D 40061 (Pages : 2) Name.....

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH/APRIL 2018

(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 ABIN.
2. Who is the father of polymer science ?
3. Give an example for zeigler Natta catalyst.
4. Give structure of nylon 6,6.
5. What is caprolactam.
6. Which is the first synthetic polymer ?
7. What is teflon ?
8. Name two biopolymers.
9. Give two examples for crosslinked polymers.
10. What is poly dispersity index ?

(10 × 1 = 10 m

Part B

Answer any **ten** *questions.*
Each carries 2 *marks.*

11. Give the applications of nitrile rubber.
12. What is Neoprene ?
13. What is an epoxy resin ?
14. What is rayon ?
15. Give two examples for condensation polymers.
16. Give Flory-Huggins parameter.
17. Give Mark - Houwink equation.

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18. What is a living polymer.
19. Give advantages of suspension polymerisation.
20. What is tear resistance ?
21. Distinguish between linear, branched and crosslinked polymers
22. What is meant by recycling of plastics ?

(10 × 2 = 20 marks)

Part C

Answer any **five** *questions.*
Each carries 6 *marks.*

23. Explain compression moulding with diagram.
24. Discuss the effect of co-polymerization on mechanical properties of polymers.
25. How will you distinguish between plastics, fibres and elastomers ?
26. Differentiate between tear, wear and abrasion resistance
27. Write short note on emulsion polymerization.
28. Discuss any colligative property method for molecular weight determination.
29. How will you use TGA to study polymer degradation ?
30. Give the important uses of polymers in medical field.

(5 × 6 = 30 mar

Part D

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

31. Explain ultra centrifugation.
32. Discuss the applications of polymers.
33. Give the preparation, properties and uses of PE.
34. Discuss the mechanism and kinetics of coordination polymerization.

(2 × 10 = 20 m