

Registration No. :

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Total number of printed pages – 2

B. Tech  
PCCH 4202

**Third Semester Back Examination – 2014**

**CHEMICAL PROCESS TECHNOLOGY**

**BRANCH : CHEM**

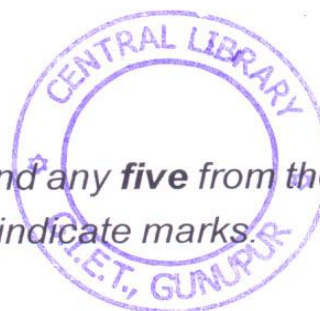
**QUESTION CODE : L 335**

**Full Marks – 70**

**Time : 3 Hours**

*Answer Question No. 1 which is compulsory and any **five** from the rest.*

*The figures in the right-hand margin indicate marks.*



1. Answer the following questions : 2 × 10
  - (a) Mention the pertinent properties of soda ash.
  - (b) Mention the cell notation and cell reactions for a diaphragm cell.
  - (c) Write different grades of sulfuric acid.
  - (d) Name the bleaching agent used for purification of vegetable oils.
  - (e) Give some examples of white pigment.
  - (f) Write the pertinent properties of sucrose.
  - (g) Write the chemical reaction for inversion of sugar.
  - (h) Write the properties of ethanol.
  - (i) Write the non-fibrous raw materials required for paper production.
  - (j) Differentiate between LDPE and HDPE.
2. Giving emphasis on chemical reactions and major engineering problems, discuss the Solvay process of manufacturing soda ash with a neat flow diagram. 10
3. Discuss the production of sulfuric acid by Contact process with a neat flow diagram. 10

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4. (a) Discuss briefly about the methods of extracting vegetable oils. 5  
(b) Write briefly about Dextrin. 5
5. Discuss in detail the Kraft pulping process with a neat flow diagram. 10
6. Discuss in detail the extraction of sucrose from sugar cane with a neat flow diagram. Also discuss the major engineering problems. 10
7. With a neat flow diagram, explain the polymerization process for vinyl polymer. 10
8. Write short notes on any **two** : 5 × 2
- (a) Synthetic detergents
  - (b) Glycerin
  - (c) Pigments
  - (d) Nylon-6,6.
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