

## Topic :-ORGANIC CHEMISTRY - SOME BASIC PRINCIPLES AND TECHNIQUES

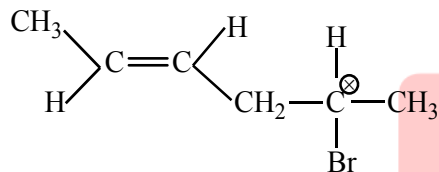
1 (c)

Steric hindrance in tertiary halides give rise to less reactivity for  $S_N2$ .

2 (b)

Addition of  $Br_2$  gives altogether different products units *cis* and *trans* butene-2.

3 (d)



It has one chiral centre (two enantiomer) and two geometrical isomers  
*cis-d, trans-d, cis- and trans-l.*

4 (d)

Glucose contains four chiral carbon atoms hence number of possible optical isomers are  $2^4 = 16$ .

5 (c)

Markownikoff's rule is for addition of unsymmetrical additive on unsymmetrical alkene.

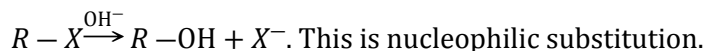
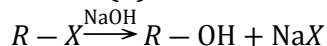
6 (d)

Presence of halogen in organic compound can be detected by Beilstein's test.

7 (c)

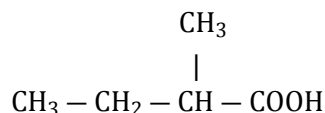
The bond energy of catenation order is  $C > Si > S > P$ .

8 (d)



9 (c)

2-methyl butanoic acid exhibits stereo isomerism.



It shows optical isomerism because it contains asymmetric carbon atom.

10 (a)

$-\text{CH}_3$  is electron repelling group.

12 (c)

Metamerism is found in molecules having polyvalent functional group.

13 (d)

There are IUPAC rules.

14 (c)

$a = 2^n$ ; where n is no. of dissimilar asymmetric carbon atoms and  $a$  is no. of optically active isomers.

16 (a)

Follow IUPAC rules.

17 (d)

Nucleophile ( $-NH_3$ ) replaces other nucleophile ( $-Br$ ) in the reaction.

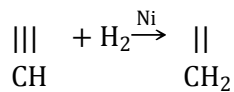
18 (a)

*Meso* form is optically inactive.

19 (d)

Formation of ethylene from acetylene is an example of addition reaction

CH                      CH<sub>2</sub>



Ethyne                      ethene

20 (b)

Sodium hydrogen sulphite adds to aldehydes and ketones to form crystalline bisulphite addition products. The product is water soluble and can be converted back to the original carbonyl compound by treating it with dilute mineral acid or alkali. Therefore, these are useful for separation and purification of aldehydes like acetaldehydes.

**ANSWER-KEY**

|    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|
| Q. | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 |
| A. | C  | B  | D  | D  | C  | D  | C  | D  | C  | A  |
|    |    |    |    |    |    |    |    |    |    |    |
| Q. | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| A. | C  | C  | D  | C  | A  | A  | D  | A  | D  | B  |
|    |    |    |    |    |    |    |    |    |    |    |

PE