

- Q.28 Explain thermal transition and its importance in plastic industries.
 Q.29 Drive an expression of Carothers equation for condensation.
 Q.30 How to determine molecular weight of polymer by light scattering method.
 Q.31 Explain thermodynamics of polymer solution.
 Q.32 Explain molecular weight of polymer by viscometry.
 Q.33 Drive an expression of reaction mechanism of addition polymerization by free radical.
 Q.34 Write advantages of emulsion polymerization.
 Q.35 Write reaction mechanism of Ziegler Natta polymerization.

SECTION-D

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

- Q.36 Write short note on
 a) Bulk polymerization
 b) Solution Polymerization
 Q.37 Discuss Glass transition temp and their factors affecting the Tg. Write relationship between Tm & Tg.
 Q.38 Write short note on
 a) Reactivity ratio
 b) Importance of copolymer

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4th Sem / Plastic Subject:- Polymer Science and Technology - II

Time : 3Hrs. M.M. : 100

SECTION-A

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

- Q.1 Rheology refers to
 a) Flow and deformation
 b) Viscosity only
 c) Both A & B
 d) None of these
 Q.2 Newtonian fluids are those which follow
 a) Newton's law of viscosity
 b) Power Law
 c) Hooks Law
 d) None of these
 Q.3 Recyclable plastics is/are
 a) ABS b) PP
 c) SAN d) all of these
 Q.4 Cross linked polymers refers to
 a) Thermoplastic b) Thermoset
 c) Both of A & B d) None of these

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- Q.5 Which are influencing Glass transition temperature (Tg.)
 a) Temp.
 b) Chemical composition
 c) Intermolecular forces
 d) all of these
- Q.6 Time dependent permanent deformation is called
 a) Plastic deformation b) Elastic deformation
 c) Creep d) None of these
- Q.7 Branched chain polymers compared to linear polymer have higher
 a) Density
 b) Tensile strength
 c) Melting Temp.
 d) Degree of irregularity in atom packing
- Q.8 Visco-elastic behavior exhibited by plastic is
 a) Solid b) Liquid
 c) Both A & B d) None of these
- Q.9 Chain growth polymerization is usually much lower than step growth polymerization
 a) True b) False
 c) Maybe d) None of these
- Q.10 Shape of true stress-strain curve for a material depends upon
 a) Strain b) Strain rate
 c) Temp. d) All of these

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Define degree of polymerization.
 Q.12 Expand FTIR.
 Q.13 Define amorphous polymers.
 Q.14 Define stress.
 Q.15 Define creep.
 Q.16 Write formula of Number average molecular weight of polymers.
 Q.17 Define free radical.
 Q.18 Define Initiator.
 Q.19 Define Copolymer.
 Q.20 Define Homopolymer.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Explain power law of fluid.
 Q.22 Drive an expression of Maxwell model.
 Q.23 Define polymerization techniques explain any one of them.
 Q.24 Explain time dependent & time independent behavior of visco-elastic materials.
 Q.25 Explain copolymers and their types.
 Q.26 Write importance of copolymers in plastic industries.
 Q.27 Drive an expression of weight average molecular weight of polymers.