DPP
DAILY PRACTICE PROBLEMS

CLASS : XIIth
DATE :

SOLUTION

SUBJECT : CHEMISTRY
DPP NO. : 9

Topic :-ORGANIC CHEMISTRY - SOME BASIC PRINCIPLES AND TECHNIQUES

1 **(b)**

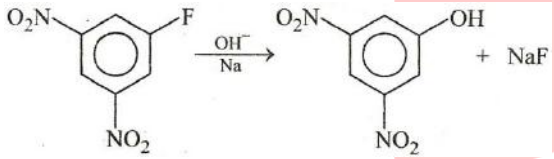
Follow mechanism of Kharasch effect.

2 **(d)**

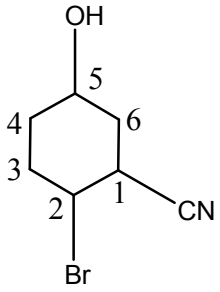
—do—

4 **(c)**

Reaction of NaOH with dinitrofluorobenzene represents nucleophilic aromatic substitution reaction because $-NO_2$ group is deactivating group. They make benzene nucleus electron deficient and facilitate the nucleophile to attack the ring.



5 **(b)**



Cyano group has the highest priority therefore, parent name must be benzonitrile. Br occurs at 2-position, and hydroxyl at 3-position, hence the IUPAC name is 2-bromo-5-hydroxy benzonitrile.

6 **(d)**

Ethers show metamerism.

7 **(b)**

Due to resonance; the carbonyl group of benzoic acid is coplanar with the ring. If the electron withdrawing substituent (i.e., $-I$ showing) is present at *ortho* position, it prevents the coplanarity and thus, the resonance. Hence, makes the acid more stronger.

Thus, among the given acids, *ortho* hydroxy benzene acid is the most acidic.

8 **(a)**

Diamond (sp^3), Graphite (sp^2), Acetylene (sp).

9 **(d)**

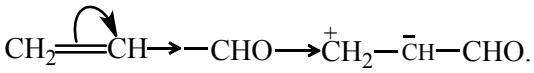
$CH_3CHClCOOH$ contains asymmetric carbon atom.

10 **(d)**

Statement (c) is wrong.

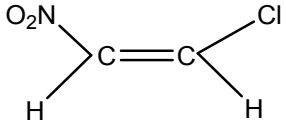
11 **(b)**

The –ve inductive effect of –CHO group play role to give anti Markownikoff's addition.



12 **(c)**

The structure of 1-chloro-2-nitroethene is as



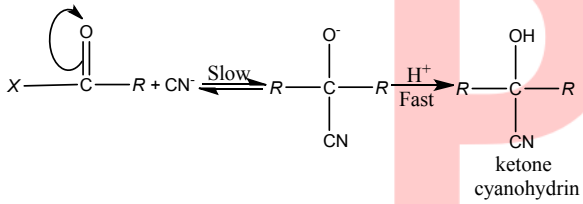
In this compound E-Zisomerism is possible because it is highly substituted alkene. The E-Zsystem of nomenclature is developed by Cahn, Inglod and Prelog.

13 **(a)**

$CH_3C = N$ is known as acetonitrile or methyl cyanide.

14 **(b)**

Ketone undergoes nucleophilic addition reaction because nucleophilic end of reagent attack first followed by electrophilic end of reagent.



15 **(d)**

Halogen containing compounds (C_6H_5Cl)

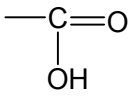
When placed in a flame, the presence of halogen is revealed by a green to blue flame.

16 **(a)**

Two similar asymmetric carbon atoms; $\therefore a = 2^{n-1}$. Also meso form $= 2^{\frac{n}{2}-1}$.

Total $= a + m$.

17 **(d)**



In C_6H_5 ring there are three π-bonds and one π-bond is present in group.

Therefore, in all there are four π- bonds in C_6H_5COOH. In $CH_3CH_2COCH_3$there is only one π-bond in $C = O$ group, in $CH_2 = CH - CH = CH_2$ there are two π-bonds while in $HC \equiv C - CH = CH_2$ there are three π- bonds

18 **(c)**

Order of bond length

σ bond $(sp^3) > \sigma$ bond $(sp^2) > \sigma$ bond (sp)

19 **(d)**

It is a reason for the given fact.

20 **(c)**

The octet of all atoms are complete in structures a and b. The molecule in which all the atoms have completed octet is more stable than atom which have incomplete octet. Larger the number of resonating structures, larger will be the stability, thus structures a and b are stable.

In structure (d), the electron deficient of positive charged carbon is duly compensated by one pair electrons of adjacent oxygen atoms while such neighbour group support is not available in structure (c). Hence, structure (c) is least stable in comparison to structure (d).

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