

17427

16117

3 Hours / 100 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) Use of Non-programmable Electronic Pocket Calculator is permissible.
(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. a) **Attempt any SIX of the following:** **12**
- (i) Define fermentation.
 - (ii) List four sources of cellulose pulp.
 - (iii) Define saponification value and iodine value of oil.
 - (iv) What are different methods for manufacturing of phenol.
 - (v) State any two uses of PVC and polyester each.
 - (vi) Write names of any four constituents of paints.
 - (vii) What is vinegar? State its uses.
- b) **Attempt any TWO of the following:** **8**
- (i) Draw flow diagram for manufacture of ethyl alcohol from molasses.
 - (ii) Draw labelled block diagram for production of a paint.
 - (iii) What is a polymer? Discuss the mechanism of polymerisation.

P.T.O.

- 2. Attempt any FOUR of the following:** **16**
- a) Draw and describe manufacturing process of acetic acid from acetaldehyde.
 - b) Give classification of plastics.
 - c) Draw neat labelled flow diagram of manufacturing of phenol from cumene.
 - d) Write names and uses of any four types of paper.
 - e) Compare the sulphate and sulphite process for manufacturing of pulp.
 - f) Explain the cleansing action of soap.
- 3. Attempt any FOUR of the following:** **16**
- a) Define soap. How is soap manufactured by “Hot process”?
 - b) How are oils converted into fats? Write reaction involved.
 - c) Draw Ziegler process for manufacture of polyethylene.
 - d) Describe in detail and flow sheet for extraction of oil.
 - e) Write the names of any four constituents of paint.
 - f) Describe manufacture of PVC by emulsion polymerization.
- 4. Attempt any FOUR of the following:** **16**
- a) Differentiate between varnish and lacquers.
 - b) Describe manufacture of fats by hydrogenation of oils.
 - c) List different types of paints and state one application of each.
 - d) Define saponification value and free acid value.
 - e) Give chemical reactions for manufacturing of phenol from Loluene oxidation process.
 - f) Give the manufacturing process of thermocol.

- 5. Attempt any TWO of the following:** **16**
- a) Draw neat flow diagram and explain the process for manufacturing of butanol.
 - b) Describe manufacturing process of detergent with a neat flow sheet.
 - c) With a flow sheet explain the manufacture of phenol by chlorobenzene - caustic hydrolysis.
- 6. Attempt any TWO of the following:** **16**
- a) Draw neat labelled flow diagram of manufacturing phenol via benzene sulfonate process.
 - b) Explain manufacturing process of paper from pulp.
 - c) Draw block diagram for manufacture of ethylene glycol from ethylene and oxygen and explain the process.
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