

C 21092

(Pages : 2)

Name.....

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2017

(CUCBCSS—UG)

Chemistry

CHE 6B 13 (E2)—POLYMER CHEMISTRY

Time : Three Hours

Maximum : 80 Marks

Part A

Answer all questions.

Each carries 1 mark.

1. Give the structure of PET.
2. Name one plasticizer for PVC.
3. Give the structure of polybutadiene.
4. What are the monomers of Phenolic Resin ?
5. What is photodegradation ?
6. What is Kevlar ?
7. Give the applications of Polyurethanes ?
8. What are the monomers of butyl rubber ?
9. What is gelation?
10. How can you determine the crystallinity of a polymer ?

(10 × 1 = 10 marks)

Part B

Answer any ten questions.

Each carries 2 marks.

11. What is ring opening polymerisation ?
12. What is nitrile rubber, give the uses.
13. Give Mark - Houwink equation.
14. What are heat resistant polymers ?
15. Distinguish between T_g and T_m ?
16. Write on natural polymers.
17. What is tacticity ?

Turn over

18. Explain ring opening polymerisation.
19. Distinguish between thermoplastics and thermosettings.
20. What is emulsion polymerisation ?
21. What is meant by crosslinking ?
22. Give the synthetic applications of phenolic resins.

(10 × 2 = 20 marks)

Part C

Answer any five questions.

Each carries 6 marks.

23. What are sedimentation and viscosity average molecular weights ?
24. What is polydispersity and molecular weight distribution ?
25. What are chain transfer reactions ?
26. Represent isotactic and syndiotactic polymers.
27. How will you distinguish between plastics, fibres and elastomers ?
28. Explain injection moulding with diagram.
29. What is film extrusion ?
30. Discuss end group analysis method for molecular weight determination.

(5 × 6 = 30 marks)

Part D

Answer any two questions.

Each carries 10 marks.

31. Compare step reaction and chain reaction polymerisations.
32. Explain different polymerisation techniques.
33. Give the preparation, properties and uses of PMMA.
34. What are sedimentation and viscosity average molecular weights ?

(2 × 10 = 20 marks)