

22410

12425

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) 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) Name the enzymes used in manufacturing of ethanol from molasses.
- (b) Define acid value of oil.
- (c) List the constituents of the paint.
- (d) Write reactions involved in manufacturing of polyethylene.
- (e) Define polymerization.
- (f) List various types of paper.
- (g) List raw materials required for manufacturing of paper.

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

**12**

- (a) Draw process flow diagram for manufacturing of paint.
- (b) Explain manufacturing of ethyl acetate.
- (c) Write reactions involved in manufacturing of phenol by cumene.
- (d) Explain manufacturing of PVC.



- 3. Attempt any THREE of the following : 12**
- (a) Differentiate between paint and varnish.
  - (b) Explain cleansing action of soap.
  - (c) Write properties and uses of butanol.
  - (d) Draw process flow diagram of phenol manufacturing from cumene.
- 4. Attempt any THREE of the following : 12**
- (a) Differentiate between sulphate and sulphite process involved in manufacturing of pulp.
  - (b) State role of any four constituents of paint.
  - (c) Write reactions involved in manufacturing of polyester.
  - (d) State properties and uses of phenol.
  - (e) Draw PFD of soap manufacturing by continuous process.
- 5. Attempt any TWO of the following : 12**
- (a) Explain manufacturing of pulp by sulphate process.
  - (b) Explain manufacturing of alcohol from molasses with reactions and PFD.
  - (c) Explain manufacturing of phenol by Raschig process.
- 6. Attempt any TWO of the following : 12**
- (a) Explain manufacturing of ethanol from corn with PFD.
  - (b) Explain manufacturing of polyethylene with PFD.
  - (c) (i) Write reactions involved in manufacturing of phenol by toluene process.  
(ii) Define saponification value & state its significance.
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