C 60068 (Pages : 2) Name.....

Reg. No.....

# SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2019

(CUCBCSS)

Chemistry

CHE 6B 13 (E2)—POLYMER CHEMISTRY

Time : Three Hours Maximum : 80 Marks

## Part A

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

1. Give the structure of Benzoyl Peroxide.
2. Who invented nylon ?
3. Give an example for copolymer.
4. What are the monomers of Poly carbonate.
5. What is nylon 6 ?
6. Give the name of a synthetic rubber ?
7. What is meant by liquid resin ?
8. Name two natural polymers.
9. Give two examples for biodegradable polymers.
10. What is number average molecular weight ?

(10 × 1 = 10 marks)

## Part B

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

11. What is EPDM ?
12. What is ABS resin, give *one* use.
13. How are silicones prepared ?
14. What are flame retardants ?
15. What are fillers, give examples ?
16. Write on inorganic polymers.

17. What are high temperature polymers ?
18. What is TMA ?
19. Distinguish between thermoplastics and thermosettings
20. What are engineering plastics ?
21. What is meant by recycling of plastics ?
22. Which polymer is used in making blood bag. Why ?

(10 × 2 = 20 marks)

## Part C

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

23. Give difference between wet and dry spinning.
24. Give tensile stress-strain curve for different polymeric materials.
25. How will you distinguish between plastics, fibres and elastomers ?
26. Explain calendering with diagram.
27. What is extrusion, co-extrusion and film extrusion ?
28. Discuss solution viscosity method for molecular weight determination.
29. How will you use DSC to study polymer degradation ?
30. Give the important uses of Synthetic rubbers.

(5 × 6 = 30 marks)

## Part D

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

31. Compare addition and condensation polymerisations.
32. Explain light scattering.
33. Give the preparation, properties and uses of PVC.
34. Derive expression for kinetics of stepwise polymerisation.

(2 × 10 = 20 marks)