C 21099 (Pages : 2) Name.....

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2017

(CUCBCSS—UG)

Polymer Chemistry

PC 6B 01—POLYMER CHEMISTRY—I

Time : Three Hours Maximum : 80 Marks

Part A

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

1. What is gel point ?
2. Who invented PF ?
3. Give an example for copolymer.
4. Give structure of Polybutadiene.
5. What is nylon 6 ?
6. Give an example for a synthetic rubber ?
7. What is neoprene ?
8. Name a plasticizer.
9. Suggest a method to determine weight average molecular weight.
10. What is number average molecular weight ?

(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 Tg and Tm ?
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. Explain compression moulding with diagram.
24. Discuss effect of co-polymerization on mechanical properties.
25. How will you distinguish between plastics, fibres and elastomers ?
26. Differentiate between tear, wear and abrasion resistance.
27. Distinguish between inhibitor and retarder.
28. What is kinetic chain length ?
29. Give expression for free energy of polymerization.
30. Write a short note on anionic polymerization.

(5 × 6 = 30 marks)

Part D

Answer any **two** *questions.*
Each carries 10 *marks.*

31. Discuss kinetics of vinyl radical polymerisation.
32. Explain different polymerisation techniques.
33. Give the preparation, properties and uses of PP.
34. What are sedimentation and viscosity average molecular weights ?

(2 × 10 = 20 marks)