2BCHE CHEMISTRY

TEST 6

Organic Chemistry

Recommended time: 1 hour

MULTIPLE CHOICE QUESTION BOOKLET

PLEASE DO NOT TURN THE PAGE UNTIL INSTRUCTED TO DO SO

MARK : ...../ 30

PART A: Multiple Choice
Mark your answers on the sheet provided. **[15 marks]**

1. Which of the following compounds is a hydrocarbon?

I $C_6H_{12}O_6$ (glucose) II C_6H_6 (benzene)
III C_5H_{12} (pentane) IV CH_3Cl (chlormethane)

a) I, II and III only
b) I Only
c) II and III only
d) They are all hydrocarbons

2. Which one of the following groups of formulae would represent members of a homologous series?

a)	CH_3Cl	CH_2Cl_2	$CHCl_3$	CCl_4
b)	CH_2CH_2	$CH_2CH_2CH_2$	$CH_2\ CH_2CH_2CH_2$	$CH_2\ CH_2CH_2CH_2CH_2$
c)	CH_4	CH_3CH_3	$CH_3CH_2CH_3$;	$CH_3CH_2CH_2CH_3$;
d)	CH_4	CH_3Cl	CH_3OH	HCHO

3. Two organic compound are structural isomers of each other if they

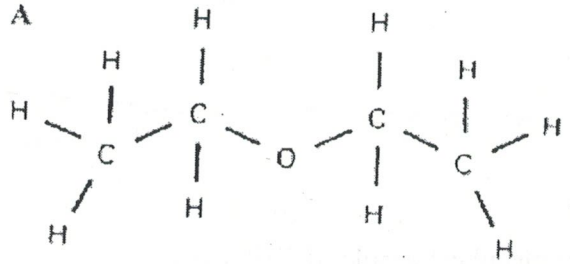
a) have the same molecular formula but different structural formulae.
b) have the same structure in the solid state but different melting temperatures.
c) differ from each other by a CH_2 unit.
d) have the same physical properties but different molecular formulae.

4. Which of the following compounds does <u>not</u> exist in two or more structural forms?

a) C_4H_{10}
b) $C_2H_4Cl_2$
c) C_2HCl_3
d) C_2HCl_3

5. Which one of the following pairs of molecular structures represents isomers?

A



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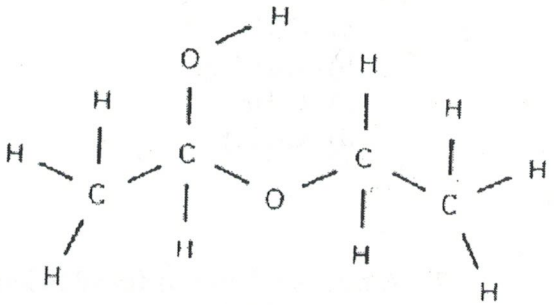

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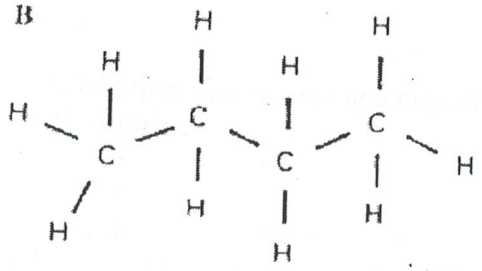

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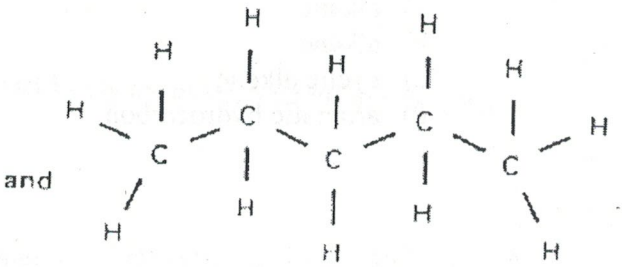

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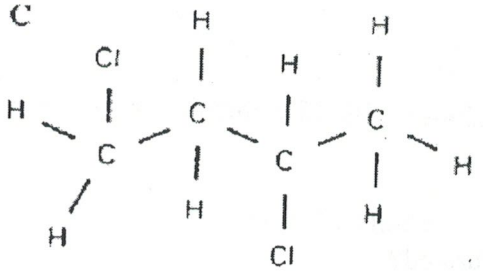

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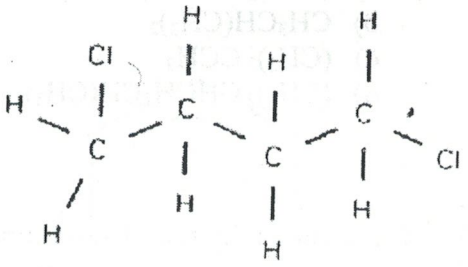

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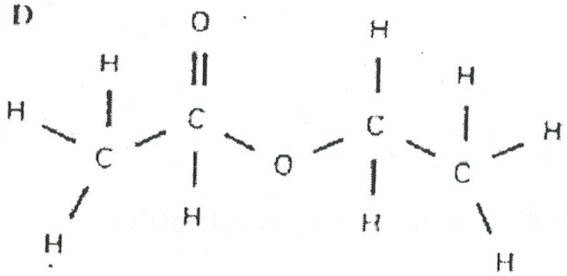

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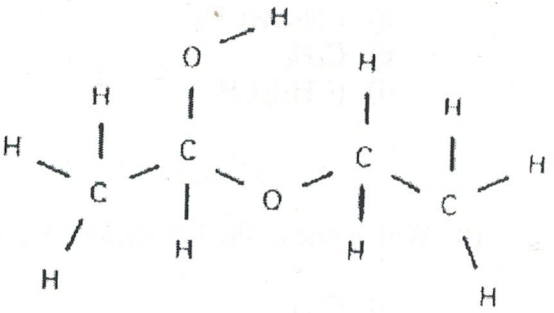


6. Which one of the following compounds will have the greatest number of structural isomers?

   a) C_3H_8
   b) $C_3H_6Cl_2$
   c) C_4H_{10}
   d) CH_3Cl

7. A hydrocarbon was found to have a molecular formula of C_6H_{12}. To which of the following classes of compounds could this hydrocarbon belong?

   a) alkane
   b) alkene
   c) cyclic alkene
   d) aromatic hydrocarbon

8. The formula of *2,2-dimethyl-propane* may be written as

   a) $(CH_3)_2\,CHCH_2CH_3$
   b) $CH_3CH(CH_3)_2$
   c) $(CH_3)_3\,CCH_3$
   d) $(CH_3)_2\,CHCH_2CH(CH_3)_2$

9. Which one of the following compounds is saturated?

   a) CH_2CH_2
   b) CH_3CHCH_2
   c) C_6H_6
   d) $(CH_3)_3CH$

10. Which one of the following hydrocarbons is least likely to react with hydrogen?

    a) C_6H_6
    b) C_3H_6
    c) C_2H_2
    d) C_4H_{10}

11. The reactions between chlorine and methane in ultra violet light is an example of

a) an elimination reaction
b) a substitution reaction
c) an addition reaction
d) a condensation reaction

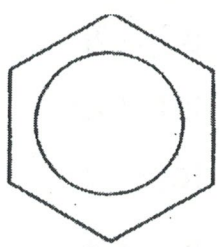
12. The product formed when ethene reacts with bromine at room temperature is likely to be

a) CH_3CH_2Br
b) CH_2CHBr
c) CH_2BrCH_2Br
d) CH_3CHBr_2

13. Which of the following compounds is least likely to undergo addition reactions with chlorine?

a) $CH_2=CH_2$
b) $CH_3CH=CH_2$
c) $CH_2=CHCl$
d) $CH_3CH_2CH_3$

14. For a molecule with this chemical structure:



the correct empirical formula is:

a) C_6H_6
b) C_6H_{12}
c) CH
d) CH_2

15. Petrol consists of compounds with which number of carbon atoms in its molecules?

a) C_1 to C_5
b) C_6 to C_{10}
c) C_{11} to C_{12}
d) C_{13} to C_{25}

END OF PART A

PART A: Multiple Choice

[20 marks]

NAME : _____ **DATE :** _____

MULTIPLE CHOICE ANSWER SHEET

1. [A] [B] **[C]** [D]
2. [A] [B] **[C]** [D]
3. **[A]** [B] [C] [D]
4. [A] [B] [C] **[D]**
5. [A] [B] **[C]** [D]
6. [A] **[B]** [C] [D]
7. [A] **[B]** [C] [D]
8. [A] [B] **[C]** [D]
9. [A] [B] [C] **[D]**
10. **[A]** [B] [C] [D]
11. [A] **[B]** [C] [D]
12. [A] [B] **[C]** [D]
13. [A] [B] [C] **[D]**
14. [A] [B] **[C]** [D]
15. [A] **[B]** [C] [D]