

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2014

(UG-CCSS)

Chemistry (Elective Course)

CH 6B 20 (E04)—CHEMISTRY AND TECHNOLOGY OF POLYMERS

Time : Three Hours

Maximum : 30 Weightage

I. Answer all *twelve* questions :

1. The rubber, poly trans isoprene is known as _____
2. Urea formaldehyde resins are examples of ~~plastic~~ _____
3. Which monomer is used for preparing Nylon 6 ?
4. The structure of the monomer of **PMMA** is _____
5. Name any *one* biodegradable polymer.
6. The Zeigler **Natta** catalyst is _____
7. Give *one* example for an **elastomer** _____
8. Poly Urethanes (**PU**) are prepared by the poly addition reaction between a **diol** or **triol** and _____
9. **Nitrile** rubber is a Co-polymer of ~~and butadiene~~ _____
10. _____ is example for an Inorganic polymer.
11. A plasticizer improves the ~~of the plastic~~ _____
12. Epoxy resins are basically poly _____

(12 x 4 = 3 weightage)

II. Answer all *nine* questions :

13. What are polymer blends ?
14. What is step growth polymerisation ? Give an example.
15. Define Tensile strength.
16. What do you mean by co-ordination polymerisation ?
17. What is meant by compounding of rubber ?
18. What are the advantages of Ribs on **RSS** ?
19. What are graft Co-polymers ?

Turn over

20. What is the relationship between Degree of Polymerisation (DP) and molecular weight of a polymer ?
21. Give *two* examples each for accelerators and antioxidants.

(9 x 1 = 9 weightage)

III. Answer any *five* questions :

22. Compare number average and weight average molecular weights of a polymer.
23. Why polymers are called viscoelastic materials ? Explain.
24. Compare the structures of natural rubber and neoprene.
25. Explain the molecular weight distribution of a polymer.
26. Explain the Ring opening polymerisation with an example.
27. How natural rubber is made from latex ?
28. What is Thermocole ? Give any *two* examples and applications of it.

(5 x 2 = 10 weightage)

IV. Answer any *two* questions :

29. Describe briefly on various moulding techniques used in plastic processing.
30. (a) Give the mechanism of ionic polymerisation.
(b) Give a short note on tacticity of polymers.
31. Give a short account of mechanical properties of polymers.

(2 x 4 = 8 weightage)