

Part I choose the correct answer:

1. Which compound is an alkyl halide?

- a. $\text{CH}_3\text{C}\equiv\text{CH}$ b. CH_3CH_3 c. $\text{CH}_3\text{CH}_2\text{Cl}$ d. $\text{CH}_2=\text{CH}_2$

2. Which formula represents a saturated cycloalkane?

- (a) C_2H_6 (b) C_2H_4 (c) C_4H_8 (d) C_3H_8 .

3. A compound with the formula C_5H_{10} is

- (a) toluene (b) benzene; (c) butane (d) pentene.

4. $2 \text{CH}_3\text{CHO} + \text{O}_2 \rightleftharpoons 2\text{CH}_3\text{COOH}$ The above reaction is an example of

- (a) Addition (b) substitution (c) rearrangement (d) esterification.

5. The compound $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$ is an isomer of

- (a) $\text{C}_3\text{H}_7\text{COCH}_3$ (b) $\text{C}_2\text{H}_5\text{OC}_2\text{H}_5$ (c) $\text{CH}_3\text{COOC}_2\text{H}_5$ (d) CH_3COOH

6. The structure of an alkyne contains

- (a) only single bonds (b) a double bond (c) two double bonds (d) a triple bond

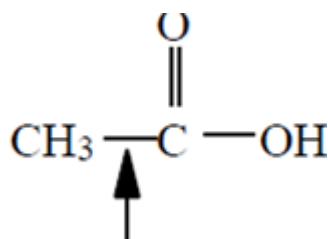
7. Ethene has which one of the following shapes?

- (a) tetrahedral (b) planar triangular (c) linear (d) bent.

8. dipole-dipole interaction interaction is most noticeable in

- (a) CH_3CH_3 (b) $\text{CH}_2=\text{CH}_2$ (c) $\text{CH}_3\text{C}\equiv\text{CH}$ (d) CH_3OH

9. Describe the indicated bond in terms of the overlap of atomic orbitals (in the order CO, C).



- a. $\text{sp}^3\text{-sp}^2$ b. sp-sp c. $\text{sp}^2\text{-sp}^3$ d. sp-sp^3

10. Which of the following is the lowest soluble in water?

- a) CH_3CH_3 b) $\text{CH}_3\text{CH}_2\text{Br}$ c) $\text{CH}_3\text{CH}_2\text{Cl}$

11. What is the IUPAC name of the compound shown?

- a) 3, 4-dibromo-2-methylpent-2-ene b) 2,3-dibromo-4-methylpent-3-ene

c) 3, 4-dibromo-2-ethyl-1-butene

12. The total covalent bond in the following compound is equal to

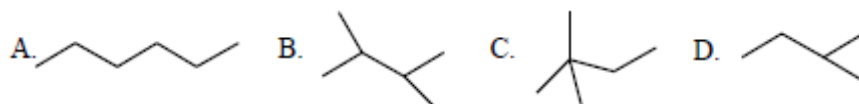
a- 17

b- 16

c- 18

d- 14

13. Which of the following molecules contains four secondary carbon atoms?



14. What is the IUPAC name for the compound shown below?

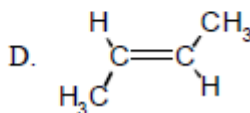
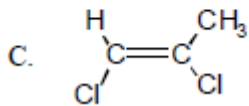
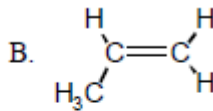
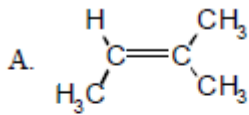
- a. 3-chloro-2-methylpentane
b. 1,1-dimethyl-2-isopropylethene
c. 2,3-dimethyl-2-pentene

d. All of the above

15. the C-C-C angle in propyne, $\text{CH}_3\text{CH}_2\text{CH}_3$ is

- a. 60° b. 109.28° c. 120° d. 180°

16. Which of the following is a *trans* isomer?

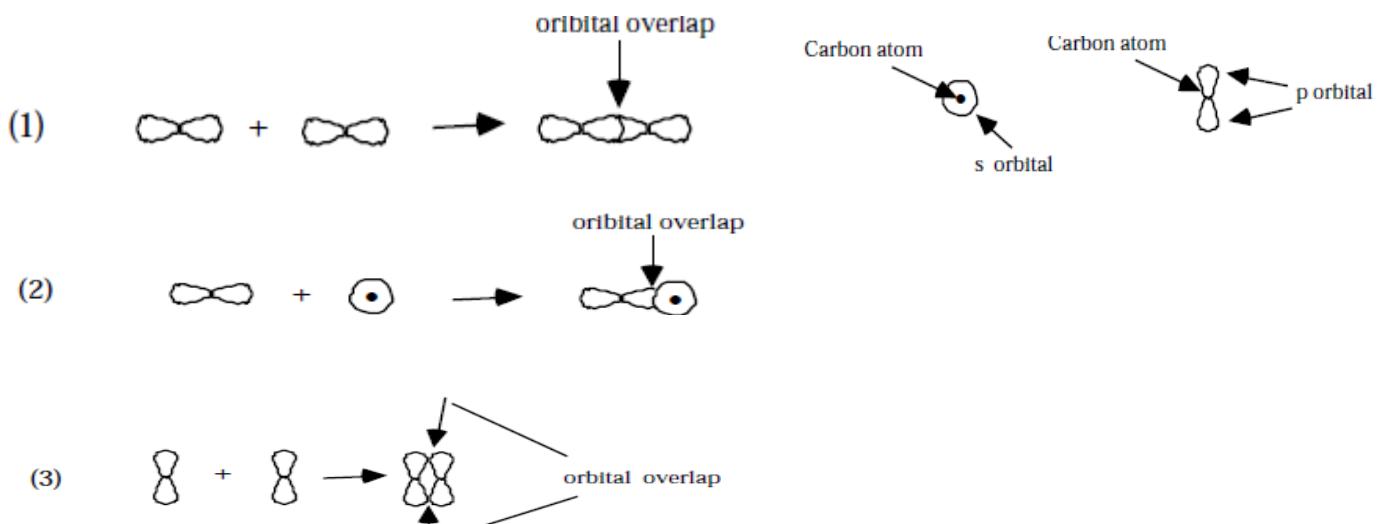


17. For the molecule shown, what is the hybridization of the indicated atom and the approximate C-C-C bond angle, respectively?

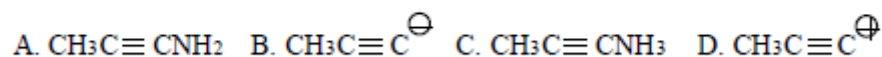
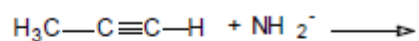
18. Which of the following compounds has the lowest boiling point?



19. Which of the following illustrates the formation of a pi (π) bond?



20. What is the major organic product of the reaction shown?



Part II Answer the following equations

1. Draw trans stereoisomer of the following compound $\text{CH}_3\text{CH}=\text{CHCH}_3$

2. Provide structure for the following compound.

3. Complete the following equations:

a.

b.

c.

المستوى:- الثاني

first midterm chem. 109 - رقم ورمز المادة:-

اسم المادة:- كيمياء عضوية

تاريخ الإمتحان:-

الرقم الجامعي:-

اسم الطالب

4. Draw two structural isomer of the following molecular formula C_3H_7Cl

5. Choose the correct answer from column B that match the suitable one in column A

A		B
$CH_2=CH_2$		Electrophilic addition
		Electrophilic substitution
CH_3CH_2Cl		Nucleophilic substitution

Best wishes