

Q.24 Discuss in detail about manufacturing process of superphosphate with the help of neat and clean flow sheet. (CO3)

Q.25 Explain any two of the following:

- i) Important fertilizer plants in India (CO1)
- ii) Materials used in manufacturing of mixed fertilizers. (CO4)
- iii) Effects of Micronutrients. (CO4)

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**5th Sem / Chemical**

**Subject : Fertilizer Technology**

Time : 3 Hrs.

M.M. : 60

**SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 How are fertilizers classified? (CO1)

- a) Organic and Inorganic
- b) Solid and liquid
- c) Local and imported
- d) Chemical and mineral

Q.2 Which of the following is a common catalyst used in the fertilizer industry? (CO1)

- a) Copper
- b) Nickel
- c) Iron
- d) Zinc

Q.3 Which of the following fertilizers contains both nitrogen and sulfur? (CO2)

- a) Urea
- b) Ammonium sulfate
- c) Ammonium nitrate
- d) Diammonium phosphate

- Q.4 Diammonium phosphate is produced using (CO3)
- Ammonia and sulfur
  - Sulfur and nitrogen
  - Calcium and nitrogen
  - Phosphate rock and ammonia
- Q.5 Disadvantage of mixed fertilizers is (CO4)
- High cost
  - Low nutrient diversity
  - Risk of nutrient imbalance
  - Difficult storage
- Q.6 Which of the following is not a micronutrient? (CO4)
- |         |             |
|---------|-------------|
| a) Iron | b) Nitrogen |
| c) Zinc | d) Copper   |

### SECTION-B

**Note:** Objective/ Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 Define fertilizer. (CO1)
- Q.8 Write chemical formula of ammonia. (CO2)
- Q.9 Give an example of a mixed fertilizer. (CO4)
- Q.10 Write full form of NPK. (CO4)
- Q.11 Triple superphosphate contains both nitrogen and potassium.(True/False) (CO3)
- Q.12 Give an advantage of Bio-fertilizer. (CO4)

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### SECTION-C

**Note:** Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

- Q.13 Discuss the role of fertilizers in plant growth. (CO1)
- Q.14 Write any four advantages of using fertilizers. (CO1)
- Q.15 Describe the different types of feedstock used in the production of ammonia. (CO2)
- Q.16 Discuss about various operation problems encountered in urea plant. (CO2)
- Q.17 Draw neat and clean flow sheet of Diammonium phosphate production. (CO3)
- Q.18 Describe the manufacturing process of potassium chloride. (CO3)
- Q.19 Write any four disadvantages of compound fertilizers. (CO4)
- Q.20 Explain the main steps involved in the manufacturing process of NPK fertilizers. (CO4)
- Q.21 Write a short note on bio-fertilizers. (CO4)
- Q.22 Classify different types of micronutrients in detail. (CO4)

### SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

- Q.23 Explain manufacturing process of ammonium nitrate with the help of neat and clean flow sheet. (CO2)

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