



Progressive Education Society's
Modern College of Arts, Science & Commerce Ganeshkhind, Pune – 16
(Autonomous)

End Semester Examination: OCT / NOV 2024

Faculty: Science and Technology

Semester: V

SET: A

Course Type: SEC-I

Max.Marks: 35

Program: B.Sc.General

Program (Specific): Chemistry

Class: T.Y.B.Sc.

Name of the Course: Polymer Chemistry

Course Code: 24-CH-510A

Paper: 24-CH-510A

Time: 2Hr

Instructions to the candidate:

- 1) There are 4 sections in the question paper. Write each section on separate page.
- 2) All Sections are compulsory.
- 3) Figures to the right indicate full marks.
- 4) Draw a well labelled diagram wherever necessary.

SECTION: A

Q1) Multiple Choice Questions

[1 X 5 = 5 M]

1) Which of the following is synthetic polymer ?

- a) cotton b) wood c) polyethylene d) silk

2) Which of the following polymers is prepared by condensation polymerization?

- a) Teflon b) Rubber c) polyvinyl chloride d) Nylon 6,6

3) When polymer is dissolved in solvent ,the viscosity.....

- a) increases b) decreases c) remains same d) fluctuates

4) Which of the following is fully fluorinated polymer ?

- a) polyethylene b) teflon c) rubber d) PVC

5) The chain backbone of organic polymer molecules contains.....bonds.

- a) C-C b) Si-Si c) S-S d) N-N

Q2) Very short answer questions (Attempt any 4/6)

[1 X 4 = 4 M]

i) Define the term polymer .

ii) What is chain polymerization?

iii) Define number average molecular weight.

iv) Explain the term 'natural rubber'

v) Explain conducting polymers.

vi) What is bakelite resin?

SECTION: B

Q3) Short answer questions (Attempt any 4/6)

[2 X 4 = 8 M]

- I) What is meant by repeating unit?**
- II) Explain the term oligomer.**
- III) What are uses of bagasse ?**
- IV) What is condensation polymerization?**
- V) Define relative viscosity.**
- VI) Explain the term polyester.**

SECTION: C

Q4) Short answer questions (Attempt any 4/6)

[2 X 4 = 8 M]

- I) What is degree of polymerization?**
- II) Explain Elastomers.**
- III) What is cationic polymerization?**
- IV) Give any two initiators used in free radical polymerization.**
- V) What is synthetic rubber?**
- VI) Define Polyamide.**

SECTION: D

Q5) Long answer type Questions (Attempt any 2/4)

[2 X 5 = 10 M]

- I) What is glass transition temperature? Comment on T_g values of polyethylene and PVC.**
- II) Discuss in brief the mechanism for cationic polymerization.**
- III) Describe classification of polymers.**
- IV) Explain preparation of PVC polymer.**

-----X-----