Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**BE - SEMESTER–VII EXAMINATION – WINTER 2015**

**Subject Code: 173501** **Date:16/12/2015**

**Subject Name: Chemical Process Technology**

**Time: 10:30am to 1:00pm** **Total Marks: 70**

**Instructions:**

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

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|---|---|---|---|
| **Q.1** | **(a)** | Explain manufacturing process of soda ash with neat flow diagram. | **07** |
| | **(b)** | Explain crude distillation in detail. | **07** |
| **Q.2** | **(a)** | Explain manufacturing process of phenol from cumene with help of neat flow sheet. | **07** |
| | **(b)** | Explain manufacture of butadiene production from n-Butane with neat flow diagram. | **07** |
| | | **OR** | |
| | **(b)** | Write and explain a process to manufacture water gas from coal with a neat flow diagram. | **07** |
| **Q.3** | **(a)** | Explain manufacturing process of sulphuric acid with help of neat flow sheet. | **07** |
| | **(b)** | Explain manufacturing process of Aniline from benzene with help of neat flow sheet. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Explain engineering aspects in manufacturing process of ammonia by haber's process? | **07** |
| | **(b)** | Explain manufacturing process of Nitric acid with help of neat flow sheet. | **07** |
| **Q.4** | **(a)** | Explain manufacturing process of vinyl chloride with neat flow diagram. | **07** |
| | **(b)** | Explain manufacturing process of ethylene oxide with neat flow diagram. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | What are the major engineering problems in manufacturing of ethylene oxide by air oxidation route? What process modification can be done? | **07** |
| | **(b)** | Draw and explain a detailed flow sheet to manufacture phthalic anhydride. | **07** |
| **Q.5** | **(a)** | Explain Oxo process. Explain manufacturing process of octyl aldehydes with neat flow diagram. | **07** |
| | **(b)** | Explain manufacturing process of methanol from syn gas with neat flow diagram. | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Explain manufacturing process of Phosphoric acid with neat flow diagram. | **07** |
| | **(b)** | Explain municipal water treatment process with neat flow diagram. | **07** |

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