



22100930

**QP CODE: 22100930**

**Reg No** : .....

**Name** : .....

**B.Sc DEGREE (CBCS) REGULAR / REAPPEARANCE EXAMINATIONS,  
APRIL 2022**

**Sixth Semester**

**Choice Based Core Course - CH6CBT01 - POLYMER CHEMISTRY**

Common for B.Sc Chemistry Model I, B.Sc Chemistry Model II Industrial Chemistry & B.Sc  
Chemistry Model III Petrochemicals

2017 Admission Onwards

A5924AA6

Time: 3 Hours

Max. Marks : 80

**Part A**

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. Define constitutional repeating units.
2. What is meant by step growth polymerisation? Give an example.
3. What is ring opening polymerisation? Give an example.
4. What is meant by crystallinity of polymers?
5. Discuss on the helical morphology of polymers.
6. Define glass transition temperature.
7. How is PVA prepared?
8. What is meant by Spinning of polymers?
9. Give any two properties of LDPE.
10. What is PAN? Give its structure.
11. Give the limitations of polycarbonate.
12. Briefly classify the carbon nanotubes.

(10×2=20)





### Part B

Answer any **six** questions.

Each question carries **5** marks.

13. Differentiate between addition polymerisation and condensation polymerisation.
14. Explain
  1. Flory equation
  2. Gibbs Thompson formula
15. Explain Ultracentrifugation method.
16. Give four examples of cyclisation reactions.
17. What is oxidative degradation?
18. Briefly explain the difference between Nylon-6,6 and Nylon-6.
19. Write short note on aramides.
20. Briefly describe Flame retardant polymers.
21. What are conducting polymers? Explain with suitable examples.

(6×5=30)

### Part C

Answer any **two** questions.

Each question carries **15** marks.

22. Explain the mechanisms of any three types of Chain polymerisations.
23. Explain the following techniques of polymerisation:
  - (a) Bulk polymerisation
  - (b) Suspension polymerisation
  - (c) Emulsion polymerisation
24. What is crystallisation? What are the different methods of crystallisation mechanisms?
25. Discuss briefly
  - a) Controlled drug delivery system
  - b) Biomedical applications of polymer
  - c) Criteria for a drug releasing polymer scaffold

(2×15=30)

