

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– III (New) EXAMINATION – WINTER 2019****Subject Code: 2131304****Date: 3/12/2019****Subject Name: Chemical Engg 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) List the different unit process with examples. **03**
(b) Differentiate between Absorption process and Adsorption process. **04**
(c) Draw only a neat process flow diagram of Vinyl chloride manufacturing. **07**
- Q.2** (a) Differentiate between Oxidation process and Reduction process. **03**
(b) Why an environmental engineer needs to learn the subject Chemical Engineering Processes? **04**
(c) Describe the manufacturing process of Acetic acid by oxidation process with a flowsheet. **07**
- OR**
- (c) Describe the manufacturing process of Phenol with a neat flowsheet. **07**
- Q.3** (a) List the raw materials which are used in manufacturing process of acetic acid. **03**
(b) Discuss the health hazards related to Hydrogen Cyanide production. **04**
(c) Discuss the sources of pollution and health & safety aspects of Nitric acid. **07**
- OR**
- Q.3** (a) Write down the reactions involved in monochloroacetic acid production. **03**
(b) Discuss the health hazards related to Esterification. **04**
(c) Discuss the sources of pollution and health & safety aspects of Ethanol. **07**
- Q.4** (a) Enlist the uses of Phenol. **03**
(b) What is Biuret? How to prevent its formation? **04**
(c) Explain the different ways of air pollution control in chemical manufacturing process. **07**
- OR**
- Q.4** (a) Write short note on Sulphur production. **03**
(b) State advantage of producing granular urea. How granular urea can be produced? **04**
(c) Write a note on MSDS. **07**
- Q.5** (a) Discuss the uses of methanol. **03**
(b) Define amination process by reduction method. **04**
(c) Draw only a neat process flow diagram of Cellulose Acetate manufacturing. **07**
- OR**
- Q.5** (a) Enlist the steps necessary to manage waste. **03**
(b) Write short note on different types of heat exchangers. **04**
(c) Write short note on hydrogenation of oils. **07**
