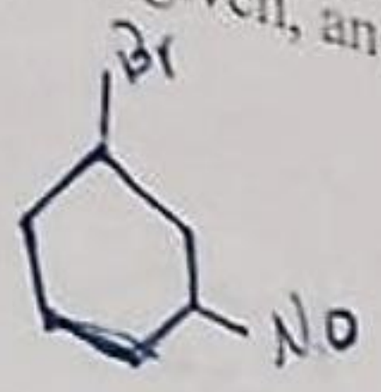
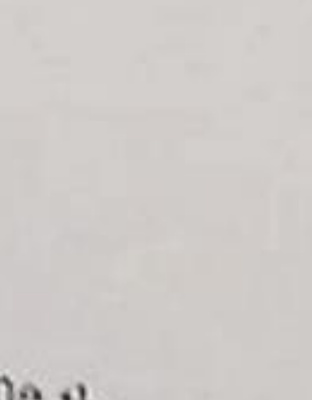
Quiz 6

Draw structures for which names are given, and name the given structures by any accepted system

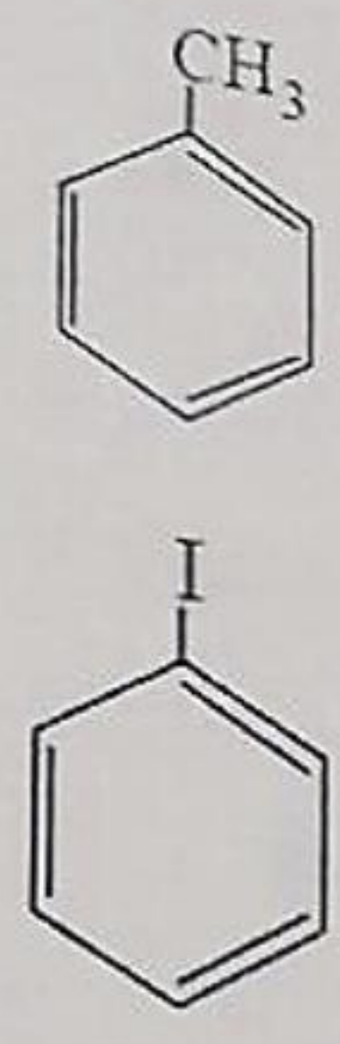
a) m-bromonitrobenzene



b) 3-bromo-4-nitrobenzoic acid



2- Draw the structure of the major organic product(s) of the following reactions

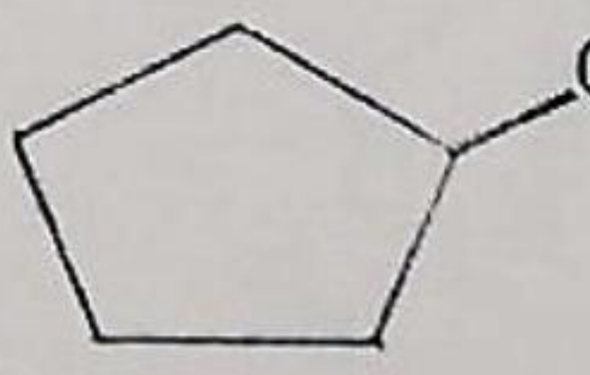


I

1) $KMnO_4$, H_2SO_4

2) HNO_3, H_2SO_4

$Br_2/FeBr_3$

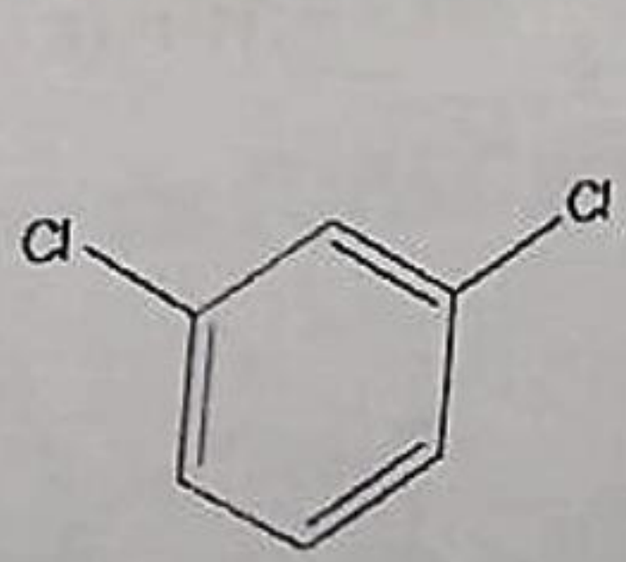


Al_2O_3-Pt

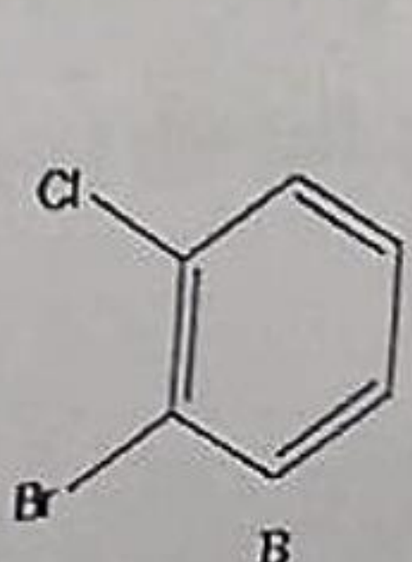
500°C

3- Which structure matches the given name?

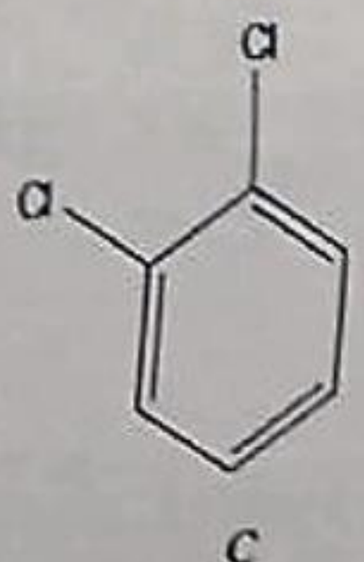
m-dichlorobenzene



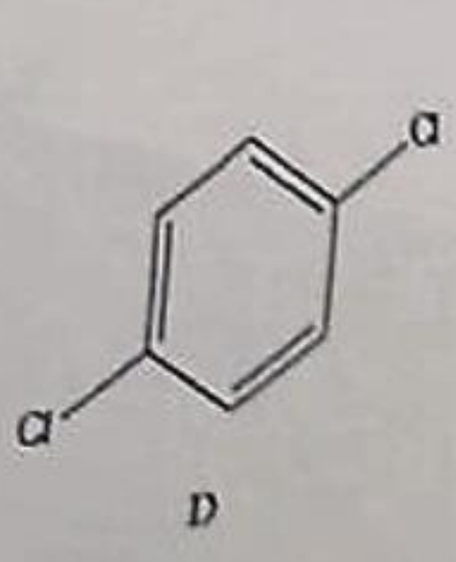
A



B



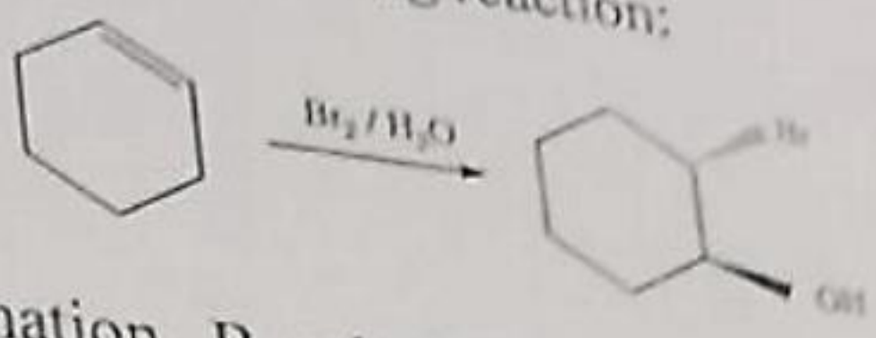
C



D

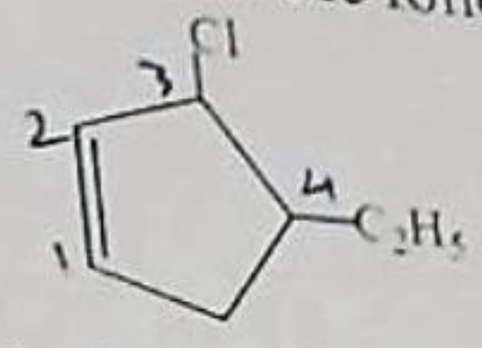
Quiz 3

1- Identify the type of the following reaction:



A. elimination B. substitution C. addition D. rearrangement

2- The IUPAC name of the following compound

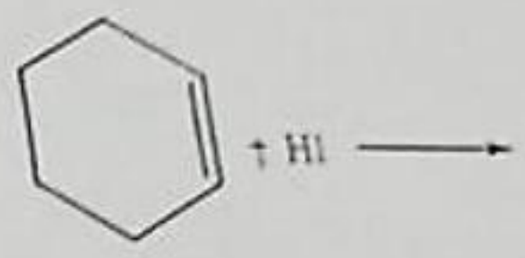


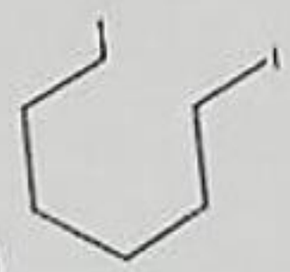
is:

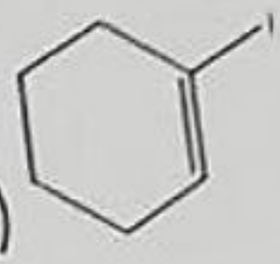
a) 3-Chloro-4-ethylcyclopentene b) 1-Ethyl-3-chloro-pentene.

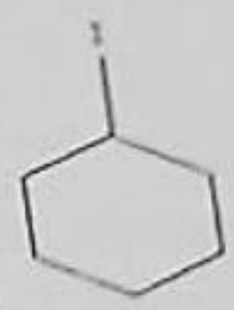
c) 1-Chloro-5-ethyl-2-cyclohexene d) 1-Chloro-3-ethylcyclopentene

3- Choose the major product from each equation



a) 

b) 

c) 

d) $CH_3CH_2CH_2CH_2CH_2CH_3$

4- Choose the major product from each equation

$$CH_3 - CH_2OH \xrightarrow{\Delta/H_2SO_4}$$

a) $CH_2 = CH_2$ b) $CH_3 - CH_3$ c) $CH_2OH - CH_2OH$ d) $CH_3 - CH_2OH$

5- Give the IUPAC name of the following compounds:

3-Methyl-1-hexan

بسم الله الرحمن الرحيم

KINGDOM OF SAUDI ARABIA
MINSTRY OF HIGH EDUCTION
Prince Sattam Bin Abdullaziz University
College of Science &Humanities
(Girls Departments)

جامعة الأمير سطام بن عبد العزيز
Prince Sattam Bin Abdulaziz University

Chemistry Department
Fourth level students
Organic chemistry (1)
Chem 2410
Time allowed: 1 hour

MID TERM EXAM (A) 1436/ 1437

الاسم:

I- First Question

State true 'T' or false 'F' (write your answer in the answer sheet)

True = a *false = b*

1- Rotation about the axis of a double bond through an angle of 90° results in the breaking of the π bond (T) (F).

2- The hybridization of all carbon atoms in Butene is sp^2 (T) (F)

II – Second Question

Choose the correct answer and write your answer in the the answer sheet

3- Which compound of the following cannot exhibit cis / trans isomerism

a- 3,3-Dibromocyclohexane b- 1,2-Dibromocyclohexane

c- 1,3-Dibromocyclohexane d- 1,4-Dibromocyclohexane

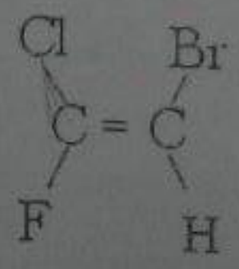
4- ---------- The ability of atoms in forming stable bonds with itself and joining up in chains or rings.

a- functional group b- Alkyl group c- Catenation

5- ----------compounds with the same molecular formula but different structures

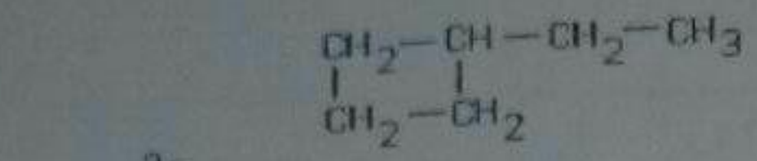
a- Isomerism b- Constitutional Isomerism c- Geometrical Isomerism

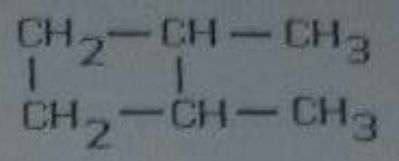
6- Determine the double bond stereochemistry (*E* or *Z*) for the following molecule.

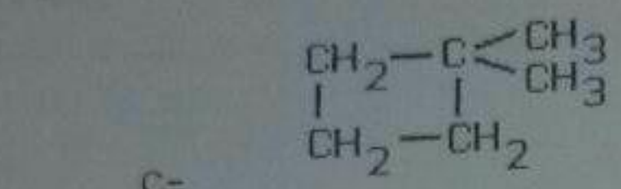


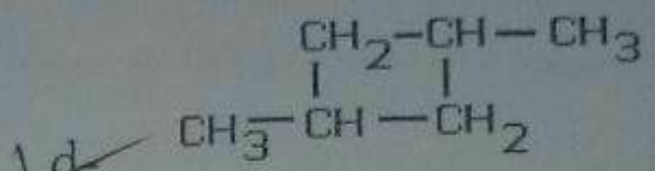
a- E notation ~~b-~~ z notation c- None

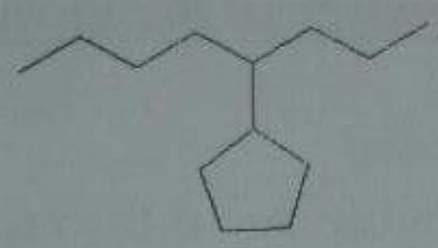
7- Which is 1,3-dimethylcyclobutane?

a- 

b- 

c- 

~~d-~~ 

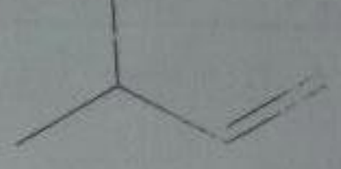
8- The IUPAC name for  is:

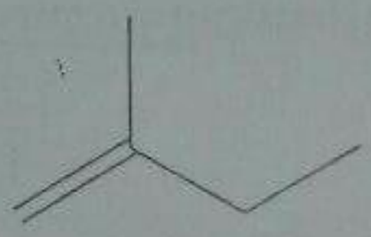
a- 4-Octylcyclopentane. ~~b-~~ 4-Cyclopentyloctane.

c- 5-Cyclopentyloctane. d- 1-Cyclopentyl-1-propylbutane

9- Which of the following compound pairs are chain isomers?

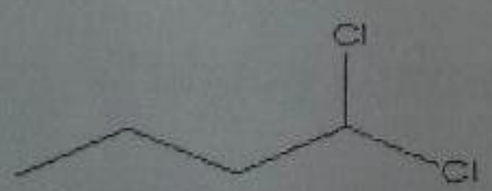
a-  and 

b-  and 

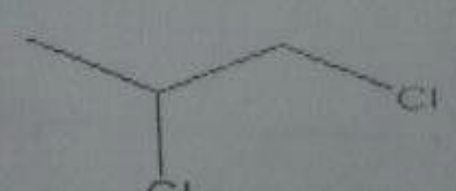
~~c-~~  and 

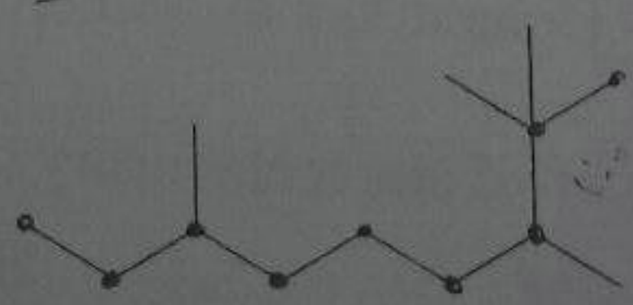
10- Choose (the product) of the following reactions:

 $+ Cl_2$ $\xrightarrow{\text{Dark, room temperature}}$ - - - - - - - - - - -

a- 

~~b-~~ No Reaction

c- 

11- The IUPAC name for  is:

~~a-~~ 2,2,3,7-Tetramethylnonane b- 2-tert.Butyl-5-methyloctane.

c- 3,7,8,8-Tetramethylnonane. d- 5-Methyl-2-tert.butyloctane.

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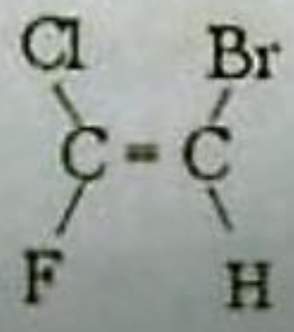
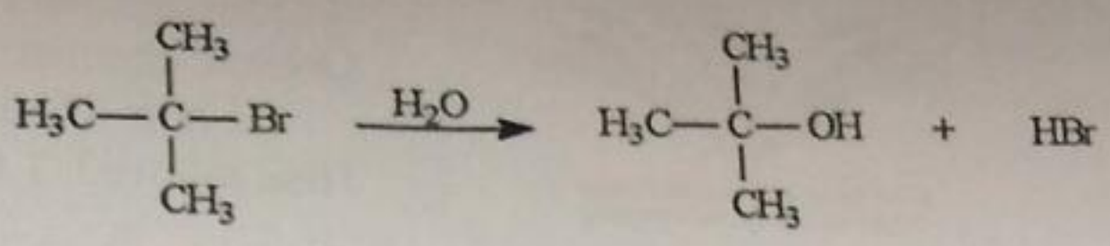


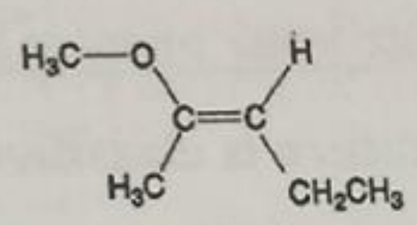
7. **Consider the reaction of 2-bromo-2-methylpropane with water:**



Is the reaction of **2-bromo-2-methylpropane** with water an example of:

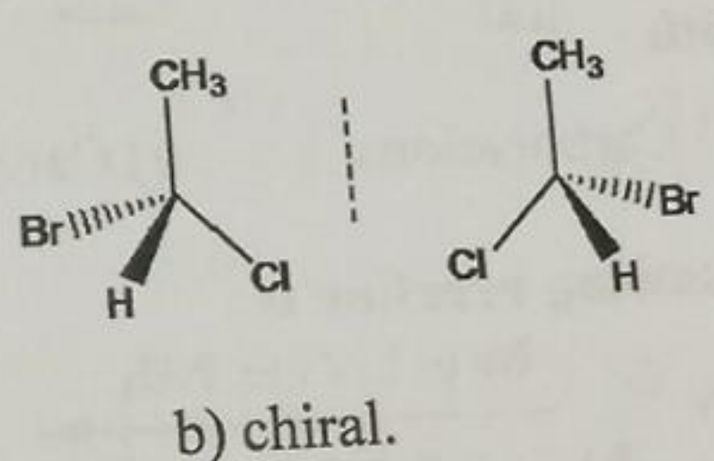
a) a substitution reaction? b) a rearrangement reaction?
c) an elimination reaction?. d) or an addition reaction?.

8. **Determine the double bond stereochemistry (*E* or *Z*) for the following molecule.**



a- E notation b- z notation c- None

9. **Classify each of the following pairs as chiral or achiral.**



a) achiral. b) chiral. c) None

10. **Halobenzenes are comparatively unreactive toward --------- reactions**

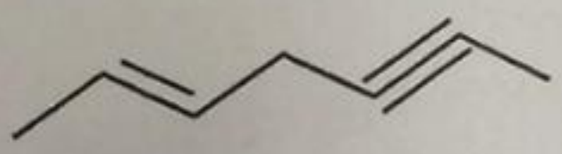
a) SN^2 b) SN^1 c) SN^1+SN^2

11. **----------are stereoisomers whose molecules are not mirror images of each other.**

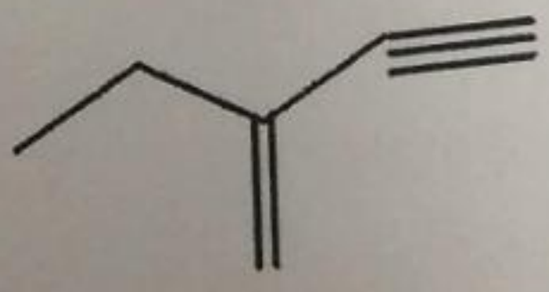
a) Diastereomers b) Enantiomers c) Constitutional isomers

12. **Explain Why** Alkyl halides have higher melting point than th corresponding alkanes, alkenes, and alkynes 1-Polarity 2-Molecular weight

13. **Name (in IUPAC form) the following three compounds.**



is ----------

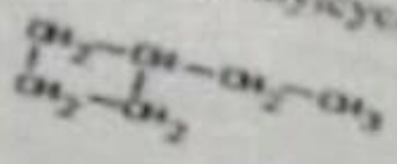


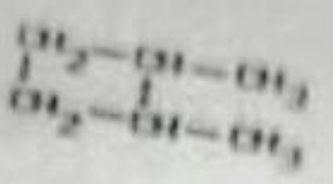
is Ethyl-But-3-yne

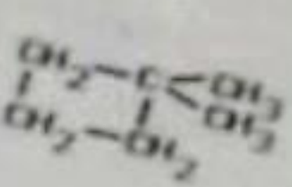
a- E notation

b- Z notation

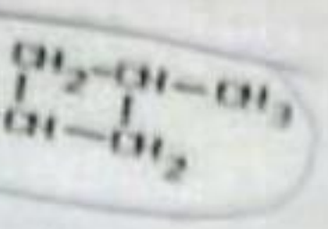
7- Which is 1,3-dimethylcyclobutane?

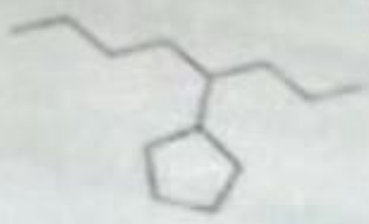
a- 

b- 

c- 

c- None

d- 

8- The IUPAC name for 

a- 4-Octylcyclopentane.

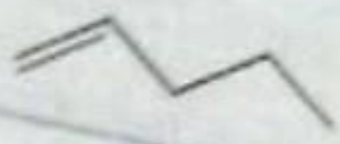
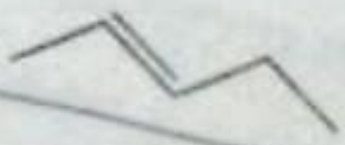
c- 5-Cyclopentyloctane.

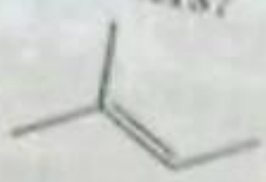
b- 4-Cyclopentyloctane

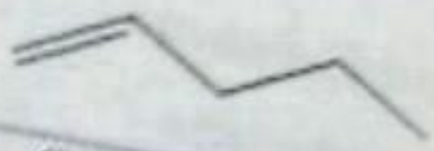
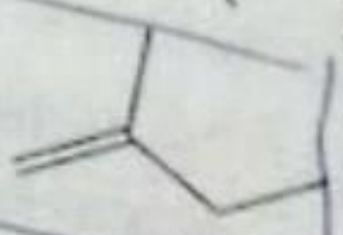
d- 1-Cyclopentyl-1-propylbutane

is:

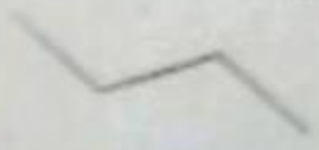
9- Which of the following compound pairs are chain isomers?

a- 
and


b- 
and

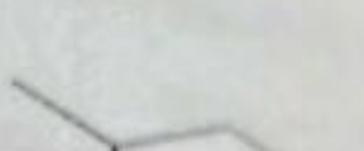

c- 
and


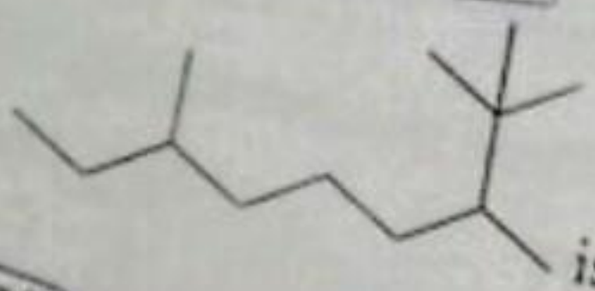
10- Choose (the product) of the following reactions:

 + Cl_2 ——Dark, room temperature——→ ?

a- 

b- No Reaction

c- 

11- The IUPAC name for  is:

a- 2,2,3,7-Tetramethylnonane

c- 3,7,8,8-Tetramethylnonane.

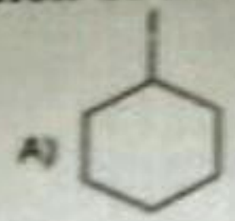
b- 2-tert.Butyl-5-methyloctane.

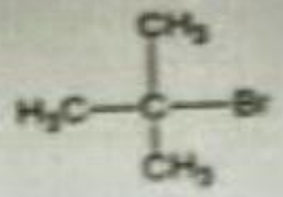
d- 5-Methyl-2-tert.butyloctane.

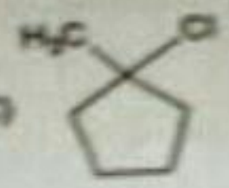
I- First Question

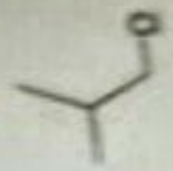
Choose the correct answer and write your answer in the the answer sheet

1. **Which of the following structure is classified as secondary alkyl halides?**

A) 

B) 

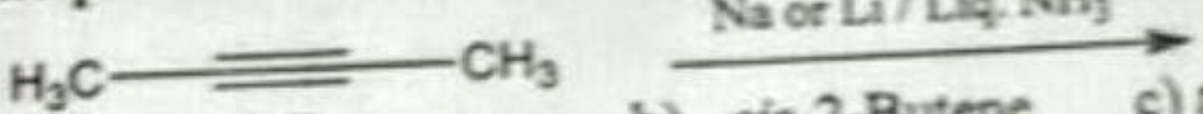
C) 

D) 

2. **Nucleophiles react with**

a) Electrons b) Carbocations c) Carbanions d) Free radical

3. **The product of the following reaction is :**

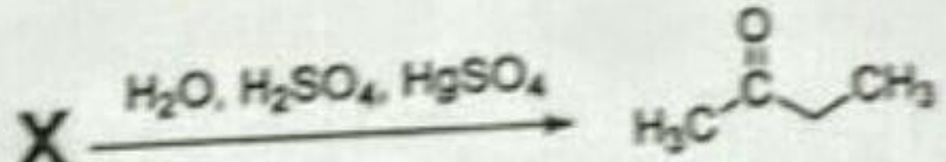


a) *trans*-2-Butene b) *cis*-2-Butene c) *trans*-2-pentene d) Butane

4. **The common name of the following structure is**

a) Propyl chloride b) Vinyl chloride c) Benzyl chloride d) Allyl chloride

5. **The compound X in the following reaction is:**



a) 2-Chlorobutene b) Butene c) Butyne d) Butane

6. **Label each compound as R or S.**