

ANSWERS

I. Multiple Choice Questions (Type-I)

1. (iv) 2. (i) 3. (ii) 4. (iv) 5. (i) 6. (iii)
7. (i) 8. (iv)

II. Multiple Choice Questions (Type-II)

9. (ii), (iii) 10. (i), (iii) 11. (i), (iv) 12. (iii), (iv)
13. (iii), (iv) 14. (i), (iv) 15. (i), (ii) 16. (i), (iii)
17. (i), (iv) 18. (i), (ii), (iv) 19. (i), (iv)

III. Short Answer Type

20. Vulcanised rubber. For structure see Class XII NCERT textbook.
21. Homopolymer
22. Copolymer
23. Chain growth polymerisation
24. Cross-linked polymer
25. Polyisoprene/Natural rubber
26. Rubbers are stretched on application of force and regain original state after the force is removed. Therefore these are called elastomers.
27. Enzymes are biocatalysts which are proteins and are thus polymers.
28. [**Hint** : Yes, step growth polymers are condensation polymers and they are formed by the loss of simple molecule like water leading to the formation of high molecular mass polymers.]
29. Melamine and formaldehyde are starting materials for this intermediate. Its polymerisation gives melamine polymer.
30. Cross links bind the planar polymer sheets thus increasing its elastomeric properties.
31. See Class XII, NCERT text book, page no.434.
32. See Class-XII NCERT textbook, page no. 429-30.
33. See Class-XII NCERT textbook, page no. 428.
34. Strong intermolecular forces like hydrogen-bonding, lead to close packing of chains that imparts crystalline character.
35. Urea formaldehyde resins. Monomer units are urea and formaldehyde.

36. Proteins. Polyamides and proteins both contain amide linkage.
37. Pure monomers are required because even the traces of impurities may act like inhibitors which leads to the formation of polymers with shorter chain length.

IV. Matching Type

38. (i) → (e) (ii) → (c) (iii) → (a) (iv) → (b) (v) → (d)
39. (i) → (c) (ii) → (a) (iii) → (b) (iv) → (e) (v) → (d)
40. (i) → (b) (ii) → (c) (iii) → (a) (iv) → (e) (v) → (d)
41. (i) → (d) (ii) → (e) (iii) → (a) (iv) → (f) (v) → (b)
(vi) → (c)
42. (i) → (d) (ii) → (a) (iii) → (b)
43. (i) → (b) (ii) → (d) (iii) → (a) (iv) → (d) (v) → (c)
44. (i) → (f) (ii) → (e) (iii) → (a) (iv) → (c) (v) → (b)
(vi) → (d)
45. (i) → (d) (ii) → (a) (iii) → (b) (iv) → (e) (v) → (c)

V. Assertion and Reason Type

46. (ii) 47. (iv) 48. (i) 49. (ii) 50. (v) 51. (i)
52. (i)

VI. Long Answer Type

53. See NCERT textbook for Class XII.
54. See NCERT textbook for Class XII.
55. 'A' is novolac, 'B' is bakelite.
56. **Hint :** Low density and high density polythenes are obtained under different conditions. These differ in their structural features. Low density polythenes are highly branched structures while high density polythene consists of closely packed linear molecules. Close packing increases the density.
57. **Hint :** Polythene, polyvinyls and polystyrene soften on heating and harden on cooling. Such polymers are called thermoplastic polymers. These polymers are linear or slightly branched long chain molecules. These possess intermolecular forces whose strength lies between strength of intermolecular forces of elastomers and fibres.