

17427

11920

3 Hours / 100 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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. (A) Attempt any SIX :

12

- (a) Write initial and final moisture content in paper while making it from pulp.
- (b) Define saponification value of oil.
- (c) Write product and by-products of fermentation process.
- (d) List two uses each of ethyl alcohol and acetic acid.
- (e) Name the solvent used for extraction of oil from seeds.
- (f) Define soap.
- (g) Name important constituent of pulp.

(B) Attempt any TWO :

8

- (a) Define polymerisation and explain its any two types with example.
- (b) Explain manufacturing of paint.
- (c) Explain cleansing action of soap.

[1 of 4]

P.T.O.

2. Attempt any FOUR : **16**

- (a) Draw flow diagram for the production of acetic acid by oxidation of acetaldehyde.
- (b) Explain any four constituents of paint.
- (c) Explain chemical recovery from black liquor.
- (d) Write reaction involved in Raschig process. List any four uses of phenol.
- (e) Name the catalyst used in Ziegler process. State the method used to destroy residual catalyst.
- (f) Define Acid value & Iodine value. State their significance in oil industry.

3. Attempt any FOUR : **16**

- (a) Explain production of butanol by Oxo process.
- (b) Differentiate between paint and varnish.
- (c) Draw flow diagram of paper manufacturing from pulp. Show moisture content at various stages.
- (d) Draw flow diagram for manufacturing of phenol by Raschig process.
- (e) Explain production of polyethylene by high pressure process.
- (f) Explain production of polystyrene.

4. Attempt any FOUR : **16**

- (a) List the uses of (any two of each)
 - (i) PVC
 - (ii) Polyethylene
 - (iii) Polystyrene
 - (iv) Polyester

- (b) Explain in detail any two unit operations used in paint manufacturing.
- (c) Name enzyme used and gas produced during fermentation of molasses. Also write physical properties of ethanol and acetic acid (any two of each).
- (d) Differentiate between soap and detergents.
- (e) Explain manufacturing of soap by continuous method.
- (f) Write chemical reactions involved in manufacturing of Rayon. State its two uses.

5. Attempt any TWO :**16**

- (a) With neat flow diagram explain manufacturing of ethanol from molasses.
- (b) Explain production of edible oil by solvent extraction process with neat flow diagram.
- (c) Write reactions involved in the production of phenol by cumene peroxidation process. Explain process with neat flow diagram.

6. Attempt any TWO :**16**

- (a) Explain manufacturing of pulp by
 - (i) Sulphate process
 - (ii) Sulphite process
 - (b) With neat process flow diagram explain production of polyester. Write reactions involved in process.
 - (c) Explain manufacturing of phenol by Toluene oxidation process.
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