

- Q25 Explain the properties of bakelite in brief?
 Q.26 Discuss in brief the solution polymerization process?
 Q.27 What is functionality of a monomer? How will you classify the monomers on the basis of its functionality?
 Q.28 Define the colourants? Discuss their types used in polymer industry?
 Q.29 Write any five uses of urea formaldehyde resin?
 Q.30 Discuss the effect of molecular weight on polymer properties in brief?
 Q.31 Describe the usefulness of extrusion technique in polymer processing industry?
 Q.32 What are additives? Why they are used in plastics?
 Q.33 Explain the calendaring technique in brief?
 Q.34 Describe the principle of extrusion technique in brief?
 Q.35 Explain the importance injection moulding technique in polymer industry?

SECTION-D

Note: Long answer questions. Attempt any two questions out of three Questions. (2x10=20)

- Q.36 Explain the structure, properties and uses of polyethylene in detail?
 Q.37 Describe emulsion polymerization process in detail with the help of a neat diagram?
 Q.38 Discuss the concept of molecular weight of polymer? Describe viscosity average molecular weight of polymers in detail?

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4th Sem. / Chem. Subject : Polymer Technology

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple choice Questions. All Questions are compulsory. (10x1=10)

- Q.1 Which monomer is used in the manufacture of Nylon 6, 6?
 a) Propylene b) Hexamethylene diamine
 c) Styrene d) Ethylene
 Q.2 Micelle formation takes place in which of following type of polymerization?
 a) Emulsion polymerization
 b) Solution polymerization
 c) Bulk polymerization
 d) Suspension polymerization
 Q.3 Which of the following is used for determining the properties of polymer?
 a) Empirical formula weight
 b) Weight average molecular weight
 c) Injection pressure
 d) Barrel temperature
 Q.4 What is the other name for addition polymerization?
 a) Step growth polymerization
 b) Chain growth polymerization
 c) Copolymerization
 d) None of the above

- Q.5 How many monomer types are used in the preparation of polyester?
a) 4 b) 3
c) 2 d) 1
- Q.6 Polypropylene is prepared by which polymerization technique?
a) Copolymerization
b) Condensation polymerization
c) Isomerization
d) Addition polymerization
- Q.7 Which of the following polymer product is made by extrusion technique?
a) Tiffin Box b) Water Bottle
c) Water Pipe d) Measuring Scale
- Q.8 Which of the following additive is used to improve adverse effects of environment on plastics?
a) Stabilizer b) Filler
c) Plasticizer d) Cross linking agent
- Q.9 Cold drink bottles are produced by using?
a) Blow moulding technique
b) Injection moulding technique
c) Rotational moulding technique
d) Extrusion technique
- Q.10 Which of following is a type of formaldehyde resin?
a) Polyester b) Teflon
c) Nylon d) Bakelite

SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 What are initiators?
Q.12 Name the type of polymerization in which the monomer is dissolved in a solvent prior to polymerization?
Q.13 Which type of plastic material contains strong cross linking in their molecular structure?
Q.14 What is the monomer for HDPE?
Q.15 Write full form of MWD?
Q.16 Which polymer processing technique is used to produce polymer sheets?
Q.17 Define the monomer?
Q.18 What are the three stage in chain growth polymerization mechanism?
Q.19 Which polymerization technique is used to produce bakelite?
Q.20 Which polymerization technique is used to produce polymers from water insoluble monomers?

SECTION-C

- Note:** Short answer type Questions. Attempt any twelve questions out of fifteen Questions. (12x5=60)
- Q.21 Discuss the advantages and disadvantages of suspension polymerization process?
Q.22 What is difference between addition polymerization and condensation polymerization?
Q.23 Discuss the preparation of Nylon 6, 6 in brief?
Q.24 Discuss in brief the need of plasticizers during processing of plastics?