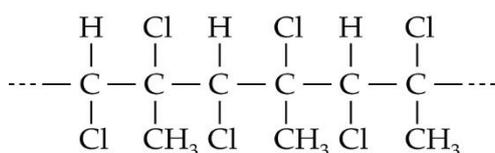


Summary Quiz (Chapter 26)

Section A: Multiple Choice

- Which of the following statements about alkenes is INCORRECT?
 - They undergo substitution reaction with chlorine.
 - They undergo combustion to give carbon dioxide and water.
 - They undergo addition reaction with acidified potassium permanganate solution.
 - They undergo addition polymerization to give addition polymers.
- Which of the following statements about addition polymers is correct?
 - The monomer of an addition polymer must be an alkene.
 - They must be made from one type of monomers only.
 - They are synthetic polymers.
 - The formation of addition polymers involves the elimination of small molecules.
- A plastic \$10 banknote is made from polypropene because
 - polypropene is resistant to many chemicals.
 - polypropene has a high melting point.
 - polypropene is flexible.
 - (1) and (2) only
 - (1) and (3) only
 - (2) and (3) only
 - (1), (2) and (3)
- Which of the following statements about polyvinyl chloride is INCORRECT?
 - Its monomer is chloroethene.
 - It is an addition polymer.
 - It is brittle.
 - It is used to make food containers.

Questions 5 and 6 refer to the following part of a polymer:



- Which of the following is the structural formula of the polymer?
 - $$\left[\begin{array}{cc} \text{Cl} & \text{H} \\ | & | \\ \text{---C---C---} \\ | & | \\ \text{Cl} & \text{CH}_3 \end{array} \right]_n$$
 - $$\left[\begin{array}{cc} \text{Cl} & \text{H} \\ | & | \\ \text{---C---C---} \\ | & | \\ \text{Cl} & \text{CH}_3 \end{array} \right]_n$$
 - $$\left[\begin{array}{cc} \text{Cl} & \text{Cl} \\ | & | \\ \text{---C---C---} \\ | & | \\ \text{CH}_3 & \text{H} \end{array} \right]_n$$
 - $$\left[\begin{array}{cc} \text{Cl} & \text{Cl} \\ | & | \\ \text{---C---C---} \\ | & | \\ \text{CH}_3 & \text{H} \end{array} \right]_n$$
- What is the systematic name of the monomer of the polymer?
 - 1,2-dichloromethylethene
 - Dichloroethene
 - 1,2-dichloropropene
 - 2,2-dichloropropene

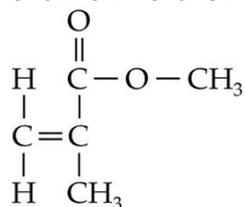
7. Which of the following combinations about propene and polypropene is INCORRECT?

	<u>Propene</u>	<u>Polypropene</u>
A.	Chemically reactive	Chemically unreactive
B.	Burn in air to produce carbon dioxide and water	Burn in air to produce carbon dioxide and water
C.	A gas at room conditions	A solid at room conditions
D.	Soluble in water	Insoluble in water

8. Which of the following statements about the uses of polymers is INCORRECT?
- Low-density polyethene is used to make flexible cold water pipes.
 - High-density polyethene is used to make buckets.
 - Polyvinyl chloride is used to make transparent containers.
 - Expanded polystyrene is used to make lightweight ceiling tiles.

Section B: Structural Question

The following diagram is the structural formula of a compound:



- Give the systematic name of the compound.
- The compound can undergo polymerization to give Perspex.
 - Write a chemical equation for the polymerization of the compound.
 - Name the functional group in the compound that enables it to undergo addition polymerization.
 - If there are 6500 repeating units in a polymer chain of Perspex, calculate the relative molecular mass of the polymer chain.
(Relative atomic masses: H = 1.0, C = 12.0, O = 16.0)
- State and explain ONE use of Perspex.

The End

Suggested Answer

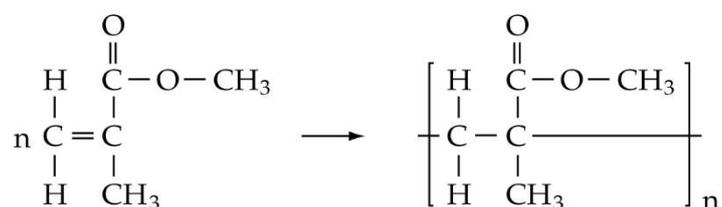
Section A

1.	A	5.	D
2.	C	6.	C
3.	B	7.	D
4.	D	8.	C

Section B

(a) Methyl 2-methylpropenoate

(b) (i)



(ii) Carbon-carbon double bond

(iii) Relative molecular mass

$$= 6500 \times (12.0 \times 5 + 1.0 \times 8 + 16.0 \times 2)$$

$$= 650\,000$$

(d) As it is highly transparent,
it is used for making aeroplane windows / safety spectacles / plastic optical
fibres / advertising sign boxes / illuminated signs.
(Accept other reasonable answers)

The End