

IV B.Tech II Semester Supplementary Examinations, April/May 2005
PLASTIC AND POLYMERIC MATERIALS
(Metallurgy & Material Technology)

Time: 3 hours

Max Marks: 70

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Discuss about the concept of polymerization and depolymerisation.
(b) Explain the following
 - i. Number average molecular weight
 - ii. Weight average molecular weight
2. Explain different types of addition polymerization techniques with their advantages and disadvantages.
3. (a) Explain glass transition temperature of polymers and its significance.
(b) What are Crystalline and Amorphous polymers, give example for each.
4. Discuss about the following
 - (a) Stereo specificity
 - (b) Natural and synthetic polymers
 - (c) Homo-polymers and co-polymers

What are the polymers used in bio-medical system?

5. Describe the functions of the following additives used in plastics with examples.
 - (a) Retarders
 - (b) Inhibitors
 - (c) Antioxidants
 - (d) Cross-linking agents
6. List any four thermoplastics; give their formula, properties and applications.
7. Mention the preparation and structure of the following with their properties and uses.
 - (a) PETP
 - (b) Viscose Rayon
 - (c) Nylon 6,6
8. (a) Explain the effect of temperature and catalyst on properties of polymers.
(b) What are thermosetting resins? Discuss the production of Phenol formaldehyde resins?
