

B.Sc. (CBCS Pattern) Semester - VI
CHT16 - Chemistry-IV : Discipline Specific Elective - Chemistry-VIII
(Polymer Chemistry)

P. Pages : 2

Time : Three Hours



GUG/S/23/13344

Max. Marks : 50

- Notes : 1. All questions carry equal marks.
2. All questions are compulsory.

1. a) Write classification of polymer. 5
b) What is functionality in polymer write its importance. 5

OR

- c) Write note on degree of polymerisation. 2½
d) What are addition and condensation polymer. 2½
e) Explain Texture of polymer. 2½
f) What is bifunctionality in polymer. 2½
2. a) Explain mechanism of ionic polymerization. 5
b) Write informative notes on the following: 5
i) Plasticizers
ii) Fire retardants

OR

- c) Describe coordination polymerization with suitable examples. 2½
d) Explain termination and chain transfer steps in polymerization. 2½
e) Write a note on Ultraviolet stabilizers. 2½
f) Write short notes on Bulk polymerization. 2½
3. a) Explain End Group Analysis Method used for calculating the number-average molecular weight of polymer. 5
b) Explain Lower and Upper critical solution temperatures. 5

OR

- c) What are the types of polymer solutions? 2½
d) What is the significance of weight average molecular weight? 2½

- e) Write short note on Flory-Huggins theory. 2½
- f) What are the factors that affect polymer solubility? 2½
4. a) Explain the synthesis, properties and uses of polystyrene. 5
- b) Write informative notes on the following. 5
- i) poly (vinyl chloride)
- ii) acrylic polymers.

OR

- c) Write preparation and uses of polyvinyl acetate. 2½
- d) Write short note on nylon 6. 2½
- e) Describe a method of preparation of Bakelite. 2½
- f) How is LDPE manufactured? Describe its process. 2½
5. Attempt **any ten** questions of the following. **10x1**
=10
- i) What are natural polymers.
- ii) What are synthetic polymers?
- iii) What is curing process?
- iv) What is Thermal Stabilizers?
- v) What is weight average molecular weight of polymers?
- vi) What is critical solution temperatures?
- vii) Write structure of Polyvinyl Chloride (PVC)
- viii) What are application of polyamide?
- ix) What is polyfunctional system.
- x) Define Polymerization.
- xi) What is end group analysis.
- xii) Write uses of acrylic polymer.
