

[This question paper contains 3 printed pages]

Your Roll No. :
Sl. No. of Q. Paper : **5827** **I**
Unique Paper Code : 6092011203
Name of the Paper : Polymer Technology
Name of the Course : **B.Sc. (H) Polymer Science**
Semester : II

Time : 3 Hours **Maximum Marks : 90**

Instructions for Candidates :

- (a) Write your Roll No. on the top immediately on receipt of this question paper.
- (b) Attempt any **five** questions. Question No. 1 is compulsory.

- 1. Attempt any six :** 5×6=30
- (a) Discuss the properties of aliphatic nylons.
 - (b) Illustrate chain branching mechanism of polyethylene. What are its consequences ?
 - (c) Discuss electrical and thermal properties of PVC.
 - (d) Illustrate the benefits of casting process of PMMA production.

P.T.O.

- (e) Compare the properties of HIPS and ABS. 6
- (f) Discuss properties of poly (vinyl alcohol). 6
- (g) Illustrate primary properties of phenolic resins which make them suitable for various applications. 6
- 2. (a) How do the amide linkages in aliphatic polyamides contribute to their properties? 6
- (b) Discuss the preparation of resol resins. 5
- (c) Discuss properties of poly (vinyl acetate). 4
- 3. (a) Discuss Philips process for production of polyethylene. 6
- (b) Discuss the production and purification of polypropylene. 5
- (c) How do properties of (methyl methacrylate) (PMMA) differ from other acrylic polymers? Explain. 4
- 4. (a) Describe properties and applications of EPDM. 6
- (b) PBT is being considered an engineering thermoplastic. Examine it in detail. 5

- (c) List applications of unplasticized polyvinyl chloride (UPVC). 4
- 5. (a) Illustrate significance of the different monomers structure used for production of unsaturated polyester resins. 6
- (b) Discuss the curing and properties of resols. 5
- (c) Discuss the applications of polyurethane foams. 4
- 6. (a) Discuss preparation of epoxy polymers. 6
- (b) Discuss methylol formation and condensation reactions in preparation of linear UF polymers. 5
- (c) How do the properties of polystyrene change when it is prepared in the presence of polybutadiene. 4
