



CHEMISTRY

BOOKS - MTG WBJEE CHEMISTRY (HINGLISH)

CHEMISTRY IN INDUSTRY

Wb Jee Workout Single Option Correct Type

1. A compound of sodium which when heated gives CO_2 is

A. Na_2CO_3 . $10H_2O$

B. $NaHCO_3$

 $\mathsf{C.} Na_2 CO_{3.7} H_2 O$

D. Na_2CO_3 . H_2O

Answer: B

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2. The raw materials required for the manufacture of Na_2CO_3 by solvay process are

A. $CaCl_2$, $(NH_4)_2CO_3$, NH_3

B. NH_4Cl , NaCl, $Ca(OH)_2$

 $\mathsf{C.} \operatorname{NaCl}, (\operatorname{NH}_4)_2 \operatorname{CO}_3, \operatorname{NH}_3$

D. $NaCl, NH_3, CaCO_3$

Answer: D

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3. Washing soda has the formula

A. $Na_2CO_{3.7}H_2O$

B. $Na_2CO_{3.10}H_2O$

$\mathsf{C.} Na_2CO_3. H_2O$

D. Na_2CO_3

Answer: B

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4. In the contact process, the impurities os asrsenic are removed by

A. Fe_2O_3

$\mathsf{B.}\,Fe(OH)_3$

$\mathsf{C.} Al(OH)_3$

$\mathsf{D.}\, Cr(OH)_3$

Answer: B

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5. The most favourable condition for the reaction,

 $2SO_2 + O_2 \Leftrightarrow 2SO_3 + 98kJ/{\sf mole}$ is

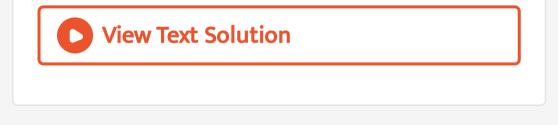
A. high temperature and low pressure

B. high temperature and high pressure

C. low temperature and low pressure

D. low temperature and high pressure

Answer: D



6. In Solvay ammonia process, sodium bicarbonate is precipitated due to

A. pressure of NH_3

B. reaction with CO_2

C. reaction with brine solution

D. reaction with NaOH

Answer: C

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7. Sodium carbonate can be manufactured by Solvay process but potassium carbonate cannot be prepared because A. K_2CO_3 is more soluble than Na_2CO_3

B. K_2CO_3 is less soluble than Na_2CO_3

C. $KHCO_3$ is more soluble than

 $NaHCO_3$

D. $KHCO_3$ is less soluble than $NaHCO_3$

Answer: C

8. The pair whose both species are used in anti-acid medicinal preparation is

A. $NaHCO_3$ and $Mg(OH)_2$

B. Na_2CO_3 and $Ca(HCO_3)_2$

C. $Ca(HCO_3)_2$ and $Mg(OH)_2$

D. $Ca(OH)_2$ and $NaHCO_3$

Answer: A

9. In the Haber's process, metallic oxides catalyse reaction between gaseous nitrogen and hydrogen to yield ammonia whose volume (STP) relative to the total volume of the reactants taken (STP) would be

A. one-fourth

B. one-half

C. same

D. three-fourth.

Answer: B





10. The oxidising property of nitric acid is due

to

A. its concentration

- B. the positive valency of N
- C. its dilution
- D. presence of nitrogen in its highest

oxidation state.

Answer: D



11. In which of the following reactions HNO_3 will not act as an oxidizing agent?

A. $HNO_3 + H_2SO_4 ightarrow$

 $\texttt{B.}~HNO_3 + FeSO_4 + H_2SO_4 \rightarrow$

 $\mathsf{C}.\,Kl + HNO_3 \rightarrow$

D. $Au + HNO_4
ightarrow$

Answer: A





12. Which one of the following nitrogen oxides

is an anhydride of nitric acid?

A. N_2O_5

- $\mathsf{B.}\,N_2O_4$
- $\mathsf{C.}\,N_2O_3$
- D. N_2O

Answer: A



13. Which acts both an oxidizing as well as reducing agent?

A. HNO_3

B. HNO_2

 $\mathsf{C}.\,H_2SO_4$

D. none of these

Answer: B

14. When conc. H_2SO_4 comes in contact with

sugar, it becomes black due to

A. hydrolysis

B. hydration

C. decolourisation

D. dehydration

Answer: D

15. Sulphuric acid has great affinity for water

because

A. it hydrolyses the acid

B. it decomposes the acid

C. acid forms hydrates with water

D. acid decomposes water.

Answer: C

16. Which of the following statements regarding the manufacture of H_2SO_4 by contact process is not true?

A. sulphur is burnt in air to form SO_2

B. SO_2 is catalytically oxidised to SO_3

C. SO_3 is dissolved in water to get 100%

sulphuric acid

D. H_2SO_4 obtained by contact process is

of higher purity than that obtained by

lead chamber process.

Answer: C



17. CO_2 gas along with solid (Y) is obtained when sodium salt (X) is heated. (X) is again obtained when CO_2 gas is passed into aqueous solution of (Y). (X) and (Y) are respectively

A. Na_2CO_3, Na_2O

B. Na_2CO_3 , NaOH

 $C. NaHCO_3, Na_2CO_3$

D. Na_2CO_3 , $NaHCO_3$

Answer: C



18. Mark the incorrect statement.

A. The chemical reactions of H_2SO_4 are as

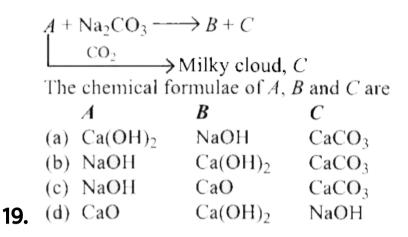
a result of its ability to act as an

oxidising agent.

B. Dilution of oleum with water gives H_2SO_4 . C. The key step in the manufacture of H_2SO_4 , is the catalytic reduction of SO_2 D. H_2SO_4 , because of its low volatility can be used to manufacture more volatile

acids from their corresponding salts.

Answer: C



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20. A colourless solid (X) on heating evolved CO_2 and also gave a white residue, soluble in

water. Residue also gave CO_2 when treated

with dilute acid, X is

A. Na_2CO_3

B. $CaCO_3$

$\mathsf{C}.\, NaHCO_3$

D. $Ca(HCO_3)_2$

Answer: C



21. In the catalytic oxidation of ammonia, an oxide is formed which is used in the precipitation of HNO_3 . The oxide is

- A. NO
- $\mathsf{B.}\,NO_2$
- $\mathsf{C.}\,N_2O_5$
- D. N_2O_4

Answer: A



22. Ammonia on reaction with hypochlorite

anion can form

A. *NO*

 $\mathsf{B.}\, NH_4Cl$

 $\mathsf{C.}\,N_2H_4$

D. HNO_2

Answer: B::C

23. Which of the following metals become passive when dropped into conc. HNO_3 ?

A. Cu

B. Fe

C. Cr

D. Al

Answer: B::C::D

24. The metals which produce hydrogen only

with very dilute nitric acid are

A. Zn

B. Sn

C. Mg

D. Mn

Answer: C::D

25. Mark the wrong statement about H_2SO_4 .

A. It acts as a reducing agent

B. It acts as a oxidising agent

C. It acts as dehydrating agent

D. It is less viscous than water.

Answer: A::D



Wb Jee Workout One Or More Than One Option Correct Type 1. The compounds used in Solvay process are

A. Na_2SO_4

 $\mathsf{B.}\, NaCl$

 $\mathsf{C}.NH_3$

D. $CaCO_3$

Answer: B::C::D

Nitric acid can be obtained from ammonia
 via the formation of the intermediate
 compounds

A. nitric oxide and nitrogen dioxide

B. nitrogen and nitric oxide

C. nitric oxide and dinitrogen pentoxide

D. nitrogen and nitrous oxide.



