Unit 12: Polymers

28 MCQs. Correct option in bold. 1 mark each.

1. Polymers are
A. small molecules made of one atom
B. large molecules built from many smaller molecules called monomers
C. metals and non-metals bonded together
D. ions in solution

2. The small repeating units that make up a polymer are called
A. isotopes B. isomers C. ions **D. monomers**

3. Based on synthesis, polymers are classified as addition polymers and
A. condensation polymers B. ionic polymers
C. metallic polymers D. natural salts

4. Addition polymers are formed by
A. losing water in each step
B. losing carbon dioxide
C. adding monomer units without losing any small molecule
D. losing hydrogen

5. Polyethene is formed from the monomer
A. propene **B. ethene**
C. ethane D. chloroethene

6. Polyethene is an example of an
A. condensation polymer B. copolymer of two monomers
C. addition polymer D. natural polymer

7. The repeating unit of polyethene is
A. $–CH_2–CH_2–$ B. $–CH_3–$
C. $–CHCl–CH_2–$ D. $–CH=CH–$

8. PVC is made from the monomer
A. propene B. ethene
C. styrene **D. vinyl chloride (chloroethene)**

9. Condensation polymers are formed when monomers join with the release of a small molecule such as
A. water B. nitrogen C. oxygen D. ethene

10. Condensation polymers are usually
A. polysaccharides only B. polyethene or polypropene
C. metals **D. polyamides or polyesters**

11. Polyesters such as PET are formed from terephthalic acid and
A. hexamethylenediamine **B. ethylene glycol (a diol)**
C. adipic acid D. ethene

12. Polyamides such as nylon-6,6 are formed from hexamethylenediamine and
A. ethylene glycol B. ethanol
C. adipic acid D. terephthalic acid

13. Polyesters are formed from
A. monocarboxylic acids and diols B. dicarboxylic acids and diamines
C. diols and diamines **D. dicarboxylic acids and diols**

14. The linkage found in polyesters is
A. ester linkage B. glycosidic linkage
C. phosphodiester linkage D. amide linkage

15. The linkage found in polyamides is
A. glycosidic linkage B. ionic linkage
C. amide linkage D. ester linkage

16. Nylon-6,6 is a
A. polyester **B. polyamide**
C. polysaccharide D. polyurethane

17. PET is a
A. polyamide B. polysaccharide
C. polyester D. polypeptide

18. Which process produces water as a by-product?
A. Condensation polymerisation B. Hydrogenation
C. Addition polymerisation D. Cracking

19. PET can be converted back into its monomers by
A. filtration **B. acid hydrolysis**
C. burning D. freezing

20. PET is considered recyclable because it
A. is a salt
B. cannot be melted
C. is a metal
D. can be broken down into monomers and re-polymerised

21. The word 'plastic' comes from the Greek word meaning
A. brittle B. hard
C. malleable or mouldable D. liquid

22. Most plastics are highly resistant to degradation due to their strong
A. carbon–carbon backbone B. metallic bonds
C. hydrogen bonds D. ionic bonds

23. Small plastic particles that contaminate water bodies are called
A. monomers **B. microplastics**
C. microbes D. polymers of sugar

24. Plastics disposed in landfills take up a lot of space and
A. become fertiliser
B. become metals
C. decompose quickly
D. leach dangerous chemicals into soil or groundwater

25. Plastics accumulate in oceans and are mistaken for food by
A. rocks **B. marine animals**
C. metals D. plants

26. Burning plastics releases
A. toxic gases and particulates B. no gases
C. only water vapour D. pure oxygen

27. Which statement is NOT true about PET?
A. It can be converted back into monomers B. It is a polyester
C. It cannot be recycled D. It is used in clothing

28. Which is NOT a property of plastics?
A. They are durable
B. They are lightweight
C. They are versatile
D. They are easily decomposed by microorganisms