C 21100 **(Pages : 2)** **Name.....**

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2017

(CUCBCSS—UG)

Polymer Chemistry

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

Time : Three Hours Maximum : 80 Marks

Part A

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

1. What is natural rubber.
2. Who invented nylon ?
3. Give an example for natural polymer.
4. Give structure of Polybutadiene
5. What is a polyamide.
6. Which is the first synthetic polymer ?
7. What is meant by liquid resin.
8. Name two biodegradable polymers.
9. Give one example for thermosetting polymer.
10. What is crosslinking ?

(10 × 1 = 10 marks)

Part B

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

11. What is meant by creep ?
12. What is nitrile rubber, give the uses.
13. What is meant by melt flow index ?
14. What are heat resistant polymers ?
15. Distinguish between Tg and Tm ?
16. Write on tensile strength.
17. What is mastication ?
18. Explain fatigue.

Turn over

19. Distinguish between thermoplastics and thermosettings.

20. What is milling ?.

21. How will you prepare ribbed smoked sheets ?

22. What is meant by latex compounding ?

(10 × 2 = 20 marks)

Part C

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

23. Explain blow moulding with diagram.

24. Discuss effect of co-polymerization on mechanical properties.

25. How will you test elastic properties ?

26. Differentiate between tear, wear and abrasion resistance.

27. Distinguish between tensile strength, modulus and elongation at break.

28. Write short notes on antioxidants and accelerators.

29. Explain thermoforming.

30. Explain calendering with diagram.

(5 × 6 = 30 marks)

Part D

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

31. Discuss rubber processing.

32. Explain how tensile properties are measured for thermoplastics and thermosets.

33. Compare and contrast compression moulding, injection moulding and transfer moulding.

34. Write short notes on cellulose derivatives.

(2 × 10 = 20 marks)