

GUJARAT TECHNOLOGICAL UNIVERSITY
B. E. - SEMESTER – VI • EXAMINATION – WINTER 2012

Subject code: 160502**Date: 03/01/2013****Subject Name: Chemical Process Industries - II****Time: 02.30 pm - 05.00 pm****Total Marks: 70****Instructions:**

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

- Q.1 (a)** What is a dye? Classify different types of dyes in details. **07**
(b) Explain the manufacturing process of ethanol by fermentation process. **07**
List the major engineering problems.
- Q.2 (a)** Classify different types of pharmaceutical products based on their applications and usage. **06**
(b) Describe the manufacturing process of H-Acid. Also list the various applications of H-Acid. **08**
- OR**
- (b)** Write short note on: i) Vat dyes and ii) Natural dyes. **08**
- Q.3 (a)** Answer in brief: **09**
i) Application of insulin.
ii) Application of industrial coatings.
iii) Essential characteristics of a good fermentation process.
(b) Write a short note on barbitol. **05**
- OR**
- Q.3 (a)** Answer in brief: **09**
i) Required characteristics of surface coatings.
ii) Waste disposal problem in fermentation industry.
iii) Different uses of bagasse.
(b) Write a short note on varnishes. **05**
- Q.4 (a)** Explain the manufacturing process of Penicillin with the help of a detailed flowsheet. **07**
Q.4 (b) With a detailed flowsheet explain the manufacturing process of sugar from sugarcane. **07**
- OR**
- Q.4 (a)** What are Vitamins? Write the chemical formula of Vitamin B₁, B₂ and C along with their applications. **07**
Q.4 (b) What are pigments. Describe the manufacturing process of Titanium Dioxide and its application. **07**
- Q.5 (a)** Discuss the various engineering problems in the manufacture of sugar. **07**
(b) Write a note on beer and beer production. **07**
- OR**
- Q.5 (a)** Discuss various types of wines and their manufacturing process in brief. **07**
(b) Discuss citric acid production with a flowchart along with major applications. **07**
