

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2018****Subject Code:2153604****Date:20/11/2018****Subject Name:Technology of Intermediate & Colorants****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

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

		<b>MARKS</b>
<b>Q.1</b>	(a) How do you differentiate unit processes and unit operations in detail.	<b>03</b>
	(b) Discuss about DVS ratio used in Nitration Reaction.	<b>04</b>
	(c) Discuss the best practices for following unit operations: (i) Isolation (ii) Blending (iii) Filtration (iv) Grinding	<b>07</b>
<b>Q.2</b>	(a) Write a note on: Ammonolysis.	<b>03</b>
	(b) Discuss the Biazzzi reactor with respect to hydrogenation technology.	<b>04</b>
	(c) Explain the Sulphonation Process Technology with suitable example.	<b>07</b>
	<b>OR</b>	
	(c) Explain the Chlorination Process Technology with suitable process diagram.	<b>07</b>
<b>Q.3</b>	(a) Write a note on: Centrifuge filtration.	<b>03</b>
	(b) Discuss the properties of evaporating liquid that influence the evaporation process.	<b>04</b>
	(c) Explain the stirring apparatus with its importance, uses & difficulties during different equipment used.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Discuss the concept of bumping.	<b>03</b>
	(b) Write about agitation system and particle size reduction.	<b>04</b>
	(c) Explain the batch and continuous process with respect to its advantages and disadvantages.	<b>07</b>
<b>Q.4</b>	(a) Write a note on: Green Solvents	<b>03</b>
	(b) Discuss about 2-Naphthol and its derivative.	<b>04</b>
	(c) Explain the manufacturing process of BON acid with suitable reaction scheme.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Give the synthesis of Naphthol sulphonic acid.	<b>03</b>
	(b) How do you prepare aniline? Discuss it with reaction scheme.	<b>04</b>
	(c) Explain the manufacturing process of Phenol with suitable reaction scheme.	<b>07</b>
<b>Q.5</b>	(a) Write down the fundamental consideration during the azo dyes preparation.	<b>03</b>
	(b) Discuss about fluorescent whiteners.	<b>04</b>
	(c) Explain the disperse dyeing technology over polyester fibres in details.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Write down the importance of metal complex dyes.	<b>03</b>
	(b) Give the synthesis of anthraquinone.	<b>04</b>
	(c) Explain the technology involved in synthesis of azo dyes in detail.	<b>07</b>

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