



CHEMISTRY

BOOKS - MODERN PUBLISHERS

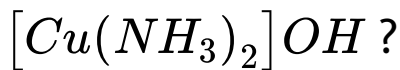
CHEMISTRY (HINGLISH)

MOCK TEST-2

**Section A Read The Following Passage And
Answer Questions**

1. Alkenes and alkynes are unsaturated hydrocarbons and undergo electrophilic addition reactions. In alkenes, the addition occurs in one step while in alkynes the addition occurs in two steps. Alkenes show geometrical isomerism but alkynes do not. Alkynes are more acidic than alkenes which are more acidic than alkanes. Both alkenes and alkynes can be prepared by the electrolysis of sodium or potassium salts of carboxylic acids.

Which of the following reacts with



(i) But-1-yne (ii) But-2-yne (iii) But-1-ene

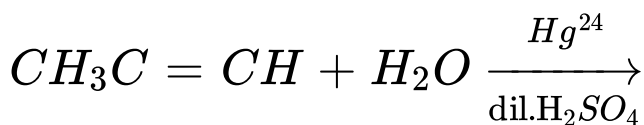


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Write the major product of the following reaction :



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3. Alkenes and alkynes are unsaturated hydrocarbons and undergo electrophilic addition reactions. In alkenes, the addition

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Write the major product of the reaction :



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4. Alkenes and alkynes are unsaturated hydrocarbons and undergo electrophilic addition reactions. In alkenes, the addition occurs in one step while in alkynes the addition occurs in two steps. Alkenes show geometrical isomerism but alkynes do not. Alkynes are more acidic than alkenes which are more acidic than alkanes. Both alkenes and alkynes can be prepared by the electrolysis of sodium or potassium salts of carboxylic acids. Which of the following molecule can exhibit

geometrical isomerism ?

2-Methylbut-2-en-1-ol , 3-Methylbut-2-en-1-ol



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Section A Mcq

1. 0.15 gm of an organic compound gave 0.12 gm of silver bromide by the carius method. Find the percentage of bromine in the compound.

A. 65.96

B. 34.04

C. 32.82

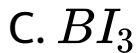
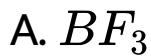
D. 39.62

Answer: B



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2. The strongest Lewis acid among the following is :

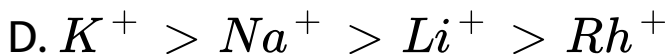
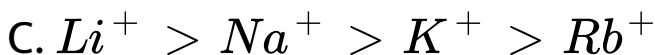
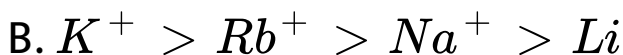
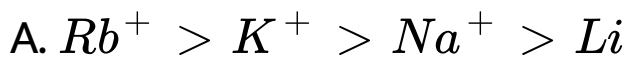


Answer: C



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3. The correct order of mobility of alkali ions in aqueous solution is :



Answer: A



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4. In acidic medium, H_2O_2 changes $Cr_2O_7^{2-}$

ion to CrO_5 . The oxidation states of Cr in

$Cr_2O_7^{2-}$ and CrO_5 are respectively :

A. + 7, + 5

B. + 6, + 6

C. + 6, + 10

D. + 6, + 5

Answer: B



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5. The electrophile in sulphonation of benzene

is



Answer: A



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Section A Assertion Reason Questions

1. Assertion: Higher concentration of CO_2 in atmosphere is causing global warming.

Reason: Excessive CO_2 depletes ozone layer.

A. Assertion and reason both are correct statements and reason is correct explanation for assertion.

B. Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C. Assertion is correct statement but reason wrong statement.

D. Assertion is wrong statement but reason is correct statement.

Answer: C



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2. Assertion: Nitration of benzene gives mainly m-nitrobenzene.

Reason: In electrophilic nitration of benzene the nucleophile is NO_2^+ .

A. Assertion and reason both are correct statements and reason is correct explanation for assertion.

B. Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C. Assertion is correct statement but reason wrong statement.

D. Assertion is wrong statement but reason is correct statement.

Answer: C



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3. Assertion: Graphite is soft and a good lubricating agent.

Reason: The successive layers in graphite are held together by weak forces of attraction.

A. Assertion and reason both are correct statements and reason is correct explanation for assertion.

B. Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C. Assertion is correct statement but reason wrong statement.

D. Assertion is wrong statement but reason is correct statement.

Answer: A



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4. Assertion: Permanent hardness of water can be removed by treatment with washing soda.

Reason: Washing soda reacts with calcium and magnesium sulphates and chlorides to form insoluble carbonates.

A. Assertion and reason both are correct statements and reason is correct

explanation for assertion.

B. Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C. Assertion is correct statement but reason wrong statement.

D. Assertion is wrong statement but reason is correct statement.

Answer: A



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5. Assertion: Tertiary alkyl carbonium ion is more stable than secondary alkyl carbonium ion.

Reason: Tertiary alkyl carbonium has trigonal planar geometry.

A. Assertion and reason both are correct statements and reason is correct explanation for assertion.

B. Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C. Assertion is correct statement but reason wrong statement.

D. Assertion is wrong statement but reason is correct statement.

Answer: B



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Section A One Word Short Sentence Questions

1. Name the compound formed by the oxidation of ethyl benzene by $KMnO_4$.



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2. $BeO + NaOH \rightarrow$



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3. Consider the compounds, BCl_3 and CCl_4

.How will they behave with water? Justify.



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4. Name two compounds which retard the decomposition of H_2O_2 .



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1. Give two example of each of ionic and covalent hydrides.



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2. Why is Li_2CO_3 decomposed at a lower temperature whereas Na_2CO_3 at higher temperature?



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3. How can you explain higher stability of BCl_3 as compared to $TiCl_3$?



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4. Give condensed and bond line structural formulae for the following :

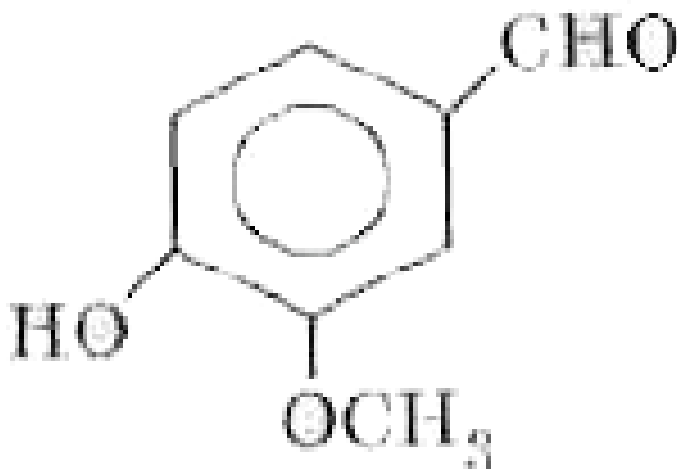
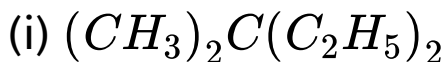
(i) 2-(4-isobutylphenyl) propanoic acid (ii)

Hexanedial



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5. Write the IUPAC names of the following compounds :



(ii)



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6. What is salt bridge? Give its functions.



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Section C

1. 0.35 g of an organic substance was Kjeldahised and the ammonia obtained was passed into 100ml of $M/10H_2SO_4$. The excess acid required 154 ml of $M/10NaOH$ for neutralisation, calculate the % of nitrogen in the compound.



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2. Write short notes on the following :

(a) Wurtz reaction

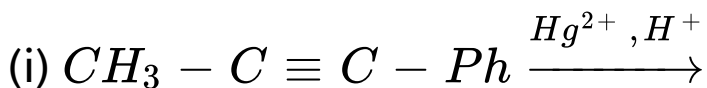
(b) Markovnikov's rule

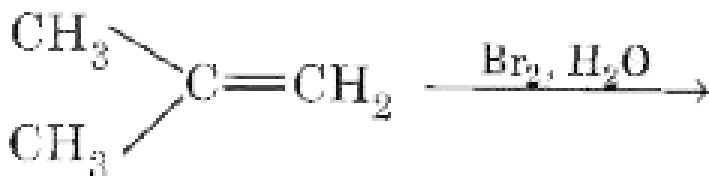
(c) Friedel Craft reaction



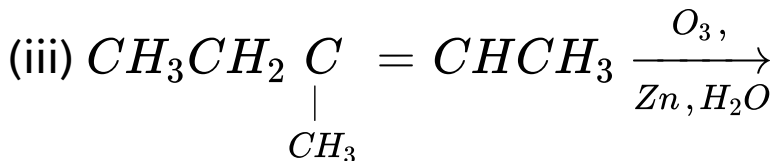
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3. Complete the following reactions :





(ii)



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4. Explain the following reactions :

(i) CO is heated with ZnO.

(ii) Hydrated alumina is heated with aqueous NaOH.



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5. (a) Write down the chemical reactions involved during the formation of photochemical smog.

(b) Which out of CO or CO_2 is more dangerous pollutant ?



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Section D

1. (a) Account for the acidity of alkynes.

(b) Explain the mechanism of sulphonation of benzene.

(c) How will you convert the following :

(i) Ethyne to but-2-yne (ii) Propene to 2, 3-dimethylbutane (iii) Ethene to ethyne.



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