

22314

23242

3 Hours / 70 Marks

Seat No.

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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) 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 any two uses of acetylene.
- (b) Name two methods of production of cement.
- (c) List any 4 industrial applications of chlorine.
- (d) Give the raw materials used in manufacturing of single super phosphate.
- (e) What is biurate ? Write down reaction involved in it.
- (f) Enlist raw material for the manufacturing of Nitric Acid.
- (g) State any 4 industrial uses of ammonia.

2. Attempt any THREE of the following :

12

- (a) Draw the process flow diagram for the manufacture of sulphuric acid.
- (b) Describe manufacturing of ammonium nitrate.
- (c) State any two uses of phosphorus and write down structure of white phosphorus and red phosphorus.
- (d) Draw and describe Nelson's cell used in manufacturing of chlorine and caustic soda.



- 3. Attempt any THREE of the following : 12**
- (a) Define Plaster of Paris. Explain any two uses of Plaster of Paris.
 - (b) Explain manufacturing of water gas with raw material and flow diagram.
 - (c) Draw process flow diagram for the manufacturing of hydrochloric acid by salt and acid process.
 - (d) Give the properties and uses of Urea. (Four each)
- 4. Attempt any THREE of the following : 12**
- (a) Draw and describe manufacturing process for triple super phosphate.
 - (b) Draw diagram of mercury cell.
 - (c) Summarise the properties of good refractoriness.
 - (d) State Linde's and Claude's principle for manufacturing of oxygen and nitrogen. Write two uses each of O_2 & N_2 .
 - (e) Draw process flow diagram for manufacturing of soda ash.
- 5. Attempt any TWO of the following : 12**
- (a) Describe manufacturing process of Nitric acid with well labelled flow diagram.
 - (b) Describe the manufacturing of Urea with raw materials and reactions.
 - (c) Describe with diagram manufacturing process of phosphorus using phosphate rock.
- 6. Attempt any TWO of the following : 12**
- (a) Describe Solvay's process for soda ash manufacturing and write reactions involved in it.
 - (b) Explain manufacturing of acetylene from CaC_2 with neat PFD.
 - (c) Explain manufacturing process of phosphoric acid by H_2SO_4 leaching process with its flow diagram.
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