313337

12425

03 Hours / 70 Marks Seat No. | | | | | | | | |

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) Enlist raw materials for the manufacturing of Sulfuric Acid (H_2SO_4)

b) Give any two properties of urea.

c) Define Saponification value of an oil.

d) List the names of raw materials used for manufacturing of polyvinyl chloride.

e) Write any four uses of ethyl acetate.

f) Write the chemical reactions involved in manufacturing of triple super phosphate.

g) Enlist raw materials for manufacturing of Soda ash.

Marks

2. Attempt any THREE of the following : **12**

a) Draw the process flow diagram for the manufacturing of Sulphuric Acid ($H_2SO_{4)}$

b) Explain the manufacturing process of Di-ammonium phosphate.

c) Explain manufacturing of polyethylene by Zeigler process.

d) Describe manufacturing of ethyl alcohol from molasses with neat flow diagram.

3. Attempt any THREE of the following : **12**

a) Give any four industrial applications of phenol.

b) Draw process flow diagram for manufacturing of polyester.

c) Explain the manufacturing of triple super phosphate with neat flow diagram.

d) Write physical properties and uses of ethyl alcohol (any four each)

4. Attempt any THREE of the following : **12**

a) Draw flowsheet for manufacturing of soap by modern continuous process.

b) Draw the process flow diagram for manufacturing of Polyvinyl Chloride (PVC).

c) Draw Process Flow Diagram for manufacturing of phenol by Cumene process.

d) Give industrial applications of Polyvinal Chloride (PVC) (any four)

e) Explain the manufacturing of Hydrochloric Acid (HCl) by salt and acid process with neat flow diagram.

Marks

5. Attempt any TWO of the following : **12**

a) Explain the need and importance of Bio-fertilizers.

b) Explain the manufacturing of single superphosphate using neat flow diagram

c) Explain Hydrogenation of oil with neat flow diagram and write the name of catalyst used in the process.

6. Attempt any TWO of the following : **12**

a) Explain manufacturing of ethyl acetate with neat process flow diagram.

b) Explain the process of extraction of oil from oil seed and give any two uses of oil.

c) Write industrial applications of –

i) Caustic Soda

ii) Soda ash (Any three each)