

Code No: 07A60801

R07**Set No. 2**

III B.Tech II Semester Examinations, December 2010

CHEMICAL TECHNOLOGY

Chemical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Write short notes on:
 - (a) Sulfur cements.
 - (b) Silicate cements.
 - (c) High alumina cements. [5+5+6]
2. Explain how Urea is being manufactured from ammonium carbamate? Explain with neat flow sheet. [16]
3. Describe the solvent extraction method of producing oils with a neat flow sheet. [16]
4. Write a brief note on the following with respect to detergents.
 - (a) Suds regulators
 - (b) Builders
 - (c) Additives. [16]
5.
 - (a) Explain the manufacture of sulphuric acid with flow sheet.
 - (b) Give the applications of alum. [10+6]
6. Describe the manufacture of Phenol- Formaldehyde with neat block diagram. [16]
7. Describe the modifications in Dual process compared to Solvay process in the production of soda ash. Give all the reactions involved [16]
8.
 - (a) Describe the feed preparation of wood based material for the production of pulp.
 - (b) Describe the mechanical pulping process. [6+10]

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R07**Set No. 4**

III B.Tech II Semester Examinations, December 2010

CHEMICAL TECHNOLOGY**Chemical Engineering****Time: 3 hours****Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. Discuss the production of styrene butadiene rubber by emulsion polymerization and solution polymerization. [16]
2. Explain the production of sulfuric acid using contact and chamber processes. [16]
3. Explain the production of cement by any process with neat sketch. [16]
4. (a) Classify the surfactants & explain?
(b) Explain the major routes to produce surfactants? Explain. [8+8]
5. Discuss the major engineering problems involved in Kraft process? [16]
6. (a) Give a brief account on the use of edible and essential oils as a chemical raw material by the industry.
(b) Write the advantages and disadvantages of production of oils by mechanical and solvent extraction methods. [8+8]
7. Discuss the major engineering problems, advantages & disadvantages of Solvay process & Modified Solvay process. [16]
8. How purification of hydrogen is being done in adsorptive purification and cryogenic liquid Purification. [16]

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R07**Set No. 1**

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CHEMICAL TECHNOLOGY**Chemical Engineering****Time: 3 hours****Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. Describe the manufacturing process of fused silica glass, high silica glass & safety glass. [16]
2. What is soap? Write the reactions involved in manufacture of soap. [16]
3. How oxygen and nitrogen are produced using conventional Linde-Frankl cycle? Explain with neat flow sheet. [16]
4. Discuss the manufacture of vinyl chloride through acetylene-HCl reaction? [16]
5. What is paper stock? Write a note on it? [16]
6. (a) Write short notes on rare earth compounds.
(b) Explain the manufacturing of Aluminum Sulphate. [8+8]
7. Describe the production of magnesium compounds by separation from aqueous solutions. [16]
8. (a) what is the chemical composition of oils and fats.
(b) Describe the hydrogenation of oils. [8+8]

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R07**Set No. 3**

III B.Tech II Semester Examinations, December 2010

CHEMICAL TECHNOLOGY**Chemical Engineering****Time: 3 hours****Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. Describe in detail the continuous hydrolysis and saponification process for the soap manufacture with block diagram. [16]
2. Describe the production of any magnesium compound with a neat flow diagram. [16]
3. Explain the production of sulphur by oxidation-reduction of hydrogen sulphide. [16]
4. Write a short note on:
 - (a) Colored and coated glasses.
 - (b) Photochromic silicate glasses. [8+8]
5. (a) Name different sources for commercial production of carbon dioxide.
(b) Explain the production of hydrogen by coal gasification method. [8+8]
6. (a) What is plasticized PVC?
(b) Explain various polymerization techniques to produce vinyl polymers. [6+10]
7. Describe the chemical recovery from sulfate pulp digestion liquor with a flow sheet ? [16]
8. Describe the hydrogenation of oils and also discuss the major engineering problems involved in it. [16]
