

India's Number 1 Education App

# CHEMISTRY

# BOOKS - MS CHOUHAN CHEMISTRY (HINGLISH)

# **CARBENE AND CARBENOIDS**

Solved Problem 22 1

**1.** Give the reaction prodcuts when acetophenon, acetaldehyde and cyclohexane

undergo reaction with diazomethane.

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Solved Problem 22 2

Give the products in the carbylamine reaction of ethylamine.
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**2.** Give the products in the carbylamine reaction of ethylamine.

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Additional Objective Questions Single Correct Choice Type 1. In Reimer-Tiemann reaction, the medium of

reaction is

A. acidic

B. basic

C. neutral

D. gas-phase

Answer: B

**2.** Carbylamine forms from aliphatic or aromatic primary amines via which of the following intermediates?

A. Carbene

B. Carbon radical

C. Carbocation

D. Carbanion

Answer: A

**3.** A compound X on reaction with chloroform and NaOH gives a compound with a very unpleasant odor. X is

A.  $C_6H_5CONH_2$ 

 $\mathsf{B.}\, C_6H_5NH_2$ 

 $\mathsf{C.}\, C_6H_5CH_2NHCH_3$ 

D.  $C_6H_5NHCH_3$ 

**Answer: B** 

**4.** In Reimer-Tiemann formylation reaction, molecular weight of phenol increases by

A. 27

B. 28

C. 29

D. 30

Answer: B

5. When chloroform is treated with amine and

KOH, we get

A. rose like odor.

B. bitter almond like smell

C. offensive odor.

D. sour oil of winter green like smell

Answer: C

**6.** If we use pyrene  $(CCl_4)$  in the Reimer-Tiemann reaction in place of chloroform, the product formed is

A. salicylaldehyde

B. phenolphthalein

C. salicylic acid

D. cyclohexanol

#### Answer: C



7. When phenol is reacted with CHCI, and NaOH followed by acidification, salicyldehyde is obtained. Which of the following species are involved in the above mentioned reaction as intermediate?







D. All of these





8. Which of following compound gives positive

isocyanide test?

A. 
$$CH_3 - NH - CH_3$$

$$\mathsf{B.}\,CH_3-CH_2-NH_2$$

$$C. CH_3 - NH - Ph$$

D. 
$$CH_3 - - CH_3 \ | \ CH_3$$

#### **Answer: B**







Salicyldehyde.

The above reaction is known as

A. Rimer-Tiemann reaction.

B. Bucherer reaction.

C. Gattermann synthesis.

D. Perkin reaction





# 10. Which of the following compound does not

# give Hoffman's carbylamine test?









#### Answer: A



#### 

11.

# $R-NH_2+xKOH+CHCl_3 ightarrow R-N\equiv CH$

where x is moles of KOH consumed, and is equal to

A. 1

**B.** 2

C. 3

D. 4





**12.** Salicylic acid can be prepared using Reimer-Tiemann's reaction by treating phenol with

A. methyl chloride in the presence of

anhydrous aluminium chloride.

B. carbon dioxide under pressure in sodium

hydroxide solution.

C. carbon tetrachloride and concentrated

sodium hydroxide.

D. sodium nitrite and a few drops of

concentrated sulphuric acid.

Answer: C

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**13.** Reaction of phenol with chloroform/sodium hydroxide to give o-hydroxy benzaldehyde involves the formation of

- A. dichloro carbine
- B. trichloro carbine.
- C. chlorine atoms
- D. chlorine molecules.

Answer: A



14. In Reimer-Tiemann reaction, the medium of

reaction is

A. acidic

B. basic

C. neutral

D. gas-phase

#### **Answer: B**



**15.** Carbylamine forms from aliphatic or aromatic primary amines via which of the following intermediates?

### A. Carbene

- **B.** Carbon radical
- C. Carbocation
- D. Carbanion

#### Answer: A



**16.** A compound X on reaction with chloroform and NaOH gives a compound with a very unpleasant odor. X is

### A. $C_6H_5CONH_2$

# $\mathsf{B.}\, C_6H_5NH_2$

# $\mathsf{C.}\, C_6H_5CH_2NHCH_3$

# D. $C_6H_5NHCH_3$

#### Answer: B



**17.** In Reimer-Tiemann formylation reaction, molecular weight of phenol increases by

A. 27

B. 28

C. 29

D. 30

Answer: B



18. When chloroform is treated with amine and

KOH, we get

A. rose like odor.

B. bitter almond like smell

C. offensive odor.

D. sour oil of winter green like smell

Answer: C

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**19.** If we use pyrene  $(CCl_4)$  in the Reimer-Tiemann reaction in place of chloroform, the product formed is

- A. salicylaldehyde
- B. phenolphthalein
- C. salicylic acid
- D. cyclohexanol

#### Answer: C



**20.** When phenol is reacted with CHCI, and NaOH followed by acidification, salicyldehyde is obtained. Which of the following species are

involved in the above mentioned reaction as

#### intermediate?







### D. All of these

Answer: A



**21.** Which of following compound gives positive isocyanide test?

A. 
$$CH_3 - NH - CH_3$$

- $\mathsf{B.}\,CH_3-CH_2-NH_2$
- $C. CH_3 NH Ph$

D. 
$$CH_3 - - CH_3 \ | \ CH_3$$

#### **Answer: B**



22. Phenol

 $(CHCl_3 / NaOH) \longrightarrow$ 

 $H^+$ 

Salicyldehyde.

The above reaction is known as

A. Rimer-Tiemann reaction.

B. Bucherer reaction.

C. Gattermann synthesis.

D. Perkin reaction

Answer: A



# 23. Which of the following compound does not

give Hoffman's carbylamine test?









#### Answer: A



24.

 $R-NH_2+xKOH+CHCl_3
ightarrow R-N\equiv CH$  where x is moles of KOH consumed, and is equal to

A. 1

B. 2

C. 3

D. 4

Answer: C

**25.** Salicylic acid can be prepared using Reimer-Tiemann's reaction by treating phenol with

A. methyl chloride in the presence of anhydrous aluminium chloride.

B. carbon dioxide under pressure in sodium

hydroxide solution.

C. carbon tetrachloride and concentrated sodium hydroxide.

D. sodium nitrite and a few drops of

concentrated sulphuric acid.

#### Answer: C

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**26.** Reaction of phenol with chloroform/sodium hydroxide to give o-hydroxy benzaldehyde involves the formation of

- A. dichloro carbine
- B. trichloro carbine.
- C. chlorine atoms
- D. chlorine molecules.

Answer: A

