

**GUJARAT TECHNOLOGICAL UNIVERSITY**

DIPLOMA ENGINEERING – SEMESTER – 4 • EXAMINATION – SUMMER 2018

**Subject Code: 340501****Date: 28-Apr-2018****Subject Name: Dyes And Pharmaceuticals****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.
4. Each question carry equal marks (14 marks)

- Q.1** (a) Define Dye? Explain color phenomenon in dyes. **07**  
(b) Explain the characteristics of Pharmaceutical industry **07**
- Q.2** (a) Give structure chemistry and application of (1) Azo dye (2) Reactive dye **07**  
(b) Describe basic unit operation involved in dyestuff industry. **07**
- OR
- (b) Explain the important unit process involved in dye industry. **07**
- Q.3** (a) Explain the manufacturing of Indigo dyes. **07**  
(b) Explain the manufacturing of Aniline by reduction of nitrobenzene **07**
- OR
- Q.3** (a) Explain the manufacturing of Anthraquinone from phthalic anhydride. **07**  
(b) Explain the manufacturing of Vat dyes. **07**
- Q.4** (a) Give the classification of Drugs and explain any one. **07**  
(b) Explain the manufacturing process of Penicillin with flow diagram. **07**
- OR
- Q.4** (a) Write short note on Anti TB drugs. **07**  
(b) Explain the manufacturing process of Streptomycin with flow diagram. **07**
- Q.5** (a) Discuss the methods for the pollutants treatment of dyestuff industry. **07**  
(b) Discuss the development and scope of pharmaceuticals industry in India. **07**
- OR
- Q.5** (a) Discuss the importance of Antibiotics and Vitamins. **07**  
(b) Discuss the Health benefits of Pharmaceuticals industry. **07**

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