

22615

23124

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. **Attempt any FIVE of the following :** **10**
 - (a) Write the names of any 2 nitrogenous fertilizers.
 - (b) Write the names of any 2 phosphatic fertilizers.
 - (c) Write the chemical formula of Ammonium Chloride and it's any two uses.
 - (d) Write the chemical formula of Calcium Ammonium Nitrate and it's any two uses.
 - (e) Write the chemical formula of single super phosphate.
 - (f) List out the methods of storage of NPK fertilizers.
 - (g) Write the names of two raw materials for production of Bio-fertilizers.

2. **Attempt any THREE of the following :** **12**
 - (a) Describe the availability of feedstock for Nitrogen and phosphorus based fertilizers.
 - (b) Explain importance of fertilizer nutrients.
 - (c) List micro and macro nutrients (four each).
 - (d) Explain development of fertilizer industry in India related to fertilizer production and consumption in India.



- 3. Attempt any THREE of the following : 12**
- (a) Write physical and chemical properties of ammonia (two each).
 - (b) Explain about storage and handling of ammonia.
 - (c) Draw the flow diagram of production of Calcium Ammonium Nitrate.
 - (d) Explain method of production of Ammonium Chloride with flow diagram.
- 4. Attempt any THREE of the following : 12**
- (a) Draw the flow diagram for production of single super phosphate.
 - (b) Explain method of production of triple super phosphate.
 - (c) Write about storage and handling of super phosphate fertilizer.
 - (d) Draw the flow diagram of Diammonium phosphate production.
 - (e) Draw process flow diagram for the production of triple super phosphate.
- 5. Attempt any TWO of the following : 12**
- (a) Explain method of production of Nitrophosphate with flow diagram.
 - (b) Describe method of production of NPK fertilizer.
 - (c) Write about storage and handling of Nitrophosphate and NPK fertilizer.
- 6. Attempt any TWO of the following : 12**
- (a) Describe method of preparation of Vermi-compost and precautions taken.
 - (b) Explain the method of preparation of Bio-fertilizer by using kitchen waste.
 - (c) Discuss initiatives and schemes of Central and State Government towards Bio-fertilizers.
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