

Q.17 Give manufacturing and properties of ethylene glycol.

Q.18 Explain various type of polymer degradation.

Q.19 Discuss thermodynamics of polymer dissolution

Q.20 Give difference between crystalline and amorphous polymers

Q.21 Discuss concept of biodegradability

Q.22 Discuss macromolecular concept of polymers

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Explain using chart, the classification of organic compounds.

Q.24 Write short note on:

- a) Need and importance of plastic recycling
- b) Flory-Huggins theory

Q.25 Write the structure of the compounds whose name are given below:

- a) Methyl Alcohol
- b) Acetone
- c) Formaldehyde
- d) Phenol

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Time : 3 Hrs.

M.M. : 60

2nd Sem. / Plastic Technology Subject : Polymer Chemistry

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Viscosity of polymer solution or melt _____

- a) Decreases with increase in molecular weight
- b) Decreases with increase in temperature
- c) Increases with increase in temperature
- d) None of these

Q.2 Polymers are _____

- a) Micro molecules
- b) Macro molecules
- c) sub micro molecules
- d) None of these

Q.3 Monomer of PVC is_____

- a) Ethylene
- b) Propylene
- c) Vinyl chloride
- d) Caprolactum

Q.4 Degradation of polymers by sun light is known as_____

- a) Bio degradation
- b) Photo degradation
- c) Hydrolytic degradation
- d) None of these

Q.5 A major problem in plastics recycling is the _____.

- a) Colour
- b) low weight-to-volume ratio
- c) low melting point
- d) all of the above

Q.6 Isomers have same atomic number and different _____.

- a) Mass number
- b) Electronic configuration
- c) Number of electrons
- d) None of the above

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Benzene ring has _____ carbon atoms

Q.8 Resin identification code for PVC is_____.

Q.9 Monomer of poly-styrene is_____.

Q.10 Polymers generally show_____ type of bonding in their chains (Primary / Secondary)

Q.11 GPPS is an example of_____ polymer (Amorphous / Crystalline)

Q.12 IUPAC stands for_____.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Explain effect of molecular weight, size and shape of macromolecules on polymer dissolution.

Q.14 Discuss IUPAC nomenclature of alkanes (in brief).

Q.15 State various characteristics of Hydrogen bonding.

Q.16 Explain Isomerism and its types.