS ratio in detail.	07

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