

M.Tech. / Sem. VI

CHEMICAL SYNTHESIS AND PROCESS TECHNOLOGIES  
Paper - Module 26 : Polymer Chemistry and Processing

Time : 2 hours

Maximum Marks : 38

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

Attempt all questions.

Q1. Why (any four)

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- A. Tg value of polystyrene is less than Tg value of poly  $\alpha$ -methylstyrene
- B. Plasticizers make the polymer flexible and rubbery.
- C. Light scattering is a highly useful technique in polymer science.
- D. Natural rubber needs vulcanization.
- F. Polymers like polyacrylonitrile, polyacrylates are often prepared by anionic polymerization.

Q2. Define the following terms with suitable example (any four)

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- A. Degree of polymerization
- B. Tacticity
- C. Copolymerization
- D. Glass transition temperature
- E. Reinforcement

Q3. A. What are the differences between thermoplastic and thermosetting resin.

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B. Explain Compression Moulding

Or

- A. What are the differences between addition polymerization and condensation polymerization?
- B. Explain the mechanism of coordination polymerization.

Q4. Write short note any three

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- A. Emulsion polymerization
- B. Vulcanization
- C. Classify polymers on the basis of monomeric unit.
- D. Dendrimer