



CHEMISTRY

NCERT - FULL MARKS

CHEMISTRY(TAMIL)

HYDROCARBONS

Questions A Choose The Correct Answer

1. The type of substitution reaction that takes place when methane is treated with Cl_2 in

presence of light

A. ionic

B. nucleophilic

C. electrophilic

D. radical

Answer:



Watch Video Solution

2. When n-hexane is passed over hot alumina supported chromium, vanadium or molybdenum oxide the compound formed is

A. cyclopentaene

B. toluene

C. cyclohexane

D. benzene

Answer:



Watch Video Solution

3. When the identical groups are on the same or opposite sides of the bonds in alkenes the isomerism is called as

A. chain isomerism

B. geometrical isomerism

C. position isomerism

D. optical isomerism

Answer:



Watch Video Solution

4. Diels-Alder reaction is the reaction between

A. diene and dienophile

B. electrophile and nucleophile

C. oxidant and reductant

D. none.

Answer:



Watch Video Solution

5. Unsaturated compounds with two double bonds are called as

A. diene

B. olefins

C. alkadiene

D. paraffins.

Answer:



Watch Video Solution

6. The hybridization of carbons in ethylene is

A. sp^2

B. sp^3

C. sp

D. dsp^2

Answer:



Watch Video Solution

7. Alcohols can be dehydrated to olefins using

A. H_2SO_4

B. Pd

C. $SOCl_2$

D. Zn / Hg

Answer:



Watch Video Solution

8. When alkyl halides are treated with alcoholic KOH, the products are

A. olefins

B. olefins

C. alkanes

D. aldehydes

Answer:



Watch Video Solution

9. Witting reaction is used to prepare

A. an alkene

B. an alkyne

C. an alkane

D. none of the above

Answer:



Watch Video Solution

10. Electrolysis of potassium succinate gives

A. ethylene

B. acetylene

C. ethane

D. none of the above

Answer:



Watch Video Solution

Questions B Fill Up The Blanks

1. In alkanes, the carbon atoms are connected by _____ bonds.



Watch Video Solution

2. Treatment of 1,2-dibromopropane with zinc and ethanol gives _____.



Watch Video Solution

3. Cis But-2-ene is an _____ isomer.



Watch Video Solution

4. Addition of HCl to an olefin follows _____ rule.



[Watch Video Solution](#)

5. An alkene reacts with ozone to form



[Watch Video Solution](#)

6. CaC_2 on hydrolysis gives



[Watch Video Solution](#)

7. Ethylenedibromide on treatment with KOH gives



[Watch Video Solution](#)

8. Electrolysis of sodium maleate gives



[Watch Video Solution](#)

Questions C Explain Briefly On The Following

1. Mention any five chemical properties of alkanes.



Watch Video Solution

2. Discuss the general methods of preparing alkanes.



Watch Video Solution

3. Write a short note on hydroboration.





[Watch Video Solution](#)

4. What is ozonolysis?



[Watch Video Solution](#)

5. What is witting reaction?



[Watch Video Solution](#)

6. What is polymerisation?





[Watch Video Solution](#)

7. How is ethylene hydrated?



[Watch Video Solution](#)

8. What is the action of ozone on acetylene.



[Watch Video Solution](#)

9. What happens when acetylene is passed through red-hot tube?



Watch Video Solution

Question

1. The type of substitution reaction that takes place when methane is treated with Cl_2 in presence of light

A. ionic

B. nucleophilic

C. electrophilic

D. radical

Answer:



Watch Video Solution

2. When n-hexane is passed over hot alumina supported chromium, vanadium or molybdenum oxide the compound formed is

A. cyclopentaene

B. toluene

C. cyclohexane

D. benzene

Answer:



Watch Video Solution

3. When the identical groups are on the same or opposite sides of the bonds in alkenes the isomerism is called as

A. chain isomerism

B. geometrical isomerism

C. position isomerism

D. optical isomerism

Answer:



Watch Video Solution

4. Diels-Alder reaction is the reaction between

A. diene and dienophile

B. electrophile and nucleophile

C. oxidant and reductant

D. none.

Answer:



Watch Video Solution

5. Unsaturated compounds with two double bonds are called as

A. diene

B. olefins

C. alkadiene

D. paraffins.

Answer:



Watch Video Solution

6. The hybridization of carbons in ethylene is

A. sp^2

B. sp^3

C. sp

D. dsp^2

Answer:



Watch Video Solution

7. Alcohols can be dehydrated to olefins using

A. H_2SO_4

B. Pd

C. $SOCl_2$

D. Zn / Hg

Answer:



Watch Video Solution

8. When alkyl halides are treated with alcoholic KOH, the products are

A. olefins

B. olefins

C. alkanes

D. aldehydes

Answer:



Watch Video Solution

9. Witting reaction is used to prepare

A. an alkene

B. an alkyne

C. an alkane

D. none of the above

Answer:



Watch Video Solution

10. Electrolysis of potassium succinate gives

A. ethylene

B. acetylene

C. ethane

D. none of the above

Answer:



Watch Video Solution

11. In alkanes, the carbon atoms are connected by _____ bonds.



Watch Video Solution

12. Treatment of 1,2-dibromopropane with zinc and ethanol gives _____.



Watch Video Solution

13. Cis But-2-ene is an _____ isomer.



Watch Video Solution

14. Addition of HCl to an olefin follows _____ rule.



Watch Video Solution

15. An alkene reacts with ozone to form



Watch Video Solution

16. CaC_2 on hydrolysis gives



Watch Video Solution

17. Ethylenedibromide on treatment with KOH gives



Watch Video Solution

18. Electrolysis of sodium maleate gives





[Watch Video Solution](#)

19. Mention any five chemical properties of alkanes.



[Watch Video Solution](#)

20. Discuss the general methods of preparing alkanes.



[Watch Video Solution](#)

21. Write a short note on hydroboration.



[Watch Video Solution](#)

22. What is ozonolysis?



[Watch Video Solution](#)

23. What is witting reaction?



[Watch Video Solution](#)

24. What is polymerisation?



Watch Video Solution

25. How is ethylene hydrated?



Watch Video Solution

26. What is the action of ozone on acetylene.



Watch Video Solution

27. What happens when acetylene is passed through red-hot tube?



[Watch Video Solution](#)

Evaluation

1. The correct statement regarding the comparison of staggered and eclipsed conformations of ethane, is (NEET)

A. the eclipsed conformation of ethane is more stable than staggered conformation even though the eclipsed conformation has torsional strain.

B. the staggered conformation of ethane is more stable than eclipsed conformation, because staggered conformation has no torsional strain.

C. the staggered conformation of ethane is less stable than eclipsed conformation,

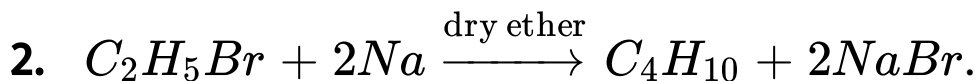
because staggered conformation has torsional strain.

D. the staggered conformation of ethane is less stable than eclipsed conformation, because staggered conformation has no torsional strain.

Answer: B



View Text Solution



The above reaction is an example of which of the following.

A. Reimer Tiemann reaction

B. Wurtz reaction

C. Aldol condensation

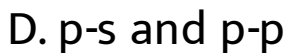
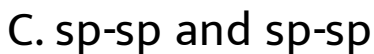
D. Hoffmann reaction

Answer: B



View Text Solution

4. The C – H bond and C – C bond in ethane are formed by which of the following types of overlap:

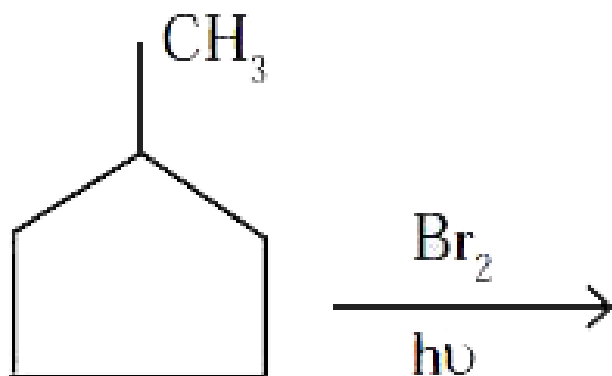


Answer: A

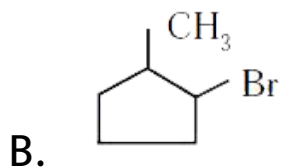
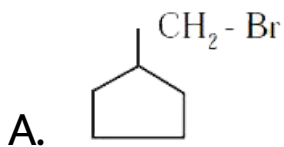


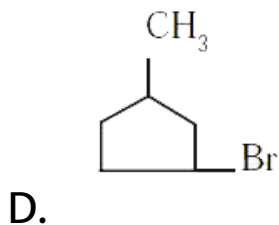
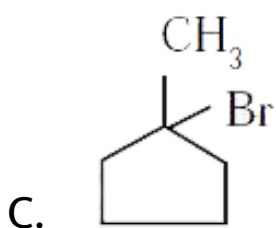
View Text Solution

5. In the following reaction,



The major product obtained is:





Answer: C

 [View Text Solution](#)

6. Which of the following is optically active:

A. 2 - methyl pentane

B. citric acid

C. Glycerol

D. none of of these

Answer: A



View Text Solution

7. The compounds formed at anode in the electrolysis of an aqueous solution of potassium acetate are:

A. CH_4 and H_2

B. CH_4 and CO_2

C. C_2H_6 and CO_2

D. C_2H_4 and Cl_2

Answer: C



View Text Solution

8. The general formula for cyclo alkanes:

A. C_nH_n



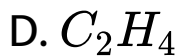
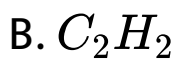
Answer: B



View Text Solution

9. The compound that will react most readily with gaseous bromine has the formula (NEET)





Answer: A

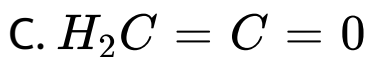
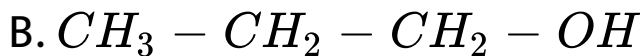


View Text Solution

10. Which of the following compounds shall not produce propene by reaction with HBr followed by elimination (or) only direct elimination reaction (NEET)



A.



Answer: C



View Text Solution

11. Which among the following alkenes on reductive ozonolysis produces only propanone

?

A. 2 – Methyl propene

B. 2 – Methyl but – 2 - ene

C. 2, 3 – Dimethyl but – 1 – ene

D. 2, 3 – Dimethyl but – 2 – ene

Answer: D



View Text Solution

12. The major product formed when 2 - bromo - 2 - methyl butane is refluxed with ethanolic KOH is:

A. 2 - methylbut - 2 - ene

B. 2 - methyl butan - 1 - ol

C. 2 - methyl but - 1 - ene

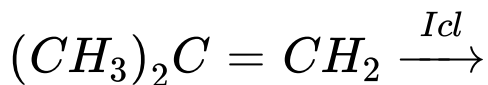
D. 2 - methyl butan - 2 - ol

Answer: A



View Text Solution

13. Major product of the below mentioned reaction is,



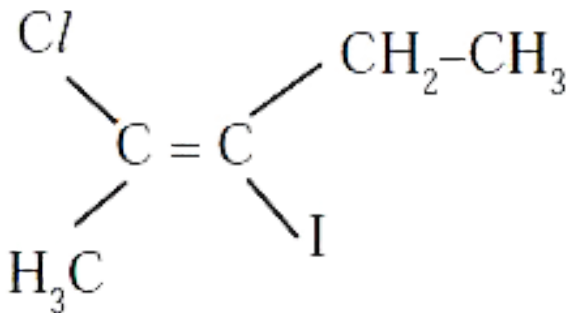
- A. 2-chloro -1- iodo - 2 - methyl propane
- B. 1-chloro-2-iodo-2-methylpropane
- C. 1,2 - dichloro - 2 - methyl propane
- D. 1, 2 - diiodo - 2 - methyl propane

Answer: A



View Text Solution

14. The IUPAC name of the following compound is:



- A. trans-2-chloro-3-iodo - 2 - pentane
- B. cis-3 - iodo - 4 - chloro - 3 - pentane
- C. trans-3-iodo-4-chloro - 3 - pentene
- D. cis-2 - chloro - 3 - iodo - 2 - pentene

Answer: A



View Text Solution

15. Cis – 2 – butene and trans – 2 – butene are:

A. conformational isomers

B. structural isomers

C. configurational isomers

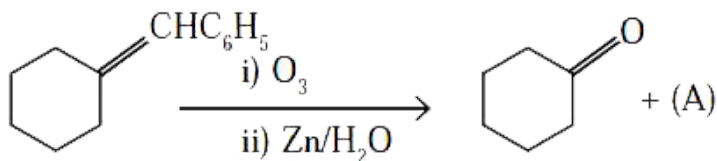
D. optical isomers

Answer: C

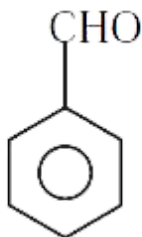


View Text Solution

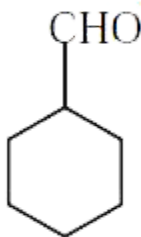
16. Identify the compound (A) in the following reaction:



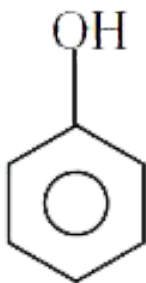
A.



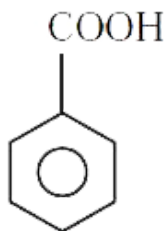
B.



C.



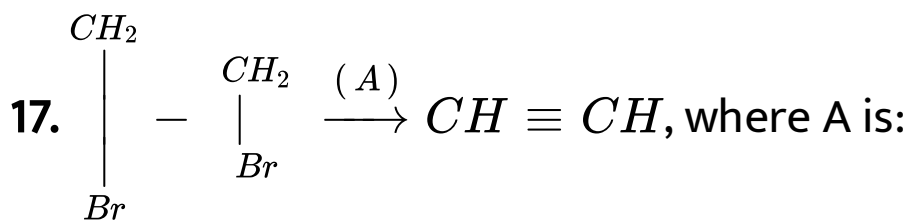
D.



Answer: A



View Text Solution



A. Zn

B. Conc. H_2SO_4

C. alc. KOH

D. dil. H_2SO_4

Answer: C



View Text Solution

18. Consider the nitration of benzene using mixed con H_2SO_4 and HNO_3 if a large

quantity of $KHSO_4$ is added to the mixture,
the rate of nitration will be:

A. unchanged

B. doubled

C. faster

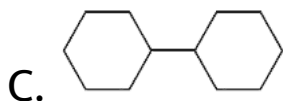
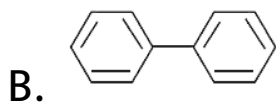
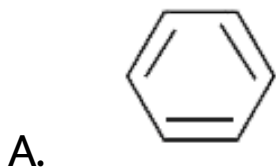
D. slower

Answer: D



View Text Solution

19. In which of the following molecules, all atoms are co-planar:



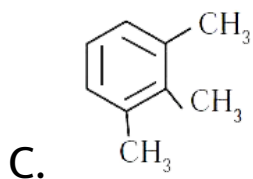
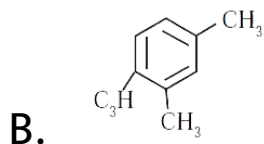
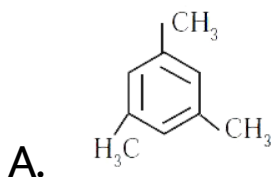
D. both (a) and (b)

Answer: D



View Text Solution

20. Propyne on passing through red hot iron tube gives:



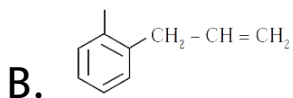
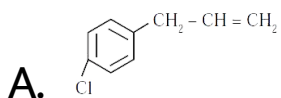
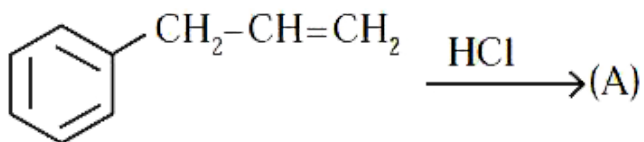
D. none of these

Answer: A

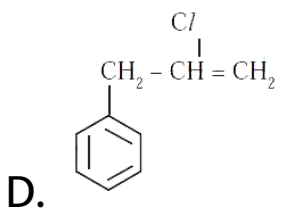


View Text Solution

21.



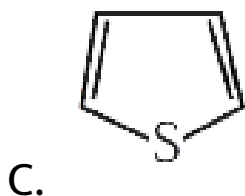
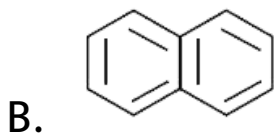
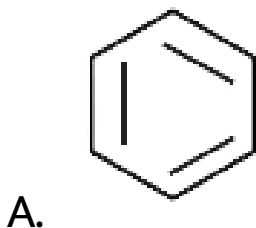
C. both (a) and (b)

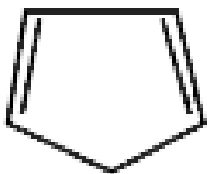


Answer: D

22. Which one of the following is non aromatic

?





D.

Answer: D



[View Text Solution](#)

23. Which of the following compounds will not undergo Friedal – crafts reaction easily ?

(NEET)

A. Nitro benzene

B. Toluene

C. Cumene

D. Xylene

Answer: A



View Text Solution

24. Some meta-directing substituents in aromatic substitution are given. Which one is most deactivating ?

A. $-COOH$

B. $-NO_2$

C. $-C \equiv N$

D. $-SO_3H$

Answer: B



View Text Solution

25. Which of the following can be used as the halide component for Friedel-Crafts reaction ?

A. Chloro benzene

B. Bromo benzene

C. chloro ethene

D. isopropyl chloride

Answer: D



View Text Solution

26. An alkane is obtained by decarboxylation of sodium propionate. Same alkane can be prepared by:

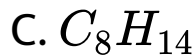
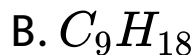
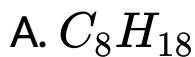
- A. Catalytic hydrogenation of propene
- B. action of sodium metal on iodomethane
- C. reduction of 1 – chloro propane
- D. reduction of bromomethane

Answer: B



View Text Solution

27. Which of the following is aliphatic saturated hydrocarbon:



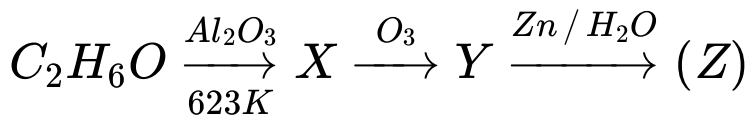
D. All of these

Answer: A



View Text Solution

28. Identify the compound 'Z' in the following reaction:



A. Formaldehyde

B. Acetaldehyde

C. Formic acid

D. none of these

Answer: A



View Text Solution

29. Peroxide effect (Kharasch effect) can be studied in case of:

A. Oct – 4 – ene

B. hex – 3 – ene

C. pent – 1 – ene

D. but – 2 – ene

Answer: C



View Text Solution

30. 2 – butyne on chlorination gives:

A. 1 – chloro butane

B. 1, 2 – dichloro butane

C. 1, 1, 2, 2 – tetrachlorobutane

D. 2, 2, 3, 3 – tetra chloro butane

Answer: D



View Text Solution