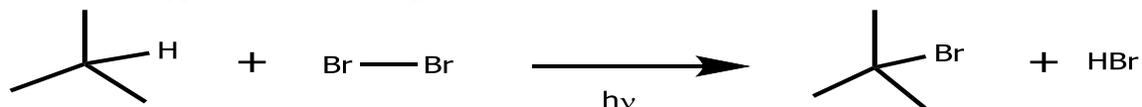


Q1: Choose and circle the correct answer:

(10 x 1=10 points)

1. What is the type of the following reaction :

- a) Substitutions b) Addition c) Elimination d) Rearrangement

2. What is the type of cleavage in the following reaction :

- a) Homolysis b) Heterolysis c) Hydrogenation d) none of them

3. Lewis acid–base reactions involve the transfer of

- a) Protons b) Neutrons c) Electrons d) none of them

4. In the following reaction, NH₃ is.....:

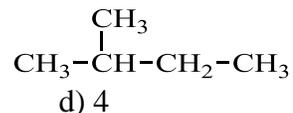
- a) Acid b) Conjugate acid c) Base d) Conjugate Base

5. In the following reaction, Cl⁻ is.....:

- a) Acid b) Conjugate acid c) Base d) Conjugate Base

6. Which of the Following is isopropyl group

- a) CH₃CH₂CH₂— b) $\text{CH}_3\overset{\text{CH}_3}{\underset{|}{\text{C}}}\text{HCH}_3$ c) CH₃CH₂CH₂CH₂— d) $\text{CH}_3-\overset{\text{CH}_3}{\underset{|}{\text{C}}}\text{H}-\text{CH}_3$

7. How many primary carbon atoms in the following structure.**8.** Hückel's Rule states that

- a) (n + 2) π b) (4 π + 2) n c) (2n + 4) π d) (4n + 2) π

9. The structure of Toluene is

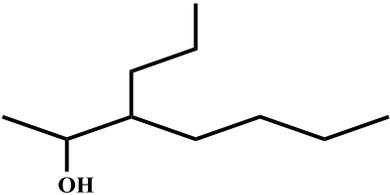
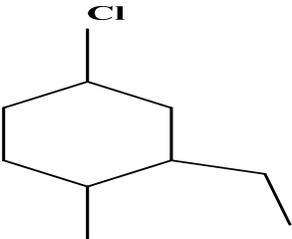
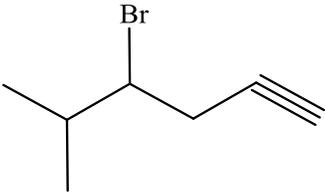
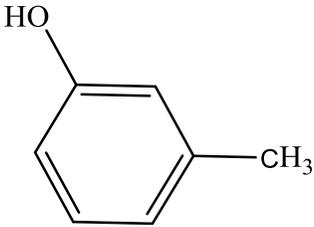
- a) b) c) d)

10. The general formula of alkanes is

- a) C_nH_{2n+2} b) C_nH_{2n} c) C_nH_{2n-2} d) C_nH_n

Q2: Write down the IUPAC names:

(5 x 1=5 points)

Structure	IUPAC name
 <p>A skeletal structure of an alkane chain with seven carbons. The second carbon from the left has a hydroxyl group (-OH) attached. The third carbon from the left has an ethyl group (-CH₂-CH₃) attached.</p>	
 <p>A cyclohexane ring with three substituents: a chlorine atom (-Cl) at the top position, an ethyl group (-CH₂-CH₃) at the right position, and a methyl group (-CH₃) at the bottom position.</p>	
 <p>A skeletal structure of an alkene with two carbons in the double bond. Each carbon has a chlorine atom (-Cl) attached, and the two chlorine atoms are on opposite sides of the double bond, indicating a trans configuration.</p>	
 <p>A skeletal structure of an alkyne with five carbons in the main chain. The first carbon is part of a triple bond. The second carbon has a methyl group (-CH₃) attached. The third carbon has a bromine atom (-Br) attached. The fourth carbon has a methyl group (-CH₃) attached.</p>	
 <p>A skeletal structure of a benzene ring with two substituents: a hydroxyl group (-OH) at the top position and a methyl group (-CH₃) at the para position (bottom).</p>	

Q3: draw the structures corresponding to each IUPAC name:
(5 x 1=5 points)

Structure	IUPAC name
	3-Ethyl-2-hepten-1-ol
	1,2-Dibromobenzene
	3-Methylcyclohexanol
	4-Chloro-1-butyne
	2-Methyl-5-octyn-2-ol

Best wishes