DPP
DAILY PRACTICE PROBLEMS

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

Topic :-HYDROCARBONS

1. The presence of unsaturation (olefinic or acetylinic bond) in an organic compound can be tested with:
   a) Schiff's reagent b) Tollen's reagent c) Fehling's solution d) Baeyer's reagent

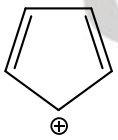
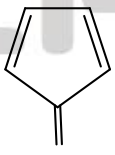
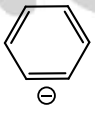
2. An alkene on reductive ozonolysis gives 2-molecules of $CH_2(CHO)_2$. The alkene is
   a) 2,4-hexadiene b) 1,3-cyclohexadiene
   c) 1,4-cyclohexadiene d) 1-methyl-1, 3-cyclopentadiene

3. A mixture of ethyl iodide and n-propyl iodide is subjected to Wurtz reaction. The hydrocarbon that will not be formed is:
   a) n-butane b) n-propane c) n-pentane d) n-hexane

4. Which of the following reacts with benzene in presence of anhydrous aluminium chloride and forms acetophenone?
   a) CH_3Cl b) CH_3COOH c) CH_3CHO d) CH_3COCl

5. Oxidation of 1-butene with hot $KMnO_4$ solution produces
   a) $CH_3CH_2COOH + HCOOH$ b) $CH_3CH_2COOH + CO_2$
   c) $CH_3COOH + CO_2$ d) $(CH_3)_2C = O + CO_2$

6. Action of Br_2 on cyclopentene gives:
   a) 1,2-dibromo cyclopentane
   b) Cyclopentyl bromide
   c) Cyclopentyl dibromide
   d) No reaction

7. Which of the following species is aromatic?
   a)  b)  c)  d) 

8. Propene, $CH_3 — CH = CH_2$ can be converted into 1-propanol by oxidation. Which set of reagents among the following is ideal to effect the conversion?
   a) Alkaline $KMnO_4$ b) B_2H_6 and alk. H_2O_2 c) O_3/zinc dust d) $OsO_4/CHCl_3$

9. Compound which gives acetone on ozonolysis
   a) $CH_3 - CH = CH - CH_3$ b) $(CH_3)_2C = C(CH_3)_2$
   c) $C_6H_5CH = CH_2$ d) $CH_3CH = CH_2$

10. Toluene, when treated with Br_2/Fe, gives p-bromotoluene as the major product because the $-CH_3$ group
a) Is *meta* directing
b) deactivates the ring
c) activates the ring by hyperconjugation
d) None of the above

11. Alkynes occur in nature in the:
a) Free state
b) Partially free state
c) Not in the free state
d) None of the above

12. Which of the following will have least hindered rotation about carbon-carbon bond?
a) Ethane
b) Ethylene
c) Acetylene
d) Hexachloroethane

13. Identify Z in the series,

$$CH_2 = CH_2 \xrightarrow{HBr} X \xrightarrow{aq.KOH} Y \xrightarrow[I_2 excess]{NaCO_3} Z$$

a) C_2H_5I
b) C_2H_5OH
c) CHI_3
d) CH_3CHO

14. Action of NH_3 over C_2H_2 at high temperature gives:
a) Amine
b) Furan
c) Thiophene
d) Pyrrole

15. Wurtz reaction converts alkyl halide into alkane when it is made to react with
a) Na in alcohol
b) Na in dry ether
c) Zn in alcohol
d) Zn in dry ether

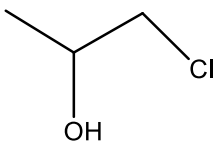
16. Polyethylene is a resin obtained by polymerization of:
a) Butadiene
b) Ethylene
c) Isoprene
d) Styrene

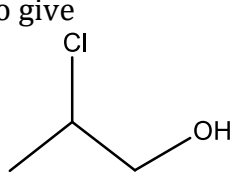
17. Cyclohexane (C_6H_{12}) a hydrocarbon, floats on water because:
a) It is immiscible with water
b) Its density is less than that of water
c) It is a non-polar substance
d) It is immiscible and lighter than water

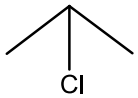
18. Which of the following are produced from coaltar?
a) Synthetic dyes
b) Drugs
c) Perfumes
d) All of these

19. The reduction of an alkyne to alkene using lithium metal in liquid ammonia as solvent results into
a) *cis* addition of hydrogen atoms
b) *trans* addition of hydrogen atoms
c) Both *cis* and *trans* additions of hydrogen atoms. The relative amounts of the two depends on temperature
d) Both *cis* and *trans* additions of hydrogen atoms. The relative amounts depend on the nature of alkyne

20. Propene on reaction with hypochlorous acid to give

a) 

b) 

c) 

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