

- Substantive dyes known as salt colour. i.
- ii. Teflon is coated utensils are used for cooking or baking.

(4+4+2)2A. Define degree of polymerization. Describe the ionic polymerization with suitable examples. **2B.** Discuss the effect of structure of polymer on the following properties.

- Chemical resistivity ii. Tensile strength iii. Crystallinity i. iv. Elasticity **2C.** Describe the O.N.Witt's theory of colour.
- **3A.** Explain the process of compression moulding and Hand lay-up technique with a neat diagram. Write two applications of each.
- **3B.** Give the preparations and any two properties of followings;
 - i. Fluorescine ii. Phthalocyanines
- **3C.** What are polymer degradation? Explain mechanical polymer degradation.

(4+4+2)

- **4A. i.** How is an OLED device made? Mention two of it's advantages. ii. Mention any four differences between organic semiconductors and inorganic semiconductors.
- **4B. i.** Write the reactions involved in the manufacturing of sodium alkylbenzenesulphonates ii. What is the composition of nail enamel? How is it prepared?
- **4C.** Write the mechanism involved in the Kolbe's electrolysis of sodium acetate.

(4+4+2)

Time: 3 hrs

(4+4+2)

5A. i. Write the hydrogenolysis and hydrolysis reactions of tristearate.

- **ii.** What is the composition of a liquid shampoo? How does the surfactant remove dirt from hair?
- **5B. i.** Mention any four techniques to grow organic thin films. Explain the spin coating technique of growing organic thin films.
 - **ii.** Differentiate direct and indirect oxidation reactions. Write the oxidation reaction of alkylbenzene.
- **5C.** Describe the working of numeric liquid crystal display.

(4+4+2)

6A. i. What are petrochemicals? Name two petrochemicals each obtained from gasoline and naptha.

ii. Why do oils have lower melting points than fats? What is a drying oil?

6B. i. What is the essential requirement for a molecule to be a thermotropic liquid crystal? How are thermotropic liquid crystals classified based on structure?

ii. How is linseed oil extracted? Which are the fatty acids present in linseed oil?

6C. i. How is a transparent OLED made?

ii. Mention the types of organic materials used in organic semiconductors with an example each.

(4+4+2)