

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER- III (NEW) EXAMINATION – SUMMER 2015**

**Subject Code: 2131304****Date: 04/06/2015****Subject Name: Chemical Engineering Process****Time: 02.30pm-05.00pm****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) Draw flow diagram of Nitric acid and write its manufacturing process. 07
- (b) Explain in detail (i) Adsorption (ii) Distillation 07
- Q.2(a) Write manufacturing process of Ethanol from ethylene with flow diagram and explain sources of pollution. 07
- (b) Explain with neat flow diagram manufacturing process of vinyl chloride. Discuss major engineering problems. 07
- OR**
- (b) Discuss manufacturing process of vinyl acetate. 07
- Q.3(a) Draw flow diagram of MCAA & explain manufacturing process with sources of pollution. 07
- (b) Draw flow diagram of phenol and explain its manufacturing process. 07
- OR**
- Q.3(a) Write manufacturing process of hydrogenation of cotton seed oil. Also explain sources of pollution. 07
- (b) Explain production of cellulose acetate. Draw a labeled neat diagram. Discuss health and safety points. 07
- Q.4(a) Discuss manufacturing process of Hydrogen cyanide with flow diagram. 07
- (b) Write manufacturing process and draw flow diagram of Aniline from nitrobenzene. 07
- OR**
- Q.4(a) Write manufacturing process of Urea with flow diagram and explain sources of pollution. 07
- (b) Explain in detail (i) Froth floatation (ii) cyclone separator. 07
- Q.5(a) Explain manufacturing process of Furfural with neat flow diagram. 07
- (b) Explain (i) Heat Exchanger (ii) Grinding 07
- OR**
- Q.5(a) Explain (i) Electrostatic precipitator (ii) Extraction 07
- (b) Explain (i) Stripping (ii) Magnetic separation. 07

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