

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V • EXAMINATION – WINTER • 2014****Subject Code: 152801****Date: 26-11-2014****Subject Name: Chemistry of Intermediates and Dyes****Time: 10.30 am - 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.

- Q.1 (a)** Enlist different unit processes. With the reaction mechanism, describe sulphonation unit process in detail. **07**
- (b)** Describe Dow and Cumene Process in detail. **07**
- Q.2 (a)** Describe Nitration of Benzene and Toluene and obtain all possible intermediate from it. **07**
- (b)** How reduction is useful in obtaining intermediates? Explain Zinc reduction in detail. **07**
- OR**
- (b)** Describe Oxidation unit process in the synthesis of certain intermediates with suitable examples. **07**
- Q.3 (a)** Explain Bucherer Reaction in detail. State its advantages. **07**
- (b)** Discuss Witt's Theory in detail. **07**
- OR**
- Q.3** Give the detailed classification of dyes based on their application methods. **14**
- Q.4** Describe the synthesis of following Intermediates:
- (a)** H-acid **07**
- (b)** Amino G – Acid and Amino J- Acid **07**
- OR**
- Q.4** Why the dyes were known as coal-tar dyes? Discuss the destructive distillation of coal-tar along with different products. **14**
- Q.5** Explain with suitable examples the Orientation rules in Benzene series. **14**
- OR**
- Q.5** Elucidate in detail, Modern theories of Color and its constitution. **14**
