Code No: RR320807 **Set No. 1**

III B.Tech II Semester Supplementary Examinations,
November/December 2005
FERTILIZER TECHNOLOGY
(Chemical Engineering)

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

Answer any FIVE Questions
All Questions carry equal marks

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1. Explain the ultimate analysis of coal and its importance. [16]
2. Discuss the various methods by which methanation process can be carried out.[16]
3. What is the nature of ammonia synthesis reaction? Explain in detail with flow sheet, if any. [16]
4. Which is the catalyst used in the manufacture of nitric acid by Ammonia Oxidation process? Give the process in detail. [16]
5. Briefly discuss about the various methods available for manufacturing of Ammonium nitrate. [16]
6. Explain in detail the strong acid process for the manufacturing of phosphoric acid with a neat flow diagram. [16]
7. Write about the selection of ingredients for mixed fertilizers? [16]
8. Make a balance sheet of production economies of typical fertilizer plant? [16]

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Code No: RR320807 **Set No. 2**

III B.Tech II Semester Supplementary Examinations,
November/December 2005
FERTILIZER TECHNOLOGY
(Chemical Engineering)

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

Answer any FIVE Questions
All Questions carry equal marks

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1. Compare the low and high temperature carbonization processes. [16]
2. Discuss the application of various synthesis gases. [16]
3. Explain in detail with neat flow sheet, the manufacture of ammonia through any one process. [16]
4. Explain with a neat flow sheet the manufacture of nitric acid from Ammonia oxidation process. [16]
5. Critically discuss about the choice of process for manufacturing Ammonium nitrate as the end product. [16]
6. Write short note on
   (a) Economics of tripple super phosphate industries
   (b) Engineering problems in tripple super phosphate industries [16]
7. Write about the constitution of potassium in mineral soils? [16]
8. Write a detailed note on nitrogenous-based fertilizer application on seasonal crop soils? [16]

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Code No: RR320807 **Set No. 3**

III B.Tech II Semester Supplementary Examinations,
November/December 2005
FERTILIZER TECHNOLOGY
(Chemical Engineering)

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

Answer any FIVE Questions
All Questions carry equal marks

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1. Discuss the manufacture of metallurgical coke. [16]
2. Explain the process of carbon monoxide removal. [16]
3. (a) Why is purging off essential in an Ammonia plant?
   (b) How does it help to get pure product of ammonia. [6+10]
4. (a) How do you concentrate the Nitric acid to 95%?
   (b) Explain in detail the various methods used to concentrate nitric acid. [8+8]
5. Discuss in detail the major engineering problems encounted in production of Ammonium Sulphate nitrate. [16]
6. Write short note on
   (a) Economics of Superphosphate industries
   (b) Engineering problems in Super phosphate industries [16]
7. Write about the constitution of potassium in mineral soils? [16]
8. Write a detailed note on nitrogenous-based fertilizer application on seasonal crop soils? [16]

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Code No: RR320807 **Set No. 4**

III B.Tech II Semester Supplementary Examinations,
November/December 2005
FERTILIZER TECHNOLOGY
(Chemical Engineering)

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

Answer any FIVE Questions
All Questions carry equal marks

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1. Explain the steam reforming process for manufacture of hydrogen. [16]
2. Discuss the application of various synthesis gases. [16]
3. (a) What are the Temperature and Pressure conditions in Ammonia converter?
   (b) Give various processes in detail for manufacture of Ammonia. [4+12]
4. Explain with a neat flow sheet the manufacture of nitric acid from Ammonia oxidation process. [16]
5. Discuss in detail the major engineering problems encounted in manufacturing of Ammonium nitrate. [16]
6. Discuss in detail the economics of Ammonium Phosphate production industries. [16]
7. Write about caking of mixed fertilizers? [16]
8. Write a note on controlled release of fertilizers on different soils? [16]

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