

313337

24225

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) 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 material for the manufacturing hydrochloric acid.
 - b) Define mixed fertilizer. Give the meaning of 30:30:20?
 - c) Define acid value and saponification value of vegetable oil.
 - d) List any two properties of Phenol. (Any two points)
 - e) List any two industrial uses of polyester.
 - f) Define fermentation process.
 - g) State any two uses of sodium carbonate in the industry.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Explain manufacturing of Di-ammonium phosphate (DAP) with flow diagram.
 - b) Differentiate between vanadium pentoxide (V_2O_5) and platinum catalyst (Pt). (Any four points)
 - c) Draw process flow diagram for manufacturing of ethyl acetate.
 - d) Write chemical reaction involved in manufacturing of polyethylene.
- 3. Attempt any THREE of the following:** **12**
- a) Describe manufacturing process of triple superphosphate with neat flow diagram.
 - b) Draw process flow diagram for manufacturing of phenol by Raschig process.
 - c) Explain the process of hydrogenation of oil with neat flow diagram.
 - d) Give the classification of polymer on the basis of molecular forces and method of preparation.
- 4. Attempt any THREE of the following:** **12**
- a) Draw process flow diagram for manufacturing of urea with chemical reaction and raw material.
 - b) Describe manufacturing of sulphuric acid by contact method.
 - c) Draw process flow diagram for manufacturing of polyethylene by Ziegler process.
 - d) Explain cleansing action of soap.
 - e) Write any two uses and two properties of alcohol.
- 5. Attempt any TWO of the following:** **12**
- a) Explain manufacturing of polyester from dimethyl terephthalate and ethylene glycol with neat flow diagram and write chemical reaction involved in the process.
 - b) Explain manufacturing of phenol by cumene process with neat flow diagram and write chemical reaction.

- c) Differentiate between chemical fertilizer and bio-fertilizer. (Any four points) Outline any four importance of Bio-fertilizer in agriculture sector.

6. Attempt any TWO of the following:

12

- a) Describe manufacturing of ethanol from molasses with process flow diagram and write chemical reaction involved in this process.
- b) Explain manufacturing of polyvinyl chloride (PVC) with process flow diagram. Give types of PVC.
- c) Describe manufacturing process of single superphosphate with process flow diagram; raw material and chemical reaction.
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