



21101110

QP CODE: 21101110

Reg No :

Name :

B.Sc DEGREE (CBCS) EXAMINATION, APRIL 2021

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

9C96DBF2

Time: 3 Hours

Max. Marks : 80

Part A

Answer any **ten** questions.

Each question carries **2** marks.

1. What are homopolymers? Give two examples.
2. What is meant by condensation polymerisation?
3. Explain co polymerisation using an example.
4. Define tensile strength of polymer.
5. What is a lamellae?
6. What is the relation between T_g and T_m for symmetrical polymers?
7. What is polymer modification?
8. What is meant by Spinning of polymers?
9. What is LDPE? Give any two uses.
10. What are poly amides? What are the different types of polyamides?
11. What is a polycarbonate? How is it prepared?
12. What is PANI? Give its structure.

(10×2=20)

Part B

Answer any **six** questions.

Each question carries **5** marks.



13. Explain the mechanism of ring opening polymerisation.
14. Explain
 1. Flory equation
 2. Gibbs Thompson formula
15. How do you determine weight average molecular weight?
16. Explain vulcanisation reactions.
17. Briefly describe Photo degradation
18. Give any two vinyl polymers, its method of preparation and uses
19. Briefly explain the preparation, properties and applications of polyurethanes
20. What are the main principles involved in developing heat resistant polymers?
21. Compare SWCNTs and MWCNTs

(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)