

# 22410

**11920**

**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) Figures to the right indicate full marks.  
(4) Use of Non-programmable Electronic Pocket Calculator is permissible.  
(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**
- Write the names of any two enzymes used for the production of alcohol from corn.
  - List any two industrial applications of Butanol.
  - Write names of any two Solvents used in solvent extraction process of oil.
  - List the names of raw materials used for the production of PVC.
  - Write names of two processes used for the production of pulp.
  - List any two applications of polyester.
  - Define alkylation process.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- Draw process flow diagram for manufacturing of polyethylene.
  - Differentiate between Varnishes and Lacquers.
  - Write reaction involved in manufacturing of phenol by Cumene process. Name raw materials used in the process.
  - Draw neat process flow diagram for hydrogenation of oil. Write name catalyst used in the process.
- 3. Attempt any THREE of the following:** **12**
- Explain manufacturing of acetaldehyde from ethylene.
  - Explain cleansing action of soap by neat sketch.
  - Explain manufacturing of paint with block diagram.
  - Explain recovery of chemicals from black liquor in pulp manufacturing process.
- 4. Attempt any THREE of the following:** **12**
- Differential between soap and detergent.
  - List any four constituents of paint with their functions.
  - Explain manufacturing of polyethylene by Ziegler process.
  - Draw PFD for manufacturing of phenol by toluene.
  - Write any two uses and two properties of phenol.
- 5. Attempt any TWO of the following:** **12**
- “Recycling of paper is environ friendly process”. Justify the sentence. Draw PFD of Kraft process.
  - Write reaction involved in manufacturing of alcohol from corn. Draw PFD of the process.
  - Define condensation and addition polymerisation with example. Write reaction involved in manufacturing of vinyl chloride.

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[ 3 ]

**Marks**

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

**12**

- a) Explain manufacturing of butanol by OXO process with neat PFD.
- b) Write applications of poly carbonates and reaction involved in manufacturing it.
- c) Draw PFD for manufacturing of phenol by Rasching process. Write reaction involved in this process.

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