



Oxford Cambridge and RSA

## **AS Level Chemistry A**

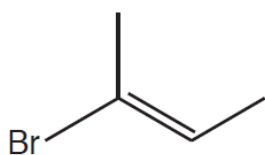
**H032/01** Breadth in chemistry

### **MCQ Question Set 5**

#### **4.1 Basic concepts and hydrocarbons**

Multiple Choice Questions

1. What is the systematic name of the compound below?

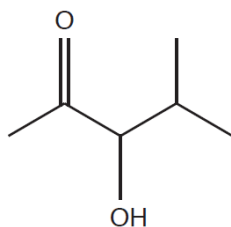


- A *E*-2-bromobut-2-ene  
B *Z*-2-bromobut-2-ene  
C *E*-1,2-dimethyl-1-bromoethene  
D *Z*-1,2-dimethyl-1-bromoethene

Your answer

[1]

2. The skeletal formula of an organic compound is shown below.



What is the molecular formula of the organic compound?

- A  $C_6H_{10}O_2$   
B  $C_6H_{11}O_2$   
C  $C_6H_{12}O_2$   
D  $C_6H_{13}O_2$

Your answer

[1]

3. How many structural isomers have the molecular formula  $C_5H_{12}$ ?

- A 2
- B 3
- C 4
- D 5

Your answer

[1]

4. Which organic compound has the lowest boiling point?

- A 2,3,4-trimethylpentane
- B 2,3-dimethylhexane
- C 2-methylheptane
- D octane

Your answer

[1]

5. 1 mol of a compound reacts with 8 mol  $O_2$  for complete combustion.

What is the formula of the compound?

- A  $C_4H_8$
- B  $C_4H_9OH$
- C  $C_5H_{11}OH$
- D  $C_5H_{12}$

Your answer

[1]

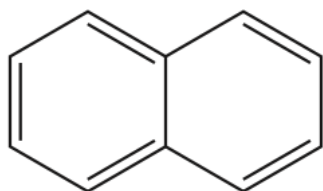
6. How many structural isomers of  $C_6H_{14}O$  are tertiary alcohols?

- A 1
- B 2
- C 3
- D 4

Your answer

[1]

7. The structure of naphthalene is shown below.



What is the molecular formula of naphthalene?

- A  $C_{10}H_8$
- B  $C_{10}H_{10}$
- C  $C_{12}H_{10}$
- D  $C_{12}H_{12}$

Your answer

[1]

8. A student reacts pent-2-ene with bromine in the laboratory.

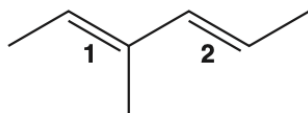
Which compound is formed?

- A 1,1-dibromopentane
- B 1,2-dibromopentane
- C 2,2-dibromopentane
- D 2,3-dibromopentane

Your answer

[1]

9. The molecule below has two double bonds, labelled **1** and **2**.



The arrangement around each double bond can be identified as *E* or *Z*.

Which row in the table is correct for double bond **1** and double bond **2**?

	Double bond 1	Double bond 2
A	<i>E</i>	<i>Z</i>
B	<i>Z</i>	<i>E</i>
C	<i>E</i>	<i>E</i>
D	<i>Z</i>	<i>Z</i>

Your answer

[1]

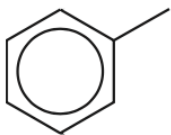
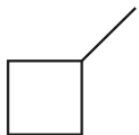
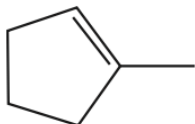
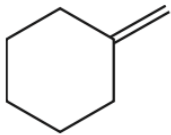
10. What is the best description for the bonding between the carbon atoms in an ethene molecule?

- A One  $\sigma$ -bond and one  $\pi$ -bond
- B One  $\pi$ -bond
- C Two  $\sigma$ -bonds
- D Two  $\pi$ -bonds

Your answer

[1]

11. Which compound is unsaturated, alicyclic and contains an alkyl group?

A	
B	
C	
D	

Your answer

[1]

12. Which statement about an electrophile is correct?

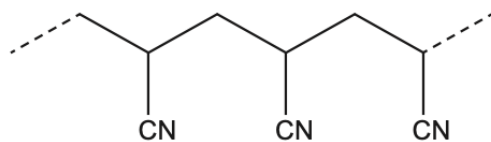
- A It is an electron pair acceptor.
- B It is a proton donor.
- C It is a negative ion.
- D It is a species with an unpaired electron.

Your answer

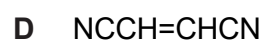
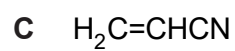
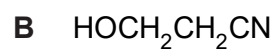
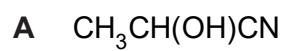
[1]

13.

A section of a polymer is shown below.



Which monomer could form this polymer?



Your answer

[1]

**Total Marks for Question Set 5: 13**

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