

C 1118

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Name.....

Reg. No.....

**SIXTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
MARCH 2021**

Chemistry

CHE 6B 13 (E2)—POLYMER CHEMISTRY

Time : Three Hours

Maximum : 80 Marks

Section A (One word/Sentence)

*Answer all questions.
Each question carries 1 mark.*

1. What is meant by glass transition temperature ?
2. What are the monomers of Nylon – 6, 6 ?
3. Give any *two* biomedical applications of polymers.
4. What is SBR ?
5. Name a catalyst used in stereo regular polymerization.
6. What are graft polymers ?
7. Example for addition polymer is _____.
8. Monomer of super glue is _____.
9. What is MF resin ?
10. Name a conducting polymer.

(10 × 1 = 10 marks)

Section B (Short Answer)

*Answer at least five questions.
Each question carries 4 marks.
All questions can be attended.
Overall Ceiling 20.*

11. What is tacticity ?
12. How is polyurethane prepared ? What are its uses ?
13. Write a note on condensation polymerization.
14. What is degree of polymerization ?

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15. How is polyethylene prepared ? What are its uses ?
16. Briefly explain cyclisation reactions
17. What are synthetic rubbers ? Explain with examples.
18. Write the structural formula of NR. What is its monomer ?
19. What is PAN ? How is it prepared ?
20. What is PDI ?
21. Explain Viscosity average molecular weight.
22. What is oxidative degradation of polymers ?

(5 × 4 = 20 marks)

Section C (Paragraph Questions)

*Answer at least four questions.
Each question carries 7 marks.
All questions can be attended.
Overall Ceiling 28.*

23. Compare between thermosetting and thermoplastic polymers.
24. What are the methods to express molecular weight of polymers ?
25. Explain the various types of polymer degradation.
26. Give brief account of any two polymer processing techniques.
27. Write the preparation and properties of PF resin.
28. What is ring opening polymerization ? Explain with example.
29. Explain the Visco-elastic behaviour of polymers.
30. Write the mechanism of coordination polymerization.

(4 × 7 = 28 marks)

Section D (Essay Questions)

*Answer any two questions.
Each question carries 11 marks.*

31. Discuss the classification of polymers based on various factors
32. Explain the mechanism of addition polymerization
33. What are the various polymerization techniques? Briefly Explain
34. How are the following polymers prepared? What are their uses ? (i) Urea- Formaldehyde resin ;
(ii) Silicone rubber ; and (iii) Neoprene.

(2 × 11 = 22 marks)