

Class: 12
Subject: chemistry
Topic: Aldehyde ketones and carboxylic acid
No. of Questions: 25

1. Directions: The following question has four choices out of which ONLY ONE is correct.

The Cannizzaro reaction is not given by:

- a. trimethylacetaldehyde
- b. acetaldehyde
- c. benzaldehyde
- d. formaldehyde

2. Benzene reacts with CH_3COCl in the presence of anhydrous AlCl_3 to give

- a. $\text{C}_6\text{H}_5\text{CH}_3$
- b. $\text{C}_6\text{H}_5\text{Cl}$
- c. $\text{C}_6\text{H}_5\text{O}_2\text{Cl}$
- d. $\text{C}_6\text{H}_5\text{COCH}_3$

3. Benzaldehyde reacts with ammonia to form

- a. benzaldehyde ammonia
- b. hydrobenzamide
- c. urotropine
- d. ammonium chloride

4. Formaldehyde on reaction with ammonia forms urotropine whose formula is

- a. $(\text{CH}_2)_6 \text{N}_4$
- b. $(\text{CH}_2)_4 \text{N}_6$
- c. $(\text{CH}_2)_3 \text{N}_4$
- d. $(\text{CH}_3)_6 \text{N}_4$

5. What is the increasing order of the rate of HCN addition to compounds A – D?

- A. HCHO
- B. CH_3COCH_3
- C. PhCOCH_3
- D. PhCOPh

- a. $\text{C} < \text{D} < \text{B} < \text{A}$
- b. $\text{A} < \text{B} < \text{C} < \text{D}$
- c. $\text{D} < \text{B} < \text{C} < \text{A}$
- d. $\text{D} < \text{C} < \text{B} < \text{A}$

6. Under Wolf-Kishner reduction conditions, the conversion which may be brought about is

- a. benzaldehyde into benzyl alcohol
- b. cyclohexanol into cyclohexanone
- c. cyclohexanone into cyclohexanol
- d. benzophenone into diphenylmethane

7. The reagent with which both acetaldehyde and acetone react easily is
- Tollen's reagent
 - Schiff's reagent
 - Grignard's reagent
 - Fehling's reagent
8. Benzyl alcohol is obtained from benzaldehyde by which of the following reactions?
- Wurtz reaction
 - Cannizzaro reaction
 - Claisen reaction
 - Perkin reaction
9. Formaldehyde when treated with KOH gives methanol and potassium formate. The reaction is known as
- Perkin reaction
 - Claisen reaction
 - Cannizzaro reaction
 - Wurtz reaction
10. Which of the following aldehydes is the most reactive towards nucleophilic addition reactions?
- HCHO
 - CH₃CHO
 - C₂H₅CHO
 - None of these

11. Conversion of acetaldehyde into ethyl acetate in the presence of aluminium ethoxide is called

- a. Aldol condensation
- b. Cope reaction
- c. Tishchenko reaction
- d. Benzoin Condensation

12. Directions: The following question has four choices out of which ONLY ONE is correct.

Which of the following compounds is prepared from the distillation of acetone with sulfuric acid?

- a. Mesityl oxide
- b. Phorone
- c. Mesitylene
- d. Chloretone

13. Directions: The following question has four choices out of which ONLY ONE is correct.

On passing vapours of isopropyl alcohol over heated Cu at 573K _____ takes place.

- a. dehydration
- b. dehydrogenation
- c. hydration
- d. hydrogenation

14. Directions: The following question has four choices out of which ONLY ONE is correct.

Which of the following does not give the iodoform test?

- a. CH_3CHO
- b. $\text{CH}_3\text{CH}_2\text{COCH}_3$
- c. $\text{CH}_3\text{COC}_2\text{H}_5$
- d. $\text{CH}_3\text{CH}_2\text{CH}_3$

15. Directions: The following question has four choices out of which ONLY ONE is correct.

The presence of alkyl group increases the electron density at the carbonyl carbon by

- a. + inductive effect
- b. -inductive effect
- c. mesomeric effect
- d. optical activity

16. A ketone on Baeyer-Villiger oxidation produces

- a. a carboxylic acid with the loss of carbon atom(s)
- b. a carboxylic acid with the same number of carbon atoms
- c. an ester with the loss of carbon atom(s)
- d. an ester with the same number of carbon atoms

17. Directions: The following question has four choices out of which ONLY ONE is correct.

_____ undergoes oxidation with acidified $K_2Cr_2O_7$ to give acetone

- a. Ethanol
- b. 1-propanol
- c. 2-propanol
- d. 1-butanol

18. Directions: The following question has four choices out of which ONLY ONE is correct.

Hydroformylation means the introduction of

- a. H_2 in the compound
- b. $-CHO$ group in the compound
- c. $>C=O$ group in the compound
- d. None of these

19. Directions: The following question has four choices out of which ONLY ONE is correct.

Acetone reacts with ethyl magnesium iodide to form

- a. phenyl hydrozone.
- b. isopropyl alcohol.
- c. 2-methyl -2-butanol.
- d. 1-butanol.

20. Directions: The following question has four choices out of which ONLY ONE is correct.

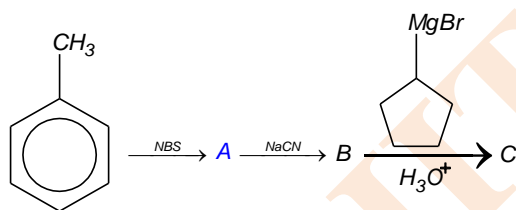
The nucleophile in the reaction of chloroform with acetone is

- Cl^-
- Cl_3^-
- CCl_3^-
- CHCl_2^-

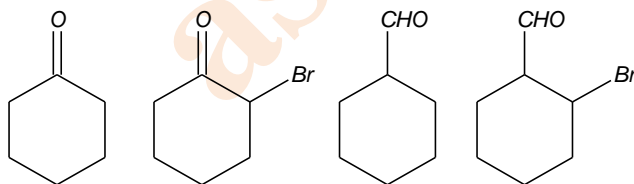
21. Arrange the following compounds in increasing order of their reactivity in nucleophilic addition reaction:

Benzaldehyde, p-tolualdehyde, p-nitrobenzaldehyde, acetophenone.

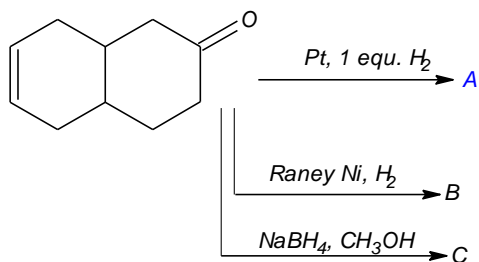
22. Identify A, B & C in the following



23. Arrange the following in increasing extent of hydration:



24. Identify A, B & C in the following



25. Compound A, having the empirical formula C_7H_8 is chlorinated in sunlight to give a product which is hydrolysed to produce B. B after oxidation reacts with acetic anhydride in the Perkin reaction to produce an acid C, which has an equivalent weight of 148. Give the name & structure of A, B & C.

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