(Pages : 3) **G – 1412**

Reg. No. : .....

Name : .....

Sixth Semester B.Sc. Degree Examination, April 2019
First Degree Programme Under CBCSS
Elective Course
CH 1661.3/IC 1661.3 : POLYMER CHEMISTRY
(2013 Admission Onwards)
(Common for CBCSS Chemistry and Career Related Group 2(a) Chemistry and Industrial Chemistry)

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** questions in **one** word/**one** sentence. **Each** question carries **1** mark.

1. Give an example for a natural polymer.
2. Write an important linkage of polyamide polymer.
3. Who invented the vulcanization process ?
4. Give two important application of nylon.
5. Convert the IUPAC name of poly-(1-nitrile ethylene) in to correct structure.
6. Define the term homopolymer.
7. Give an example for a thermosetting polymer.
8. Name the polymer used in bullet proof glass.
9. Define Tg.
10. What is the monomer of ABS ?

(1×10=10 Marks)

P.T.O.

SECTION – B

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

11. What is PTFE ? Name the monomer.
12. Explain polydispersity index.
13. What is vulcanization ? Give example.
14. Give an example of a polyester.
15. Define the term condensation polymerization. Give example.
16. Explain epoxy resin with example.
17. What are the advantages of emulsion polymerization ?
18. What are the different polymer processing methods ?
19. Give a note on high temperature polymers.
20. What is polystyrene ? How it is prepared ?
21. Give any two factors affecting Tg.
22. Give the uses of Dacron.

(8×2=16 Marks)

SECTION – C

Answer **any six** questions. **Each** questions carries **4** marks.

23. Polymers are gift for us in day to day life. Explain.
24. Write a note on dye casting.
25. Discuss the polymerization of phenol-formaldehyde resin.
26. Explain emulsion polymerization.
27. Write the preparation and application of nitrile rubber.
28. What are silicones ? How is it prepared ? Give its uses.

29. Explain the basic idea of oxidative degradation of polymers.

30. How are Nylon 6 and Nylon 66 prepared ?

31. How is molecular weight of polymers determined by viscosity method ?

(6×4=24 Marks)

SECTION – D

Answer **any two** questions. **Each** question carries **15** marks.

32. Discuss Bulk and Solution polymerization technique.

33. Write notes on :
    i) Plastic
    ii) Elastomers
    iii) Fibers.

34. Write briefly :
    a) Polymers in medical field
    b) Chemistry of Co-ordination and step polymerization.

35. Discuss the synthesis and applications of :
    i) Teflon
    ii) SBR
    iii) PVC.

(2×15=30 Marks)