

II B.Tech I Semester Regular Examinations, November 2005**INORGANIC CHEMICAL TECHNOLOGY****(Chemical Engineering)****Time: 3 hours****Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. What is process flow chart? Describe its preparation and important features. [16]
2. What is temporary and permanent hardness? Explain the methods to remove them. [16]
3. (a) What are ceramics?
(b) Describe the manufacture of white wares.
(c) Why white wares are usually glazed? [4+8+4]
4. Write informative notes on:
(a) Important process parameters for the manufacture of good cement clinker.
(b) Reactions in the rotary kiln.
(c) Sequence of operations in the manufacture of Portland cement.
(d) Additives for cement. [4x4]
5. Write short note on
(a) Glass laminates
(b) Glass wool
(c) Vitreosil
(d) Water Glass [4x4]
6. (a) What are the different sources for production of CO_2 .
(b) Discuss any one process in detail with a neat flow diagram. [6+10]
7. What is ammonium nitrate? Comment on choice of ammonium nitrate as a fertilizer for use in India. [16]
8. Comment on the economic strategy of the sulphuric acid plants? [16]

II B.Tech I Semester Regular Examinations, November 2005
INORGANIC CHEMICAL TECHNOLOGY
(Chemical Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Distinguish between organic and inorganic chemical technology. Explain their industrial importance. Give some examples. [16]
2. Explain the method of activated sludge sewage disposal. [16]
3. (a) What are the various methods used in body preparation from clay?
(b) Distinguish between permeable and non-permeable wares. [10+6]
4. (a) How cement is obtained on a large scale by dry process?
(b) Compare and contrast between wet and dry processes. [12+4]
5. Write short note on
 - (a) Fused silica Glass
 - (b) High Silica Glass
 - (c) Borosilicate Glass
 - (d) Lead Glasses [4x4]
6. (a) What are the catalysts used in hydrogen manufacturing?
(b) With a neat flow diagram explain the manufacturing of hydrogen from propane. [4+12]
7. Indicate how synthesis gas for the production of ammonia is obtained from natural gas. [16]
8. Draw the flow sheet and describe the oxidation and reduction process for the production of sulphur? [16]

II B.Tech I Semester Regular Examinations, November 2005**INORGANIC CHEMICAL TECHNOLOGY****(Chemical Engineering)****Time: 3 hours****Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. Discuss the importance of research in the growth and development of process industry. Explain the term patent. [16]
2. Explain water pollution? What are the measures adopted for its control. [16]
3. (a) What are ceramics?
(b) Describe the manufacture of white wares.
(c) Why white wares are usually glazed? [4+8+4]
4. Write informative notes on:
(a) Important process parameters for the manufacture of good cement clinker.
(b) Reactions in the rotary kiln.
(c) Sequence of operations in the manufacture of Portland cement.
(d) Additives for cement. [4x4]
5. How the caustic soda is manufactured using De-Donora Mercury cell with diagram and chemical equations. [16]
6. (a) Describe the production of hydrogen from hydrocarbons by partial oxidation along with a neat flow diagram.
(b) Describe the production of hydrogen from water gas and steam. [8+8]
7. Describe the production of ammonia by Haber-Bosch process with a neat flow diagram. [16]
8. Comment on the economic strategy of the sulphuric acid plants? [16]

II B.Tech I Semester Regular Examinations, November 2005**INORGANIC CHEMICAL TECHNOLOGY****(Chemical Engineering)****Time: 3 hours****Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. (a) What are the unit operations and unit processes, explain with examples
(b) What is the nature of working expected from chemical engineers in Process industry? [10+6]
2. What are the utilities needed by a process industry. Explain the role of water as one of the utilities. [16]
3. (a) What do you mean by Pyrometric cone equivalent and what is its significance?
(b) How silica refractories are manufactured? What are its applications? [16]
4. Explain briefly about
 - (a) Sorel cement
 - (b) Blast furnace slag cement
 - (c) Role of Gypsum
 - (d) Coloured cement [4x4]
5. Explain in details the physico chemical principles involved in the caustic soda by diaphragm cell method. [16]
6. (a) Describe how carbon dioxide can be recovered from the furnace gases with a neat diagram.
(b) Write briefly about the liquid carbon dioxide. [12+4]
7. Indicate how synthesis gas for the production of ammonia is obtained from natural gas. [16]
8. (a) Consumption of sulphuric acid is the barometer of India's industrial progress-comment?
(b) Discuss about the sulphur containing ore's of India? [8+8]
