

17427

21415

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) Figures to the right indicate full marks.

Marks

1. (A) Attempt any **SIX** of the following :

12

- (a) Define pulp and name the methods of production of pulp.
- (b) Write any 4 uses of vegetable oils.
- (c) What is vinegar ? State it's uses.
- (d) Write the names of enzyme used for manufacturing of ethyl alcohol.
- (e) Name raw materials for detergent.
- (f) Give the raw materials of soap.
- (g) Name any four uses of rayons.

(B) Attempt any **TWO** of the following :

8

- (a) Give types of polymers with example.
- (b) Write the constituents of white, black, blue, red pigments.
- (c) What do you understand by refined oil ? Give any two examples.

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

16

- (a) Draw the flow sheet for manufacture of alcohol from corn and also write the chemical reactions.
- (b) Write the various raw materials required for manufacturing of paints along with their purposes.
- (c) Write names & uses of any four types of paper.
- (d) Describe the manufacturing of phenol by toluene oxidation process.

P.T.O.

- (e) Discuss the uses of following polymers :
 - (i) Polyethylene
 - (ii) Polystyrene
 - (iii) Polyesters
 - (iv) PVC
- (f) Explain the cleansing action of soap with a diagram.

3. Attempt any FOUR of the following : 16

- (a) Describe the manufacturing of ethyl alcohol from molasses.
- (b) Define lacquers. Write it's two industrial applications.
- (c) Explain the manufacture of paper from pulp with various zones with respect to moisture content.
- (d) Draw the process flow diagram for manufacturing of phenol from chlorobenzene caustic process.
- (e) Write industrial application (any four) of phenol in various industry.
- (f) Explain the manufacturing of polyvinyl chloride with raw material, reaction and block diagram.

4. Attempt any FOUR of the following : 16

- (a) Describe the low pressure process for manufacture of polyethylene.
- (b) Explain the use of extenders and thinner in paints with example.
- (c) Describe the manufacture of Butanol.
- (d) Define soap. How soap is manufactured by continuous process ?
- (e) Define saponification & Iodine value of oil. Also write their importance for any oil.
- (f) Write the basic chemical reactions involved in the manufacture of rayon.

5. Attempt any TWO of the following : 16

- (a) Describe the manufacturing process of Acetic acid from acetaldehyde.
- (b) Explain in brief on extraction of oil with a flow sheet.
- (c) Explain the manufacturing process of phenol from cumene process.

6. Attempt any TWO of the following : 16

- (a) Describe the manufacturing of pulp from sulphate process.
 - (b) Describe the flow sheet of manufacture of polyester by DMT and ethylene glycol.
 - (c) Describe the Rasching process for manufacture of phenol.
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