

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-IV(OLD) – EXAMINATION – SUMMER 2019****Subject Code:141303****Date:28/05/2019****Subject Name: Chemical Engineering Processes****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) Discuss the system for the production of concentrated nitric acid **07**  
(b) Draw only a process flow diagram of Vinyl Chloride **07**
- Q.2** (a) Discuss the health and safety aspects of Aniline **07**  
(b) Discuss the sources of pollution in manufacturing nitric acid **07**
- OR**
- (b) With the help of a neat flow diagram explain methanol production **07**
- Q.3** (a) Explain manufacturing process of monochloroacetic acid **07**  
(b) Discuss sources of pollution for Hydrogen cyanide **07**
- OR**
- Q.3** (a) Discuss in brief production of ethanol from ethylene **07**  
(b) Discuss the sources of pollution for acetic acid manufacturing **07**
- Q.4** (a) Discuss in brief process design modifications for Urea production **07**  
(b) Discuss the major engineering problems involved in the production of hydrogenated cotton seed oil **07**
- OR**
- Q.4** (a) Explain major engineering problems involved in Urea synthesis **07**  
(b) Enlist and explain in detail major engineering problems involved in the process of hydrogenation of cotton seed oil **07**
- Q.5** (a) Discuss with reference to methanol production following terms: Reactor design, catalyst fouling **07**  
(b) Discuss sources of pollution for Phenol production **07**
- OR**
- Q.5** (a) Draw only a neat process flow diagram of Furfural production **07**  
(b) Enlist the different routes for manufacturing Phenol and discuss any one in detail **07**

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