

C 60076

(Pages : 2)

Name.....

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2019

(CUCBCSS)

Chemistry

PC 6B 02 (E1)—POLYMER PROCESSING AND TECHNOLOGY

Time : Three Hours

Maximum : 80 Marks

Part A

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

1. What is natural rubber ?
2. Define dynamic fatigue.
3. Give an example for Thermo Plastics.
4. What is mean by mastication ?
5. Give the expansions of ASTM and BIS.
6. Define cure time.
7. Who is the father of polymer science ?
8. What is an elastomer ?
9. What is blowing agent ?
10. What are extenders ?

(10 × 1 = 10 marks)

Part B

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

11. Define melt flow index ?
12. What is plasticization ? Why is it needed in polymer processing ?
13. Write a note on casting of rubber.
14. How is rayon prepared ?
15. Define the term viscoelasticity.
16. What are the benefits of adding fillers to polymers ?

Turn over

17. Write a short note on the Creep behaviour of polymers.
18. What is milling ?
19. Write a short note on thermo foaming process.
20. What is lamination ?
21. What are accelerators ?
22. Write a short note on latex spreading ?

(10 × 2 = 20 marks)

Part C

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

23. Write a note on Vulcanization.
24. Describe the process of calendering.
25. Write a short note on rotational moulding.
26. How can you determine the density of polymeric materials ?
27. What is the difference between thermoplastic and thermosetting plastics ?
28. Write a short note on plastimeters and viscometers ?
29. What is UTM ? How is it helpful for the testing of polymers ?
30. Discuss Scorch cure time and optimum cure time ?

(5 × 6 = 30 marks)

Part D

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

31. Discuss various techniques employed in the testing of polymers ?
32. Explain about cellulose based polymers. What are their commercial applications ?
33. Give the various compounding additives used in rubber processing. Write their function.
34. Make a comparative study of injection moulding, compression moulding and blow moulding.

(2 × 10 = 20 marks)