QP CODE: 25020404

25020404

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / REAPPEARANCE / MERCY CHANCE EXAMINATIONS, FEBRUARY 2025

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

DE64AE4C

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 are copolymers? Give two examples.
3. Give any four advantages of Group transfer polymerisation.
4. What is Flory equation?
5. Why branching of polymers prevent crystallization?
6. What is number average molecular weight?
7. What are ozonolysis reactions?
8. What is meant by calendering?
9. What is LDPE ? How it is obtained?
10. What are polyesters?
11. Give the limitations of polycarbonate.
12. Classify the different types of 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. What is the effect of polymer composition and structure of polymers?

15. How geometry and rigidity affect the glass transition temperature?

16. Discuss on cyclisation reactions.

17. Explain the term mechanical degradation.

18. Give examples of vinyl polymers , its method of preparation and applications.

19. Differentiate Nylon-6 from Nylon 6,6

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 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. What is crystallisation? What are the different methods of crystallisation mechanisms?

25. Briefly explain the following with examples
    a) Fluorocarbon Polymers
    b) Polymeric Drugs
    c) PDMS

(2×15=30)