

This question paper contains 3 printed pages.

3146

Your Roll No.

M.E.

J

POLYMER TECHNOLOGY

Paper— CH.506

(Polymer Technology – I)

Time : 3 hours

Maximum Marks : 100

*(Write your Roll No. on the top immediately
on receipt of this question paper.)*

*Attempt any five questions.
All questions carry equal marks.*

1. (a) Comment on the overview of Polymer Industries in India.
 - (b) Report the consumption of polymers as plastics in India.
 - (c) Write about the preparation of monomers for the following polymers:
 - (i) Polyvinyl chloride
 - (ii) Nylon 6
 - (iii) Polyethylene terephthalate. 4,4,12
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2. Discuss the production, properties and applications of any two of the following:

P. T. O.

- (i) Polytetrafluoroethylene
 - (ii) Polymethyl methacrylate
 - (iii) Polyvinyl pyrrolidone
 - (iv) Styrene-acrylonitrile copolymer. 10,10
3. (a) Give details of the preparation of flexible polyurethane foam and mention its applications also.
- (b) Explain the special properties of polyurethane coatings.
- (c) Report the preparation, properties and uses of polyvinyl alcohol. 6,6,8
4. Describe the preparation, properties and uses of any *two* of the following:
- (i) Butyl rubber
 - (ii) Fluoroelastomers
 - (iii) Polypropylene glycol
 - (iv) Polycarbonate. 10,10
5. (a) How do you prepare an epoxy resin? Mention its applications.
- (b) Write about the preparation, properties and uses of melamine-formaldehyde resins.

- (c) Give brief account of aromatic polyesters. 8,8,4
6. (a) What are the special features of heat resistant polymers?
- (b) Write about the preparation, properties and applications of polyphenylene sulfide and of polysulfone. 4,16
7. (a) Explain inorganic polymers and report their merits over organic polymers.
- (b) Discuss the general properties and applications of silicones.
- (c) Describe cation exchange and anion exchange resins. Mention their application in water softening process. 6,6,8
8. Write short notes on any *four* of the following:
- (i) Fibres
- (ii) Acrylic adhesives
- (iii) Urea-formaldehyde resins
- (iv) Photoconductive polymers
- (v) Piezoelectric polymers
- (vi) Polyphosphates. 4×5=20