



23105181

QP CODE: 23105181

Reg No :

Name :

**B.Sc DEGREE (CBCS) REGULAR / REAPPEARANCE EXAMINATIONS,
MARCH 2023**

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

0B8F33E6

Time: 3 Hours

Max. Marks : 80

Part A

*Answer any **ten** questions.*

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

1. Differentiate between natural polymers and synthetic polymers.
2. What is meant by step growth polymerisation? Give an example.
3. What is the difference between anionic polymerisation and ring opening polymerisation?
4. What are crystalline polymers?
5. What is Flory equation?
6. What is number average molecular weight?
7. How are ladder type polymers formed?
8. What is meant by compression moulding?
9. What is PVC? How is it prepared?
10. What is PMMA? Give any two uses
11. What is meant by Kevlar?
12. What is meant by flame retardant additives?

(10×2=20)

Part B

*Answer any **six** questions.*





Each question carries 5 marks.

13. Differentiate between addition polymerisation and condensation polymerisation.
14. Explain morphology of polymers.
15. Explain - 1. Dilatometric method. 2. Thermomechanical method.
16. Explain hydrolysis reactions of polymers.
17. Explain the important polymer degradation techniques.
18. Write short note on fluoropolymers.
19. Give any five applications of Polycarbonate.
20. What are conducting polymers? Explain with suitable examples.
21. Explain the conduction mechanism in polymers.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Explain the mechanism of the following:
 - (a) Free radical polymerisation
 - (b) Anionic polymerisation
 - (c) Cationic polymerisation
23. Explain the following techniques of polymerisation:
 - (a) Bulk polymerisation
 - (b) Suspension polymerisation
 - (c) Emulsion polymerisation
24. Discuss briefly on:
 - (a) Rotational casting
 - (b) Calendering
 - (c) Film casting
25. Briefly explain the following with examples.
 - (a) Fluorocarbon Polymers
 - (b) Polymeric Drugs
 - (c) PDMS

(2×15=30)

