

## Scheme - I

### Sample Question Paper

**Program Name** : Diploma in Chemical Engineering

**Program Code** : CH

**Semester** : Sixth

**Course Title** ; Fertilizer Technology

**Marks** : 70

**22615**

**Time: 3Hrs.**

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#### Instructions –

- (1) All Questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figure to the right indicates full marks.
- 4) Assume suitable data if necessary
- 5) Preferably write the answers in sequential order.

#### **Ques. No. 1. Attempt any FIVE of the following**

**(10 Marks)**

- a) List the name of fertilizer industries in India.
- b) State the two applications of fertilizer nutrients.
- c) Write two physical & chemical properties of ammonia.
- d) List four applications of ammonium chloride fertilizers.
- e) Write raw materials required for production of single super phosphate.
- f) Identify devices used for storage of NPK fertilizers.
- g) Write the initiatives taken by government towards bio fertilizers

#### **Ques. No. 2. Attempt any THREE of the following**

**(12 Marks)**

- a) Explain the importance of micro nutrients in fertility of soil.
- b) State the applications of fertilizer nutrients.
- c) Write the secondary nutrients and raw materials for nitrogenous fertilizers.
- d) State the secondary nutrients and raw materials required in phosphatic and potassic fertilizers.

**Ques.No.3 Attempt any THREE of the following (12 Marks)**

- a) Explain the construction and working of ammonia converter.
- b) Describe the manufacturing of calcium ammonium nitrate with flow diagram.
- c) Give raw materials and method of production of  $\text{NH}_4\text{Cl}$  with reaction and flow diagram.
- d) Write in brief proper storage and handling of nitrogenous fertilizer.

**Ques.No.4. Attempt any THREE of the following (12 Marks)**

- a) Explain the method of production of single super phosphate with flow diagram.
- b) Describe the manufacturing of triple super phosphate with raw material required
- c) Write the applications of single super phosphate and how it is stored ?
- d) Describe handling and transportation method of phosphatic fertilizers.
- e) Write the flow diagram of production of triple super phosphate.

**Ques No. 5 Attempt any TWO of the following (12 Marks)**

- a) Explain method for manufacturing of di-ammonium phosphate with raw materials, reaction and flow diagram .
- b) Describe method for production of nitro phosphate with raw materials, reaction and flow diagram.
- c) Write the method for manufacturing of mixed fertilizer and its applications.

**Ques No. 6 Attempt any TWO of the following (12 Marks)**

- a) Write the methods of preparation, construction and working of vermi – compost pit.
- b) Describe the method of preparation of bio – fertilizer by using kitchen waste.
- c) State the merits and demerits of kitchen waste bio – fertilizer unit.

## Scheme - I

### Sample Test Paper - I

**Program Name** : Diploma in Chemical Engineering

**Program Code** : CH

**Semester** : Sixth

**Course Title** : Fertilizer Technology

**Marks** : 20

**22615**

**Time: 1 Hour**

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**Instructions:**

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

**Q.1 Attempt any FOUR.**

**(08 Marks)**

- a) State the importance of micro nutrients in fertility of soil.
- b) List the raw materials required for nitrogenous fertilizer.
- c) List the secondary nutrients in phosphatic and potassic fertilizer.
- d) Write two applications of ammonia related to its chemical properties.
- e) Give the raw materials required for the production of calcium ammonium nitrate.
- f) State applications of single super phosphate.

**Q.2 Attempt any THREE.**

**(12 Marks)**

- a) Write the role of essential elements in plant growth.
  - b) State the importance & applications of fertilizer nutrients.
  - c) Explain the production of calcium ammonium chloride with the flow diagram.
  - d) Write the manufacturing of ammonium chloride with the raw material required .
  - e) Describe the method of manufacturing of single super phosphate with the raw materials required and flow diagram.
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## Scheme - I

### Sample Test Paper - II

**Program Name** : Diploma in Chemical Engineering

**Program Code** : CH

**Semester** : Sixth

**Course Title** : Fertilizer Technology

**Marks** : 20

**22615**

**Time: 1 Hour.**

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#### Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

#### **Q.1 Attempt any FOUR.**

**(08 Marks)**

- a) Write the transportation methods phosphatic fertilizers.
- b) State applications of triple super phosphate.
- c) State applications of di ammonium phosphate.
- d) Write the raw materials required for the manufacturing of nitro phosphate.
- e) List the initiatives of government towards bio fertilizer.
- f) Write the merits of kitchen waste bio fertilizer.

#### **Q.2 Attempt any THREE.**

**(12 Marks)**

- a) Describe the method production of triple super phosphate with the raw materials required and flow diagram.
  - b) Explain the method for manufacturing of di ammonium phosphate with the raw materials required and flow diagram.
  - c) Write the method for manufacturing of NPK fertilizers
  - d) Explain the construction and working of vermi – compost pit.
  - e) Write need and importance of bio fertilizers.
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