

III B.Tech. II Semester Regular Examinations, April/May -2005

FERTILIZER TECHNOLOGY

(Chemical Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Discuss the carbonization process in detail.
2. Discuss the application of various synthesis gases.
3. Explain in detail with neat flow sheet, the manufacture of ammonia through any one process.
4. Explain with a neat flow sheet the manufacture of nitric acid from Ammonia oxidation process.
5. Discuss in detail the economics and process of Ammonium Sulphate as the end product.
6. Compare and discuss the advantages and disadvantages in the various processes for manufacturing phosphoric acid.
7. Write about the constitution of potassium in mineral soils?
8. Write a detailed note on nitrogenous-based fertilizer application on seasonal crop soils?

III B.Tech. II Semester Regular Examinations, April/May -2005

FERTILIZER TECHNOLOGY

(Chemical Engineering)

Time: 3 hours

Max Marks: 80

**Answer any FIVE Questions
All Questions carry equal marks**

1. Discuss the manufacture of synthesis gas for ammonium manufacture.
2. Explain the importance of low temperature shift conversion process.
3. (a) Name the promoter for iron oxide in all Ammonia Synthesis Catalysts.
(b) How does it help to produce ammonia. Explain with flow sheet?
4. What is the effect of large excess of water during conversion of Ammonium Carbamate into urea? Discuss in detail.
5. Write detailed note on plant location and process for manufacturing of Ammonium nitrate.
6. Discuss in detail about the major engineering problems encountered in manufacturing of phosphoric acid using HCL leaching process.
7. Write about the constitution of potassium in mineral soils?
8. Write a detailed note on nitrogenous-based fertilizer application on seasonal crop soils?

III B.Tech. II Semester Regular Examinations, April/May -2005

FERTILIZER TECHNOLOGY

(Chemical Engineering)

Time: 3 hours

Max Marks: 80

**Answer any FIVE Questions
All Questions carry equal marks**

1. Discuss the carbonization process in detail.
2. Describe the process for partial oxidation of flex oils , in detail.
3. (a) Why is purging off essential in an Ammonia plant?
(b) How does it help to get pure product of ammonia.
4. (a) How do you concentrate the Nitric acid to 95%?
(b) Explain in detail the various methods used to concentrate nitric acid.
5. Critically discuss about the choice of process for manufacturing Ammonium nitrate as the end product.
6. Discuss in detail the economics of Nitro phosphate production industries.
7. Describe the quality control aspects in the mixed fertilizer industry?
8. Write a detailed note on nitrogenous-based fertilizer application on seasonal crop soils?

III B.Tech. II Semester Regular Examinations, April/May -2005

FERTILIZER TECHNOLOGY

(Chemical Engineering)

Time: 3 hours

Max Marks: 80

**Answer any FIVE Questions
All Questions carry equal marks**

1. Describe the various processes available for the manufacture of Nitrogen.
2. Explain the importance of methanation process in fertilizer industry.
3. What is the nature of ammonia synthesis reaction? Explain in detail with flow sheet, if any.
4. Due to the presence of which material Nitric acid is generally light yellow in color? Give reasons. Write a brief note on manufacture of Nitric acid.
5. Explain in detail the crystallization process for manufacturing of Ammonium nitrate with neat flow diagram.
6. Discuss in detail about the economic evaluation and process for manufacture of phosphoric acid.
7. Explain the separation of potash from its ore by flotation recovery method?
8. Make a balance sheet of production economies of typical fertilizer plant?
