**JEE MAIN : CHAPTER WISE TEST-12**

**SUBJECT :- CHEMISTRY** **DATE.....**

**CLASS :- 11th** **NAME.....**

**CHAPTER :- HYDROCARBON** **SECTION.....**

**(SECTION A)**

**1.** The order of reactivity of alkyl halides in Wurtz reaction is -
(A) R–I > R–Br > R–Cl
(B) R–I < R–Br < R–Cl
(C) R–Br >> R–I < R–Cl
(D) R–I >> R–Cl > R–Br

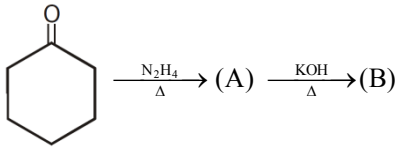
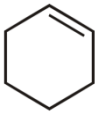
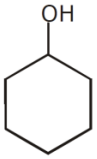
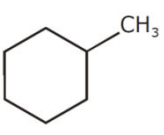
**2.** Which compound cannot be prepared by Kolbe's electrolytic reaction using single salt ?
(A) $CH_4$ (B) $C_2H_6$ (C) $C_4H_{10}$ (D) $H_2$

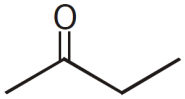
**3.** Which reagent can be used to convert, halide alcohols, carbonyl compounds, etc. to alkane ?
(A) Zn–Hg / HCl (B) Red P + HI
(C) $LiAlH_4$ (D) None of these

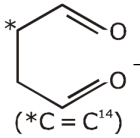
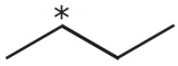
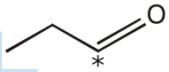
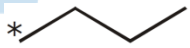
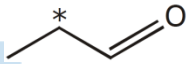
**4.** In dehydrohalogenations the base (alcoholic KOH) abstracts -
(A) The halide ion.
(B) The proton present on the carbon next to the carbon to which the halogen is attached.
(C) The proton present on the carbon to which the halogen is attached.
(D) The proton on the $\alpha$-carbon.

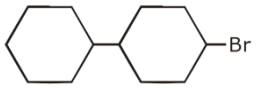
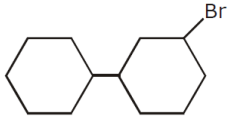
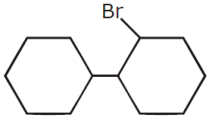
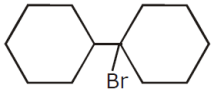
**5.** The catalyst used in Kharasch reaction, is –
(A) Only halogenated compound
(B) Any peroxide
(C) $Al_2(SO_4)_3$
(D) $TiCl_4$

**6.** Which of the following compounds on hydrolysis gives propyne ?
(A) $CaC_2$ (B) $Mg_2C_3$
(C) $Al_4C_3$ (D) $Cu_2Cl_2$

**7.**  Product (B) will be :
(A) 
(B) 
(C) 
(D) 

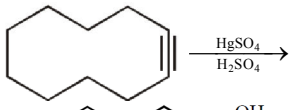
**8.**  Most stable conformer of product will be (across $C_2 - C_3$ bond) :
(A) Gauche
(B) Anti
(C) Eclipsed
(D) Partially eclipsed

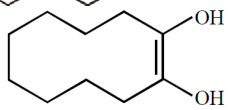
**9.**  product will be :
(A) 
(B) 
(C) 
(D) 

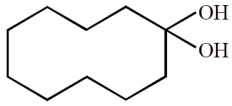
**10.** Major product for the reaction 
(A) 
(B) 
(C) 
(D) 

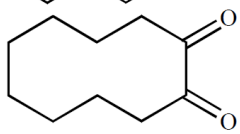
**11.** $CH_2 = CHCH_2CH = CH_2 \xrightarrow{NBS}$ possible products can be
(A) 
(B) $CH_2 = CH\ CH_2\ CH = CHBr$
(C) 
(D) None

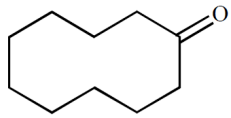
**12.** Which of the following will form same product with HBr in presence or absence of peroxide ?
(A) Cyclohexene
(B) 1-Methylcyclohexene
(C) 1,3-Dimethylcyclohexene
(D) 1-Butene

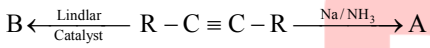
**13.**  P, Product P is

(A) 

(B) 

(C) 

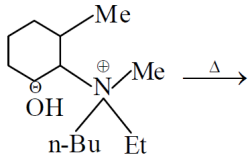
(D) 

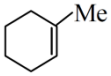
**14.** 
A and B are geometrical isomers (R – CH = CH – R)
(A) A is trans, B is cis
(B) A and B both are cis
(C) A and B both are trans
(D) A is cis, B is trans

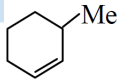
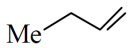
**15.** Reaction of one molecule of HBr with one molecule of 1,3–Butadiene at 40ºC gives predominantly
(A) 1–Bromo–2–butene under thermodynamically controlled conditions
(B) 3–Bromobutene under kinetically controlled conditions
(C) 1–Bromo–2–butene under kinetically controlled conditions
(D) 3–Bromobutene under thermodynamically controlled conditions

**16.** Alkyl halides react with dialkyl copper reagents to give
(A) alkyl copper halides
(B) alkenes
(C) alkenyl halides
(D) alkanes

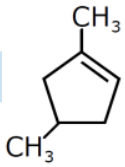
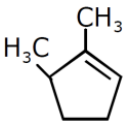
**17.** Of the five isomeric hexanes, the isomer which can give two monochlorinated compounds, is
(A) 2 - Methylpentane
(B) 2, 2 - Dimethylbutane
(C) 2, 3 – Dimethylbutane
(D) n – Hexane

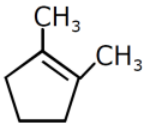
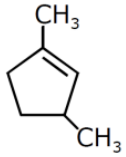
**18.** 
The alkene formed as a major product in the above elimination reaction is

(A) $CH_2 = CH_2$ (B) 

(C)  (D) 

**19.** Which compound would give 5 - Keto - 2 – methyl hexanal upon ozonolysis ?

(A)  (B) 

(C)  (D) 

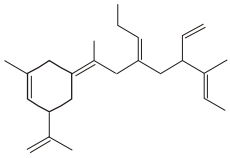
**20.** On acid hydration of how many alkenes ; 2 ,3 - dimethyl-2-butanol will be produced
(A) 2 (B) 3 (C) 4 (D) 5

## (SECTION B)

**21.** Propane reacts with chlorine in sunlight to give two products. 1-chloropropane is obtained in 44% yield and 2 - chloropropane is obtained in 56% yield of the total product. What will be the percent yield of the major product obtained when butane is treated with $Cl_2$ in similar conditions. ***(Round answer as nearest integer)***

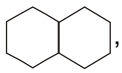
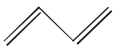
**22.** An alkene with molecular formula $C_6H_{12}$ [A] on ozonolysis produces only one product [B] which gives 2,4-DNP test positive but Iodoform test negative. What will be the number of $\alpha$ H atoms present in that alkene [A].

**23.** Number of different carbonyl compounds formed ozonolysis of following compound.

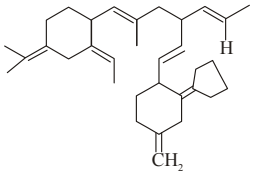


**24.** How many of the following compounds will decolourise bromine water?

$CH_2 = CH_2$, $HC \equiv CH$ ,  ,  ,  ,

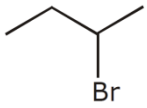
$CH_3 - CH_3$,  , 

**25.** Number of different type of structures of carbonyl compounds which can be obtained by reductive ozonolysis of




**26.** How many phenyl rings are present in major product of the following reaction.

aq. $Ph_3C–COOK \xrightarrow{\text{electrolysis}}$

**27.** 

$\xrightarrow[\Delta]{\text{alc. KOH}}$ Total number of products are -

**28.** A hydrocarbon A, of the formula $C_8H_{10}$, on ozonolysis gives compound $B(C_4H_6O_2)$only. The Compound B can also be obtained from the alkyl bromide, $C(C_3H_5Br)$ upon treatment with magnesium in dry ether, followed by carbon dioxide and acidification. Give the number of secondary hydrogen atoms in compound A.

**29.** How many total organic products are obtained in following reaction ?

$CH_2 = CH_2 + Br_2 \xrightarrow{\text{aq. NaCl}}$ ?

**30.** How many chiral compounds are possible on monochlorination of 2-Methyl butane?