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Roll No.

220555B

**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 What is the main purpose of fertilizers in agriculture? (CO1)
a) Improve water retention
b) Control weeds
c) Provide nutrients to plants
d) Prevent soil erosion
- Q.2 Which fertilizer type is derived from animal or plant material? (CO1)
a) Synthetic b) Organic
c) Inorganic d) Chemical
- Q.3 Which process is commonly used to produce ammonia? (CO2)
a) Solvay process b) Contact process
c) Ostwald process d) Haber-Bosch process
- Q.4 Triple super phosphate is richer in (CO3)
a) Phosphorus b) Potassium
c) Nitrogen d) Calcium

- Q.5 The NPK value of a fertilizer represents (CO4)
 a) Density of fertilizer b) Nutrient content
 c) Toxicity level d) pH value
- Q.6 One common microorganism used in bio-fertilizers is (CO4)
 a) Nitrosomonas b) Bacillus
 c) Rhizobium d) Lactobacillus

Section-B

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

- Q.7 Name one common catalyst used in the fertilizer industry. (CO1)
- Q.8 Write chemical formula of Urea. (CO2)
- Q.9 Give an example of a nitrogenous fertilizer. (CO2)
- Q.10 Write full form of DAP. (CO3)
- Q.11 Ammonium nitrate is a type of phosphoric fertilizer. (True/False) (CO2)
- Q.12 Give a disadvantage of mixed fertilizer. (CO4)

Section-C

Note: Short answer type Question. Attempt any eight questions out of Ten Questions. (8x4=32)

- Q.13 Classify different types of fertilizers. (CO2)
- Q.14 Write any four disadvantages of using fertilizers. (CO2)
- Q.15 Describe any one method of ammonia production (CO2)

- Q.16 Draw neat and clean flow sheet of Urea production. (CO2)
- Q.17 Discuss the process description of Diammonium phosphate production. (CO2)
- Q.18 Describe the manufacturing process of potassium sulphate. (CO2)
- Q.19 Write any four advantages of compound fertilizers. (CO2)
- Q.20 Discuss about various materials used in manufacturing of mixed fertilizers. (CO2)
- Q.21 Discuss any four advantages bio-fertilizers over conventional fertilizers. (CO2)
- Q.22 Describe the effects of different types of micronutrients. (CO2)

Section-D

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

- Q.23 Explain manufacturing process of ammonium sulphate with the help of neat and clean flow sheet. (CO2)
- Q.24 Discuss in detail about manufacturing process of triple super phosphate with the help of neat and clean flow sheet. (CO2)
- Q.25 Explain in detail any two of the following:
 i) Overview of fertilizer industry in India (CO1)
 ii) Manufacturing of NPK fertilizers (CO4)
 iii) Different types of micronutrients (CO4)