

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-IV EXAMINATION – SUMMER 2016

Subject Code:141303**Date:06/06/2016****Subject Name:Chemical Engineering Processes****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.

- Q.1** (a) Name major equipments used in chemical process industries. Draw a neat sketch of any two of them. **07**
(b) Explain, with a neat flow diagram, methanol production **07**
- Q.2** (a) Discuss the sources of pollution and health & safety aspects of Nitric acid manufacturing **07**
(b) Enlist the major engineering problems involved in hydrogenation of vegetable oil. Explain any two in detail. **07**
- OR**
- (b) Why environmental engineers are required to study chemical engineering processes? **07**
- Q.3** (a) Differentiate: Unit processes and Unit operations **07**
(b) Explain in brief Hydrogen cyanide production. Discuss pollution sources of the same. **07**
- OR**
- Q.3** (a) What is Biuret? How to prevent its formation? **07**
(b) Write down all the major reactions involved in the production of Nitric acid. **07**
- Q.4** (a) Explain manufacturing process of Aniline. **07**
(b) Discuss the routes of Vinyl Chloride monomer production. **07**
- OR**
- Q.4** (a) Discuss the routes of production for Ethanol in detail. **07**
(b) With the help of a neat process flow diagram explain Phenol production **07**
- Q.5** (a) Explain Furfural production. **07**
(b) Explain sources of pollution and health & safety aspects involved in Acetic Acid production. **07**
- OR**
- Q.5** (a) Explain Cellulose Acetate production in detail. **07**
(b) Draw only a neat process flow diagram of Monochloroacetic acid. **07**
