Code No: RR210804 **Set No.1**

II B.Tech. I Semester Supplementary Examinations, May -2005
INORGANIC CHEMICAL TECHNOLOGY
(Chemical Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. What is chemical conversion. Explain specific characteristics of chemical conversion through suitable examples.
2. What is lime soda process? Why it is used. Explain the method of hot-lime soda Water softening with a neat diagram.
3. (a) What are the advantages of single pure oxide refractories over the mixed refractories?
   (b) How Beryllia refractories are made? What are their applications?
4. (a) What are the ISI specifications of cement?
   (b) How do you test the quality of cement?
   (c) How do you analyze the Portland cement sample?
5. Write in detail the chemical reactions occur in the furnace of Glass manufacturing with temperatures.
6. What are the methods available for the manufacture of hydrogen on a large scale? Briefly describe the method you choose to be the most advantageous.
7. Explain the ammonia oxidation process for the manufacture of nitric acid. How is nitric acid concentrated?
8. (a) What are the various sources of sulphur for the production of sulphuric acid?
   (b) What are the various types of catalysts used for the production of sulphuric acid?

⋆ ⋆ ⋆ ⋆ ⋆

Code No: RR210804 **Set No.2**

II B.Tech. I Semester Supplementary Examinations, May -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.
2. (a) Mention the engineering problems involved in the crystallization process employed for the water conditioning
   (b) Explain the Reverse osmosis process employed for the separation of water from brine.
3. (a) How chromite bricks are manufactured? What are their applications?
   (b) Give an account of the properties of dolomite refractories.
4. How lime is manufactured? What are its properties and applications?
5. (a) Define Glass
   (b) Enumerate the physical and chemical properties of glass.
   (c) What are the ingradients of glass?
6. (a) Describe about the collection and purification of natural carbon dioxide.
   (b) Explain how carbon dioxide is prepared in the laboratory along with equations.
7. What are the factors affecting the ammonia synthesis and discuss them in detail with reactions.
8. (a) What are the various grades of sulphuric acid available?
   (b) What are the various industries that consume sulphuric acid?

⋆ ⋆ ⋆ ⋆ ⋆

Code No: RR210804 **Set No.3**

II B.Tech. I Semester Supplementary Examinations, May -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.
2. Explain the methods of effluent sewage disposal from municipal waster water.
3. (a) How chromite bricks are manufactured? What are their applications?
   (b) Give an account of the properties of dolomite refractories.
4. (a) How cement is obtained on a large scale by dry process?
   (b) Compare and contrast between wet and dry processes.
5. Write short note on
   (a) Forcaurt process of shaping of sheet (or) window glass
   (b) Shaping of plate glass
6. (a) Describe about the collection and purification of natural carbon dioxide.
   (b) Explain how carbon dioxide is prepared in the laboratory along with equations.
7. (a) Describe the major engineering problems in the production of synthetic ammonia.
   (b) Explain the properties of ammonia and describe the consumption pattern of ammonia.
8. (a) What is Alum? What are its uses?
   (b) Draw the flow sheet for the production of Alum?

⋆ ⋆ ⋆ ⋆ ⋆

Code No: RR210804 **Set No.4**

II B.Tech. I Semester Supplementary Examinations, May -2005
INORGANIC CHEMICAL TECHNOLOGY
(Chemical Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) What do you understand by design of chemical processes equipments?
   (b) Explain the principles of economic balance for any chemical process industry.
2. What is COD? Explain its significance with reference to water pollution. How is it monitored and controlled.
3. (a) What are ceramics?
   (b) Describe the manufacture of white wares.
   (c) Why white wares are usually glazed?
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.
5. How the caustic soda is manufactured using De-Nonora Mercury cell with diagram and chemical equations.
6. (a) What are the sources for hydrogen?
   (b) Explain the process steam - hydrocarbon reforming process for manufacture of hydrogen and give its reactions.
7. Indicate how synthesis gas for the production of ammonia is obtained from natural gas.
8. Draw the flow sheet and describe the Frasch process for the production of sulphur?

⋆ ⋆ ⋆ ⋆ ⋆