

22410

23242

3 Hours / 70 Marks

Seat No.

| | | | | | | | |
|--|--|--|--|--|--|--|--|
| | | | | | | | |
|--|--|--|--|--|--|--|--|

- 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.
 - (7) Use of steam tables, logarithmic, Mollier's chart is permitted.

Marks

1. Attempt any FIVE of the following :

10

- (a) List the raw materials used for manufacturing of ethanol.
- (b) Write the reactions involved in manufacturing of alcohol by corn.
- (c) Define saponification and iodine value of oil.
- (d) Differentiate between addition polymerisation and condensation polymerisation reaction.
- (e) Write the reaction involved in manufacturing of Phenol by Raschig process.
- (f) Name raw materials for manufacture of paper.
- (g) State any two uses of polyvinyl chloride.

2. Attempt any THREE of the following :

12

- (a) Identify the raw materials for soap & state chemical reaction
- (b) Draw the process block diagram for the manufacturing of paint.
- (c) Write reaction involved in manufacturing of polycarbonate. & State its any two industrial applications.
- (d) State the raw materials used for Phenol manufacturing by toluene & list industrial applications of Phenol.



- 3. Attempt any THREE of the following :** **12**
- (a) Draw process block diagram for manufacture of butanol.
 - (b) Describe the need of edible oil refining process.
 - (c) Differentiate between lacquers and varnishes. (any four)
 - (d) Describe with sketch the principle of digester for making process of pulp.
- 4. Attempt any THREE of the following :** **12**
- (a) Differentiate between soap and detergent. (any four)
 - (b) Define Lacquers. State its constituents with their functions.
 - (c) List out two industrial applications of the following :
 - (1) Polyethylene
 - (2) Polyvinyl chloride
 - (d) State raw materials used for manufacturing of phenol by cumene & list its any two industrial applications.
 - (e) Draw process flow diagram for manufacturing of Phenol by Raschig process.
- 5. Attempt any TWO of the following :** **12**
- (a) Describe with sketch the manufacturing process flow diagram of acetaldehyde.
 - (b) Describe the manufacturing of polyethylene by Low and high pressure process with process flow diagram.
 - (c) Describe manufacturing of paper by Kraft process with neat flow diagram.
- 6. Attempt any TWO of the following :** **12**
- (a) Identify the components of manufacturing of Ethyl acetate with chemical reactions. Draw process block diagram of it.
 - (b) Describe the manufacturing of polyester with neat flow diagram.
 - (c) Describe manufacturing process of phenol by cumene peroxidation with neat flow diagram.
-