

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V (OLD) - EXAMINATION – SUMMER 2017****Subject Code: 152805****Date: 15/05/2017****Subject Name: Production & Applications of Colorants & Auxiliaries  
(Institute Elective - II)****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.

- Q.1** (a) Enumerate Non textile uses of Dyes. **07**  
(b) Give manufacturing process of H-acid. **07**
- Q.2** (a) Discuss Coal tar distillation. **07**  
(b) Describe Bechamp reduction method for obtaining dye intermediates. **07**
- OR**
- (b) Enumerate different Unit processes. Explain sulphonation unit process with all technical parameters. **07**
- Q.3** (a) Discuss different discharging agents used in printing. **07**  
(b) Describe role of chelating & leveling agent used in textile dyeing **07**
- OR**
- Q.3** (a) Explain theory of surface activity & use of surfactant in textile processing **07**  
(b) Write a note on HLB theory **07**
- Q.4** (a) Using chlorination as a unit process, Obtain some important dye intermediates. **07**  
(b) Give manufacturing process of Phenol by Dow process. **07**
- OR**
- Q.4** (a) Explain role of Dye fixing and Antifoaming agents in Textiles. **07**  
(b) Enlist different Carriers, its mechanism & their drawbacks in Polyester dyeing. **07**
- Q.5** Discuss in detail synthesis, properties and applications of Cationic surfactants. **14**
- OR**
- Q.5** With all technical details, Describe nitration unit process & obtain different intermediates from Benzene and Naphthalene by this process. **14**

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