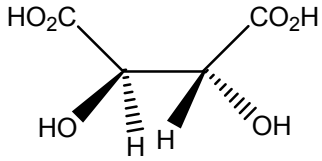
DPP
DAILY PRACTICE PROBLEMS

CLASS : XIIth **SUBJECT : CHEMISTRY**
DATE : **DPP NO. : 1**

Topic :-ORGANIC CHEMISTRY - SOME BASIC PRINCIPLES AND TECHNIQUES

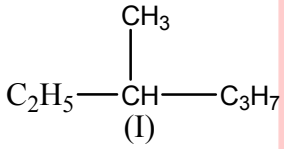
1. The absolute configuration of



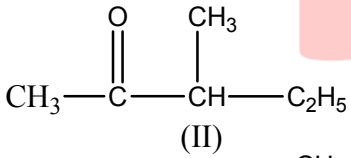
a) S, S b) R, R c) R, S d) S, R

2. Which one of the following compounds is most reactive towards nucleopilic addition?
a) CH_3CHO b) $PhCOCH_3$ c) PhCOPh d) CH_3COCH_3

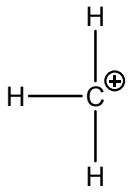
3. Among the following four structures I to IV



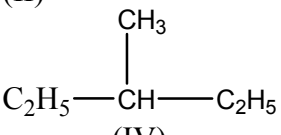
(I)



(II)



(III)



(IV)

it is true that
a) All four are chiral compounds b) Only I and II are chiral compounds
c) Only III is a chiral compound d) Only II and IV are chiral compounds

4. Which of the following is the most stable cation?
a) $F_3C-CH_2^{\oplus}$ b) $(CH_3)_2CH^{\oplus}$ c) $CH_3^{\oplus}$ d) $CF_3^{\oplus}$

5. Write the IUPAC name of

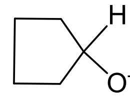
$$\begin{array}{l} CH_2 - O - CH - CH_2 - CH_3 \\ \qquad\qquad\quad | \\ \qquad\qquad\; CH_3 \end{array}$$

a) 3-methoxy butane
b) 2-methoxy butane
c) 3-methyl-3-methoxy propane
d) Butoxy methane

6. Which of the following species is not electrophilic in nature?

a) $\overset{\oplus}{Cl}$
b) BH_3
c) $H_3\overset{\oplus}{O}$
d) $\overset{\oplus}{N}O_2$

7. List the following alkoxide nucleophile in decreasing order of their S_N2 reactivity

1. Me_3CO^- 2. MaO^- 3. $MeCH_2O^-$ 4. Me_2CHO^- 5. 

a) 2>3>5>4>1
b) 5>3>2>1>4
c) 1>5>2>3>4
d) 3>5>1>2>3

8. The Beilstein test for organic compound is used to detect

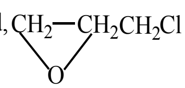
a) Nitrogen
b) Sulphur
c) Carbon
d) Halogens

9. Which of the following statements is not characteristic of free radical chain reaction?

a) It gives major product derived from most stable free radical
b) It is usually sensitive to change in solvent polarity
c) It proceeds in three main steps like initiation, propagation and termination
d) It may be initiated by UV light

10. The presence of carbon in an organic compound is detected by heating it with

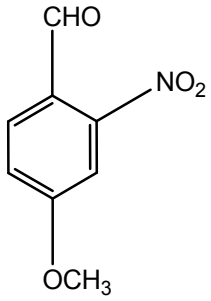
a) Sodium metal to convert it into NaCN
b) CaO to convert it into CO which burns with a blue flame
c) CuO to convert it into CO_2 which turns lime water milky
d) Cu wire to give a bluish green flame

11. IUPAC name of the compound, 

is :

a) 1-choloro-2,3-epoxypropane
b) 3-chloro-1,2-epoxypropane
c) 1-chloroethoxymethane
d) None of the above

12. What is the correct IUPAC name of



a) 4-methoxy-2-nitrobenzaldehyde
b) 4-formyl-3-nitro anisole
c) 4-methoxy-6-nitrobenzaldehyde
d) 2-formyl-5-methoxy nitrobenzene

13. Which one is an elimination reaction?
a) $CH_3CH_3 + Cl_2 \longrightarrow CH_3CH_2Cl + HCl$
b) $CH_3Cl + KOH(aq.) \longrightarrow CH_3OH + KCl$
c) $CH_2 = CH_2 + Br \longrightarrow CH_2BrCH_2Br$
d) $C_2H_5Br + KOH(alc.) \longrightarrow C_2H_4 + KBr + H_2O$

14. Identify the compound that exhibits tautomerism
a) 2-butene
b) Lactic acid
c) 2-pentanone
d) Phenol

15. Which of the following is an electrophile?
a) H_2O
b) SO_3
c) NH_3
d) ROR

16. The formula of ethanenitrile is :
a) C_2H_5NC
b) C_2H_5CN
c) CH_3CN
d) None of these

17. Which of the following acids shows stereoisomerism?
a) Oxalic acid
b) Tartaric acid
c) Acetic acid
d) Formic acid

18. Among the following compounds which can be dehydrated very easily is

a) $CH_3-CH_2-\underset{\displaystyle OH}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}}-CH_2-CH_3$

b) $CH_3-CH_2-CH_2-\underset{\displaystyle OH}{\overset{|}{CH}}-CH_3$

c) $CH_3-CH_2-CH_2-CH_2-CH_2OH$

d) $CH_3-CH_2-\underset{\displaystyle CH_2OH}{\overset{|}{CH}}-CH_3$

$$\begin{array}{l} | \\ CH_3 \end{array}$$

19. Mark the incorrect statement in nitrogen Kjeldahl's method of estimation
    a) Nitrogen gas is collected over caustic potash solution
    b) Potassium sulphate is used as boiling point elevator of H_2SO_4
    c) Copper sulphate or mercury acts as a catalyst
    d) Nitrogen is quantitatively decomposed to give ammonium sulphate

20. Which of the following orders is correct regarding the $-I$ effect of the substituents?
    a) $-NR_2 > -OR > -F$ b) $-NR_2 < -OR < -F$ c) $-NR_2 > -OR < -F$ d) $-NH_2 < -OR > -F$