CHEMISTRY

BOOKS - OSWAL PUBLICATION

ACIDS, BASES AND SALTS

Stand Alone Mcqs

1. An aqueous solution 'A' turns phenolphthalein solution pink. On addition of an aqueous solution 'B' to 'A', the pink colour disappears. The following statement is true for solution 'A' and 'B'.

A. A is strongly basic and B is a weak base.

B. A is strongly acidic and B is a weak acid.

C. A has pH greater than 7 and B has pH less than 7.

D. A has pH less than 7 and B has pH greater than 7.

Answer: C

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2. Identify the basic salt from the following salts:

A. Na_2CO_3

B. NH_4Cl

C. $NaNO_3$

D. KCl

Answer: A

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3. Which one of the following can be used as an acid base indicator by a visually impared student ?

A. Litmus

B. Turmeric

C. Vanilla essence

D. Petunia leaves

Answer: C

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4. Which of the following is acidic in nature?

A. Lime juice

B. Human blood

C. Lime water

D. Antacid

Answer: A

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5. During the preparation of hydrogen chloride gas on a humid day, the gas is usually passed through the guard tube containing anhydrous calcium chloride. The role of anhydrous calcium chloride taken in the guard tube is to

A. absorb the evolved gas.

B. moisten the gas.

C. absorb moisture from the gas.

D. absorb Cl^- ions from the evolved gas.

Answer: C

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6. Which of the following are present in a dilute aqueous solution of hydrochloric acid?

A. $H_3O^+ + Cl^-$

B. $H_3O^+ + OH^-$

C. $Cl^- + OH^-$

D. Unionized HCl

Answer: A

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7. What happens when a solution of an acid is mixed with a solution of a base in a test tube ?

(i) The temperature of the solution increases

(ii) The temperature of the solution decreases

(iii) The temperature of the solution remains the same

(iv) Salt formation takes place

A. (i) only

B. (i) and (iii)

C. (ii) and (iii)

D. (i) and (iv)

Answer: D

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8. Which of the following is used for dissolution of gold ?

A. Hydrochloric acid

B. Sulphuric acid

C. Nitric acid

D. Aqua regia

Answer: D

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9. Which of the following salts does not contain any water of crystallisation ?

A. Blue vitriol

B. Baking soda

C. Washing soda

D. Gypsum

Answer: B

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10. Sodium carbonate is basic salt because it is a salt of

A. strong acid and strong base.

B. weak acid and weak base.

C. strong acid and weak base.

D. weak acid and strong base.

Answer: D

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11. Common salt besides being used in kitchen can also be used as the raw material for making (i) washing soda (ii) bleaching powder (iii) baking soda (iv) slake

A. (i) and (ii)

B. (i), (ii) and (iv)

C. (i) and (iii)

D. (i), (iii) and (iv)

Answer: C

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12. One of the constituents of baking powder is sodium hydrogen carbonate. The other constituent is :

A. hydrochloric acid.

B. tartaric acid.

C. acetic acid.

D. sulphuric acid.

Answer: B

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13. Which of the following is not a salt?

A. Sodium chloride

B. Slaked lime

C. Lead sulphide

D. Zinc nitrate

Answer: B

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14. A compound is prepared from gypsum upon heating to a temperature of 373 K and it changes back to gypsum on adding water. Which is the incorrect statement about the compound?

A. The compound is used for setting fractured bones.

B. The compound is called plaster of Paris which is calcium sulphate dehydrate with a formula $CaSO_4.2HO$.

C. If heated at higher temperature, the compound becomes dehydrated and is called dead burnt plaster.

D. Both (A) and (B).

Answer: B

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15. A milk man adds a very small amount of baking soda to fresh milk. Why?

A. To increase the rate of fermentation

B. To decrease the rate of fermentation

C. To increase its quality

D. To make paneer

Answer: B

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16. Which of the given substances is used in the following applications?

I. It is used as a fire proofing material.

II. It is used for sealing gaps in laboratory apparatus.

III. It is used in making toys.

A. Bleaching powder

B. Plaster of Paris

C. Baking soda

D. Washing soda

Answer: B

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Assertion And Reason Based Mcqs

1. Assertion (A) : After white washing the walls, a shiny white finish on walls is obtained after two to three days.

Reason (R) : Calcium Oxide reacts with Carbon dioxide to form Calcium Hydrogen Carbonate which gives shiny white finish.

A. Both A and R are true and R is the correct explanation of A.

B. Both A and R are true but R is NOT the correct explanation of A.

C. A is true but R is false.

D. A is false and R is True.

Answer: C

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2. Assertion (A): When zinc is added to dilute hydrochloric acid, hydrogen is given off.

Reason (R): Hydrogen chloride molecules contain hydrochloric acid and hydrogen atoms.

A. Both A and R are true and R is the correct explanation of A.

B. Both A and R are true but R is NOT the correct explanation of A.

C. A is true but R is false.

D. A is false and R is True.

Answer: B

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3. Assertion (A): Gas bubbles are observed when sodium carbonate is added to dilute hydrochloric acid.

Reason (R): Carbon dioxide is given off in the reaction.

A. Both A and R are true and R is the correct explanation of A.

B. Both A and R are true but R is NOT the correct explanation of A.

C. A is true but R is false.

D. A is false and R is True.

Answer: A

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4. Assertion (A): Ammonia solution is an alkali.

Reason (R): Ammonia solution turns blue litmus paper red.

A. Both A and R are true and R is the correct explanation of A.

B. Both A and R are true but R is NOT the correct explanation of A.

C. A is true but R is false.

D. A is false and R is True.

Answer: C

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5. Assertion (A): When common salt is kept open, it absorbs moisture from the air.

Reason (R): Common salt contains magnesium chloride.

A. Both A and R are true and R is the correct explanation of A.

B. Both A and R are true but R is NOT the correct explanation of A.

C. A is true but R is false.

D. A is false and R is True.

Answer: A

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6. Assertion (A): Baking soda creates acidity in the stomach.

Reason (Rr): Baking soda is alkaline.

A. Both A and R are true and R is the correct explanation of A.

B. Both A and R are true but R is NOT the correct explanation of A.

C. A is true but R is false.

D. A is false and R is True.

Answer: D

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7. Assertion (A): Plaster of Paris is used by doctors for setting fractured bones.

Reason (R): When Plaster of Paris is mixed with water and applied around the fractured limbs, it sets into a hard mass.

A. Both A and R are true and R is the correct explanation of A.

B. Both A and R are true but R is NOT the correct explanation of A.

C. A is true but R is false.

D. A is false and R is True.

Answer: A

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8. Assertion: Sodium hydrogen carbonate is an acidic salt.

Reason: It is a salt produced by the neutralization reaction between a strong base (NaOH) and a weak acid (H_2CO_3).

A. Both A and R are true and R is the correct explanation of A.

B. Both A and R are true but R is NOT the correct explanation of A.

C. A is true but R is false.

D. A is false and R is True.

Answer: D

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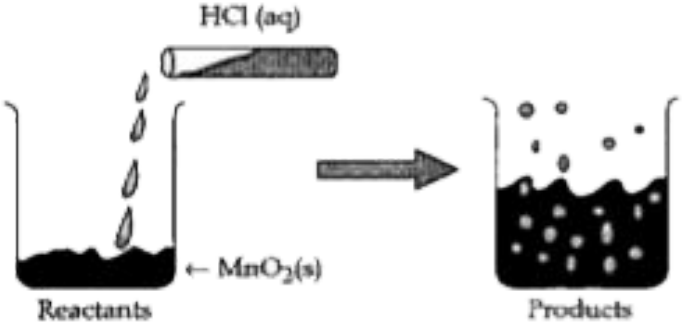
Case Based Mcqs

1. Read the following and answer the questions.

The reaction between MnO_2 with HCl is depicted in the following diagram. It was observed that a gas with bleaching abilities was released.



The chemical reaction between MnO_2 and HCl is an example of:

A. displacement reaction

B. combination reaction

C. redox reaction

D. decomposition reaction.

Answer: C

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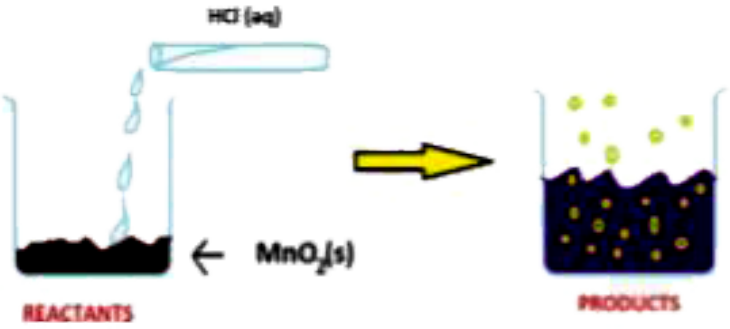
2. The reaction between MnO_2 with HCl is depicted in the following diagram. It was observed that a gas with bleaching abilities was released



Chlorine gas reacts with _____ to form bleaching powder

A. dry $Ca(OH)_2$

B. dil. Solution of $Ca(OH)_2$

C. conc. Solution of $Ca(OH)_2$

D. dry CaO

Answer: A

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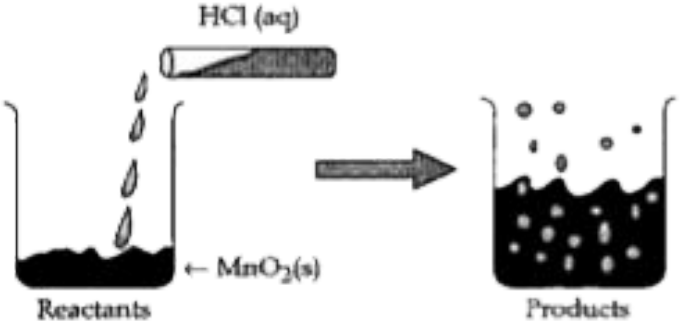
3. Read the following and answer the questions.

The reaction between MnO_2 with HCl is depicted in the following diagram. It was observed that a gas with bleaching abilities was released.



Identify the correct statement from the following:

A. MnO_2 is getting reduced whereas HCl is getting oxidized.

B. MnO_2 is getting oxidized whereas HCl is getting reduced.

C. MnO_2 and HCl both are getting reduced.

D. MnO_2 and HCl both are getting oxidized.

Answer: A

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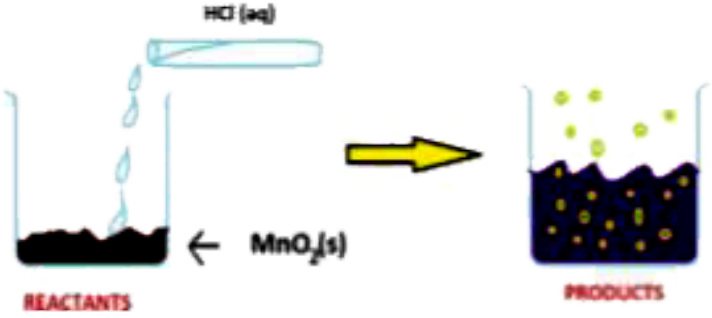
4. The reaction between MnO_2 with HCl is depicted in the following diagram. It was observed that a gas with bleaching abilities was released



In the above discussed reaction, what is the nature of MnO_2

A. Acidic oxide

B. Basic oxide

C. Neutral oxide

D. Amphoteric oxide

Answer: B

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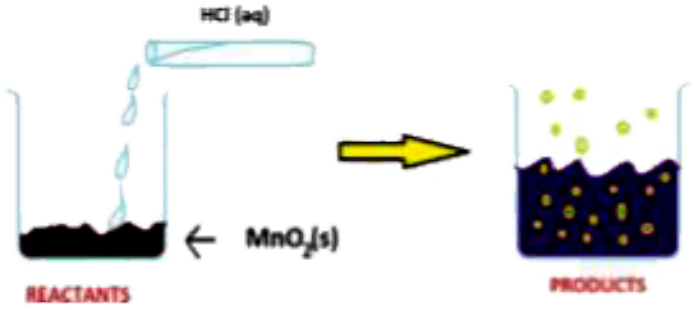
5. The reaction between MnO_2 with HCl is depicted in the following diagram. It was observed that a gas with bleaching abilities was released



What will happen if we take dry HCl gas instead of aqueous solution of HCl?

A. Reaction will occur faster

B. Reaction will not occur.

C. Reaction rate will be slow.

D. Reaction rate will remain the same.

Answer: B

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6. Frothing in Yamuna:

The primary reason behind the formation of the toxic foam is high phosphate content in the wastewater because of detergents used in dyeing industries, dhobi ghats and households .Yamuna's pollution level is so bad that parts of it have been labelled 'dead' as there is no oxygen in it for aquatic life to survive.

Predict the pH value of the water of river Yamuna if the reason for froth is high content of detergents dissolved in it

A. $10 - 11$

B. $5 - 7$

C. $2 - 5$

D. 7

Answer: A

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7. Frothing in Yamuna:

The primary reason behind the formation of the toxic foam is high phosphate content in the wastewater because of detergents used in dyeing industries, dhobi ghats and households .Yamuna's pollution level is so bad that parts of it have been labelled 'dead' as there is no oxygen in it for aquatic life to survive.

Which of the following statements is correct for the water with detergents dissolved in it?

A. low concentration of hydroxide ion (OH^-) and high concentration of hydronium ion (H_2O^+).

B. high concentration of hydroxide ion (OH^-) and low concentration of hydronium ion (H_2O^+).

C. high concentration of hydroxide ion (OH^-) as well as hydronium ion (H_3O^+).

D. equal concentration of both hydroxide ion (OH^-) and hydronium ion (H_3O^+).

Answer: B

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8. Frothing in Yamuna:

The primary reason behind the formation of the toxic foam is high phosphate content in the wastewater because of detergents used in dyeing industries, dhobi ghats and households .Yamuna's pollution level is so bad that parts of it have been labelled 'dead' as there is no oxygen in it for aquatic life to survive.

The table provides the pH value of four solutions P, Q, R and S

Solution	pH value
P	2
Q	9
R	5
S	11

Which of the following correctly represents the solutions in increasing order of their hydronium ion concentration?

A. $P > Q > R > S$

B. $P > S > Q > R$

C. $S < Q < R < P$

D. $S < P < Q < R$

Answer: C

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9. Frothing in Yamuna:

The primary reason behind the formation of the toxic foam is high

phosphate content in the wastewater because of detergents used in dyeing industries, dhobi ghats and households .Yamuna's pollution level is so bad that parts of it have been labelled 'dead' as there is no oxygen in it for aquatic life to survive.

High content of phosphate ion in river Yamuna may lead to:

A. decreased level of dissolved oxygen and increased growth of algae.

B. decreased level of dissolved oxygen and no effect of growth of algae.

C. increased level of dissolved oxygen and increased growth of algae.

D. decreased level of dissolved oxygen and decreased growth of algae.

Answer: A

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10. Frothing in Yamuna:

The primary reason behind the formation of the toxic foam is high phosphate content in the wastewater because of detergents used in dyeing industries, dhobi ghats and households .Yamuna's pollution level is so bad that parts of it have been labelled 'dead' as there is no oxygen in it for aquatic life to survive.

If a sample of water containing detergents is provided to you, which of the following methods will you adopt to neutralize it?

A. Treating the water with baking soda

B. Treating the water with vinegar

C. Treating the water with caustic soda

D. Treating the water with washing soda

Answer: B

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11. Read the following and answer the questions.

Study the given table and answer the following questions. It shows the pH value of the plaque (which collects around teeth) surrounding the teeth of a child over 3 hrs.

Time/h	pH
0.00	7.0
1.0	7.0
2.0	7.1
3.0	7.2
4.0	4.1

The three constituents of plaque are

A. Acid

B. Saliva

C. Bacteria

D. All of these

Answer: D

Watch Video Solution

12. Read the following and answer the questions.

Study the given table and answer the following questions. It shows the

pH value of the plaque (which collects around teeth) surrounding the teeth of a child over 3 hrs.

Time/h	pH
0.00	7.0
1.0	7.0
2.0	7.1
3.0	7.2
4.0	4.1

The pH which leads to tooth decay?

A. above 7

B. at 7

C. below 5.5

D. above 5.5

Answer: C

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13. Read the following and answer the questions.

Study the given table and answer the following questions. It shows the pH value of the plaque (which collects around teeth) surrounding the teeth of a child over 3 hrs.

Time/h	pH
0.00	7.0
1.0	7.0
2.0	7.1
3.0	7.2
4.0	4.1

State the time during the day when condition is most favourable for process of tooth decay.

A. 1.0

B. 2.0

C. 3.0

D. 4.0

Answer: D

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14. Read the following and answer the questions.

Study the given table and answer the following questions. It shows the pH value of the plaque (which collects around teeth) surrounding the teeth of a child over 3 hrs.

Time/h	pH
0.00	7.0
1.0	7.0
2.0	7.1
3.0	7.2
4.0	4.1

The nature of toothpastes commonly used to protect tooth decay is:

A. acidic

B. basic

C. neutral

D. none of the above

Answer: B

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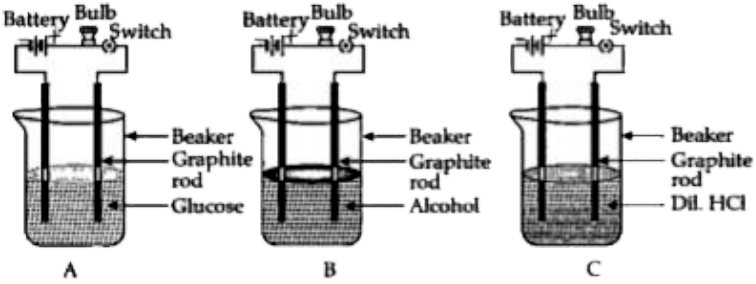
15. Suhana takes three beakers, A, B and C filled with aqueous solutions of glucose, alcohol and hydrochloric acid repectively as shown in the following figure.



Which of the following statement is correct in terms of glowing of bulb when the switch is ON?

A. Bulb A and B do not glow but bulb C glows.

B. Bulb A and C do not glow but bulb B glows.

C. Bulb B and C do not glow but bulb A glows.

D. All the bulbs glow.

Answer: A

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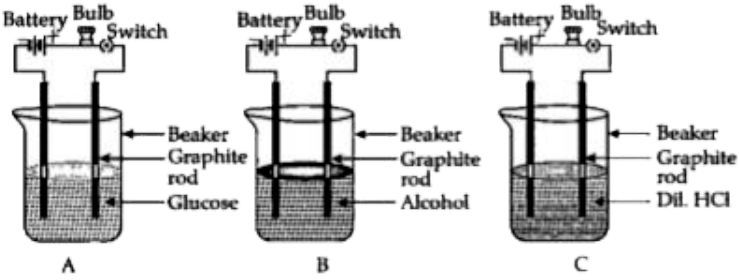
16. Suhana takes three beakers, A, B and C filled with aqueous solutions of glucose, alcohol and hydrochloric acid repectively as shown in the following figure.



The bulb glows in a solution depending on whether the solution is:

A. acidic

B. an electrolyte

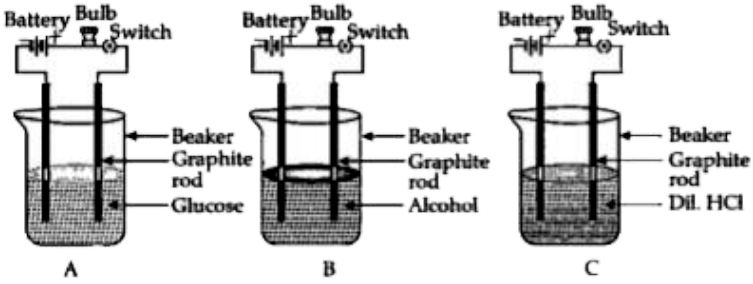
C. basic

D. a non electrolyte

Answer: B

Watch Video Solution

17. Suhana takes three beakers, A, B and C filled with aqueous solutions of glucose, alcohol and hydrochloric acid repectively as shown in the following figure.



Which of the following are present in a dilute aqueous solution of hydrochloric acid?

A. $H_3O^+ + Cl^-$

B. $H_3O^+ + OH^-$

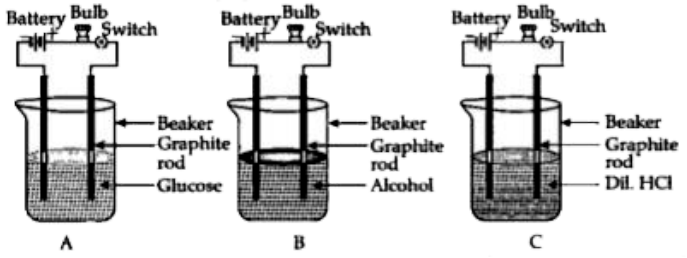
C. $Cl^- + OH^-$

D. Unionized HCl

Answer: A

Watch Video Solution

18. Suhana takes three beakers, A, B and C filled with aqueous solutions of glucose, alcohol and hydrochloric acid repectively as shown in the following figure.



Which of the following statement is true if alcohol is replaced with NaOH solution:

A. bulb glows in alcohol but not in NaOH solution.

B. bulb will glow in NaOH solution but not in alcohol.

C. bulb does not glow in alcohol and neither will it glow in NaOH solution.

D. bulb glows in NaOH solution as well as in alcohol.

Answer: B

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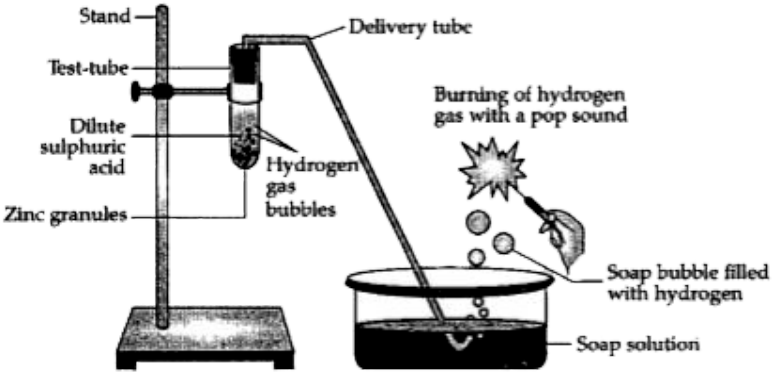
19. Study the given experimental set-up and answer the following questions.



The above experimental set up shows reaction between metal and

A. Acid

B. Metal carbonate

C. Metal hydrogen carbonate

D. Metal oxide

Answer: A

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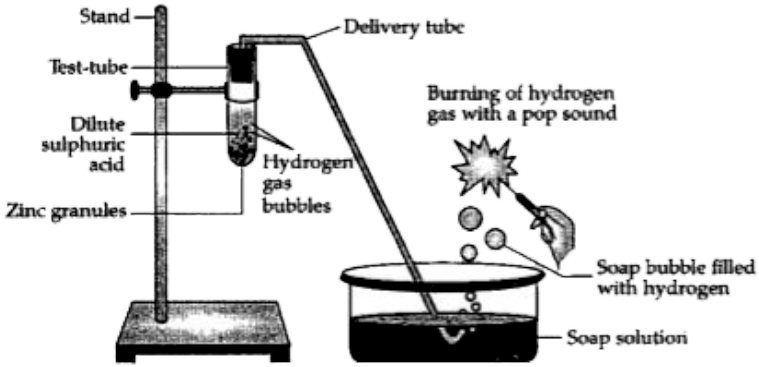
20. Study the given experimental set-up and answer the following questions.



Which gas is liberated during the process?

A. Hydrogen gas

B. Carbon dioxide gas

C. Nitrogen gas

D. Hydrogen sulphide gas

Answer: A

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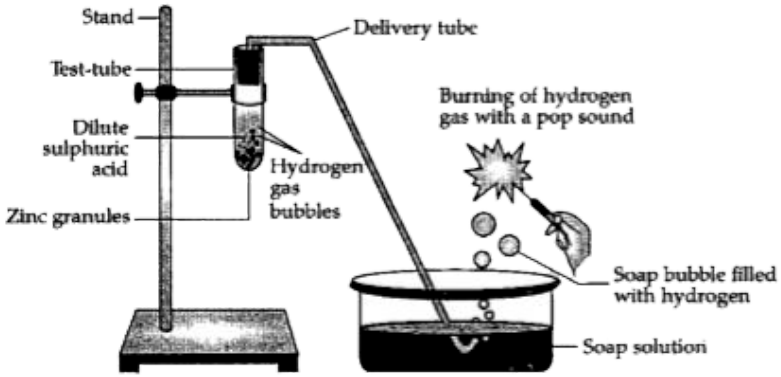
21. Study the given experimental set-up and answer the following questions.



Write the products formed in the above process:

A. Zinc sulphate only

B. Only hydrogen gas

C. Zinc sulphate and hydrogen gas

D. Zinc sulphide and hydrogen gas

Answer: C

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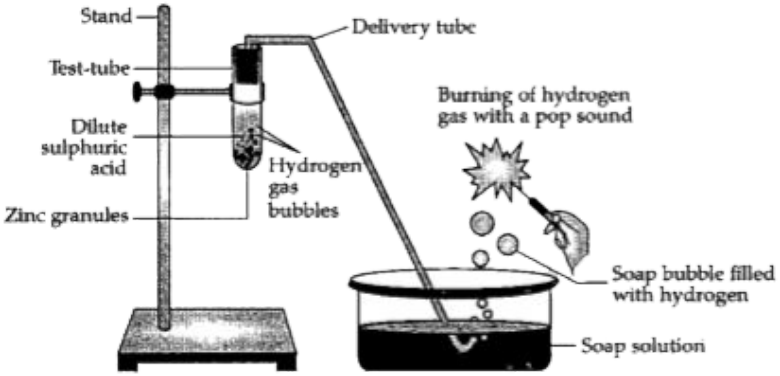
22. Study the given experimental set-up and answer the following questions.



A new product sodium zincate is formed if sulphuric acid is replaced with:

A. Sodium hydroxide

B. Sodium oxide

C. Zinc oxide

D. water

Answer: A

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23. Read the given passage and answer the questions.

P, Q, R are different colourless solids, while S is a colourless solution. They are in random order) Sodium chloride (NaCl), Calcium Carbonate $(CaCO_3)$, Acetic acid (CH_3COOH) and Phenolphthalein indicator. Small amount of the above substances were added in pairs (e.g. P with Q, Q with R etc.) to a small amount of water in a test tube. They give the following results as shown in the observation table.

Observation Table:

	P	Q	R
Q	No reaction	-	No reaction
R	Dark Pink Colour	No reaction	-
S	No reaction	No reaction	Effervescence

The chemicals are:

	P	Q	R	S
(A)	NaCl	$CaCO_3$	CH_3COOH	Phenolphthalein
(B)	Phenolphthalein	NaCl	$CaCO_3$	CH_3COOH
(C)	CH_3COOH	Phenolphthalein	NaCl	$CaCO_3$
(D)	$CaCO_3$	CH_3COOH	Phenolphthalein	NaCl

Watch Video Solution

24. Read the given passage and answer the questions.

P, Q, R are different colourless solids, while S is a colourless solution. They are in random order) Sodium chloride (NaCl), Calcium Carbonate $(CaCO_3)$, Acetic acid (CH_3COOH) and Phenolphthalein indicator. Small amount of the above substances were added in pairs (e.g. P with Q, Q with R etc.) to a small amount of water in a test tube. They give the following results as shown in the observation table.

Observation Table:

	P	Q	R
Q	No reaction	-	No reaction
R	Dark Pink Colour	No reaction	-
S	No reaction	No reaction	Effervescence

Which of the following reaction is incorrect ?

A. Phenolphthalein $(P) + NaCl(Q) \rightarrow$ No reaction

B. Phenolphthalein $+CaCO_3(R) \rightarrow$ Alkaline medium (Dark Pink Colour)

C. Phenolphthalein $+NaCl \rightarrow$ Acidic medium (Blue colour)

D. $CaCO_3(R) + 2CH_3COOH(S) \rightarrow (CH_3COO)_2Ca + CO_2$ (effervescence) $+2H_2O$

Answer: C

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25. Read the given passage and answer the questions.

P, Q, R are different colourless solids, while S is a colourless solution. They are in random order) Sodium chloride (NaCl), Calcium Carbonate $(CaCO_3)$, Acetic acid (CH_3COOH) and Phenolphthalein indicator. Small amount of the above substances were added in pairs (e.g. P with Q, Q with R etc.) to a small amount of water in a test tube. They give the following results as shown in the observation table.

Observation Table:

	P	Q	R
Q	No reaction	-	No reaction
R	Dark Pink Colour	No reaction	-
S	No reaction	No reaction	Effervescence

The chemicals that can be used as an acid base indicator by a visually impaired student is ____ .

A. Petunia leaves

B. Vanilla essence

C. Phenolphthalein

D. Turmeric

Answer: B

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26. Read the given passage and answer the questions.

P, Q, R are different colourless solids, while S is a colourless solution. They are in random order) Sodium chloride (NaCl), Calcium Carbonate

$(CaCO_3)$, Acetic acid (CH_3COOH) and Phenolphthalein indicator. Small amount of the above substances were added in pairs (e.g. P with Q, Q with R etc.) to a small amount of water in a test tube. They give the following results as shown in the observation table.

Observation Table:

	P	Q	R
Q	No reaction	-	No reaction
R	Dark Pink Colour	No reaction	-
S	No reaction	No reaction	Effervescence

If acetic acid and hydrochloric acid of same concentration are taken, HCl is a stronger acid because it contains:

A. more of Cl^- ions.

B. more of H^+ ions.

C. less of H^+ ions

D. more of CH_3COO^- ions.

Answer: B

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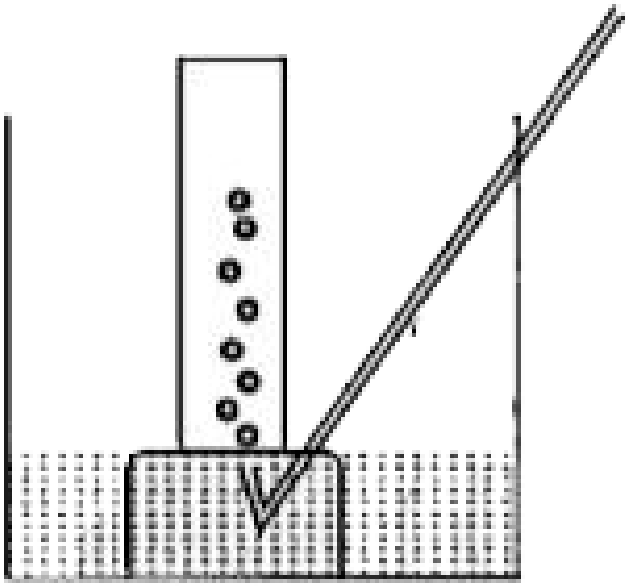
27. A metal is treated with dilute sulphuric acid. The gas evolved is collected by the method shown in the figure:



Name the gas evolved:

A. Hydrogen

B. Oxygen

C. Sulphur dioxide gas

D. Carbon dioxide

Answer: A

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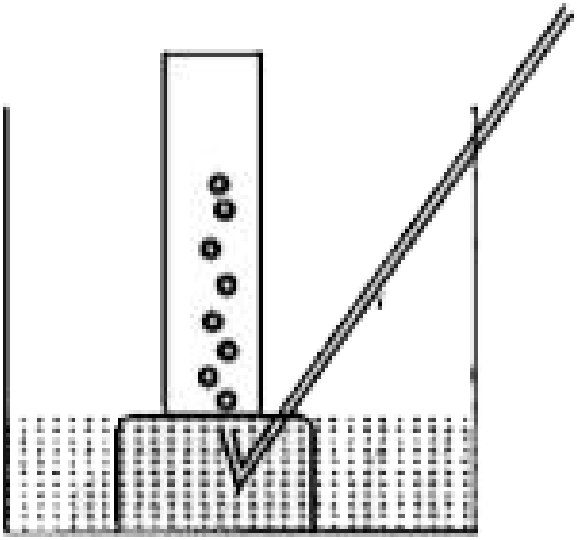
28. A metal is treated with dilute sulphuric acid. The gas evolved is collected by the method shown in the figure:



The gas evolved is :

A. Lighter than air

B. Heavier than air

C. (a) both (b)

D. None

Answer: A

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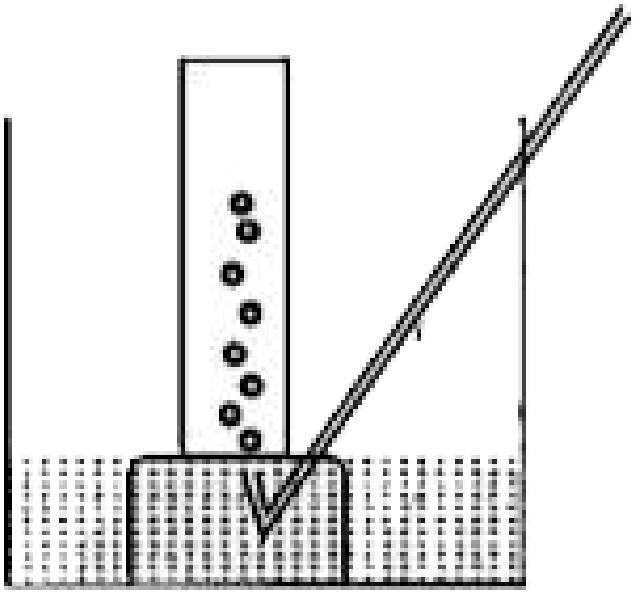
29. A metal is treated with dilute sulphuric acid. The gas evolved is collected by the method shown in the figure:



If the metal used above is zinc, choose the correct balanced chemical equation for the evolution of gas?

A. $2Zn_{(s)} + H_2SO_4(\text{dil}) \rightarrow 2ZnSO_{4(aq)} + H_{2(g)} \uparrow$

B. $Zn_{(s)} + H_2SO_4(\text{dill}) \rightarrow ZnSO_{4(aq)} + H_{2(g)} \uparrow$

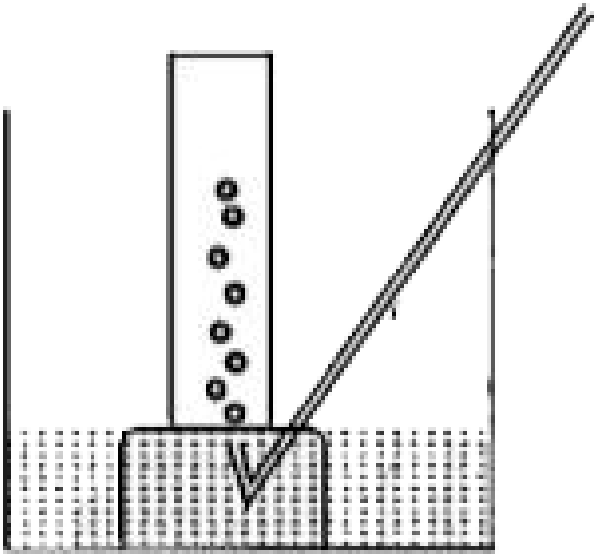
C. $Zn_{(s)} + 2H_2SO_4(\text{dil}) \rightarrow 2ZnSO_{4(aq)} + H_{2(g)} \uparrow$

D. $2Zn_{(s)} + H_2SO_4(\text{dil}) \rightarrow ZnSO_{4(aq)} + 2H_{2(g)} \uparrow$

Answer: B

Watch Video Solution

30. A metal is treated with dilute sulphuric acid. The gas evolved is collected by the method shown in the figure:



What nature of hydrogen is used as a fuel in rocket ?

A. solid

B. liquid

C. gaseous

D. all of the above

Answer: B

Watch Video Solution

31. Read the given passage and answer the questions.

Suhana wanted her house to be white washed, She bought 10 kg of quicklime from the market and dissolved it in 30 L of water. On adding lime to water, she observed that the water started boiling even when it was not being heated.

Name the product when water is added to quicklime.

A. Calcium oxide

B. Calcium hydroxide

C. Calcium dioxide

D. Calcium carbonate

Answer: B

Watch Video Solution

32. Read the given passage and answer the questions.

Suhana wanted her house to be white washed, She bought 10 kg of

quicklime from the market and dissolved it in 30 L of water. On adding lime to water, she observed that the water started boiling even when it was not being heated.

The common name for quick lime is:

A. Calcium hydroxide

B. Calcium oxide

C. Calcium dioxide

D. Calcium carbonate

Answer: B

Watch Video Solution

33. Read the given passage and answer the questions.

Suhana wanted her house to be white washed, She bought 10 kg of quicklime from the market and dissolved it in 30 L of water. On adding lime to water, she observed that the water started boiling even when it

was not being heated.

The correct formula for calcium hydroxide is:

A. Ca(OH)

B. $Ca(OH_2)$

C. $Ca(OH)_2$

D. Ca_2OH_2

Answer: C

Watch Video Solution

34. Read the given passage and answer the questions.

Suhana wanted her house to be white washed, She bought 10 kg of quicklime from the market and dissolved it in 30 L of water. On adding lime to water, she observed that the water started boiling even when it was not being heated.

Which of the following statements is correct about the above reaction based on your observations?

(i) It is an endothermic reaction.

(ii) It is an exothermic reaction

(iii) The pH of the resulting solution will be more than seven.

(iv) The pH of the resulting solution will be less than seven.

A. (i) and (ii)

B. (ii) and (iii)

C. (i) and (iv)

D. (iii) and (iv)

Answer: B

Watch Video Solution

35. Read the given passage and answer the following questions.

Sanjana while preparing cake used baking soda in small amounts. It helps to make the cake soft land spongy. An aqueous solution of baking soda also turns red litmus blue. It is also used in soda acid extinguisher.

Name the gas produced by the reaction of baking soda and acid which helps as fire extinguisher.

A. Carbon monoxide

B. Carbon dioxide

C. Hydrogen

D. Oxygen

Answer: B

Watch Video Solution

36. Read the given passage and answer the following questions.

Sanjana while preparing cake used baking soda in small amounts. It helps to make the cake soft land spongy. An aqueous solution of baking soda also turns red litmus blue. It is also used in soda acid extinguisher.

Name the products formed when baking soda is heated:

A. Sodium sulphate and carbon dioxide gas.

B. Sodium carbonate and water.

C. Sodium carbonate, carbon dioxide and water.

D. Sodium oxide carbon dioxide and water.

Answer: C

Watch Video Solution

37. Read the given passage and answer the following questions.

Sanjana while preparing cake used baking soda in small amounts. It helps to make the cake soft land spongy. An aqueous solution of baking soda also turns red litmus blue. It is also used in soda acid extinguisher.

The pH of baking soda solution is :

A. more than 7

B. less than 7

C. equal to 7

D. less than 7 but more than 3.

Answer: A

Watch Video Solution

38. Read the given passage and answer the following questions.

Sanjana while preparing cake used baking soda in small amounts. It helps to make the cake soft land spongy. An aqueous solution of baking soda also turns red litmus blue. It is also used in soda acid extinguisher.

What is the chemical name for baking soda?

A. Sodium carbonate

B. sodium bicarbonate

C. calcium carbonate

D. calcium bicarbonate.

Answer: B

Watch Video Solution

39. Read the given passage and answer the following questions.

A dry pellet of a common base B when kept in open absorbs moisture and turns sticky. The compound is also a by-product of chloro-alkali process.

Identify B:

A. Sodium chloride

B. Sodium hydroxide

C. Carbon dioxide

D. Sodium carbonate

Answer: B

Watch Video Solution

40. A dry pellet of a common base B, When kept in open absorbs moisture and turns sticky. The compound is also a by product of chloroalkali process . Identify B, what type of reaction occurs when B is treated with an acidic oxide? Write a balanced chemical equation for one such solution

A. Neutralisation

B. Double decomposition

C. Combination

D. Displacement

Answer: A

Watch Video Solution

41. Read the given passage and answer the following questions.

A dry pellet of a common base B when kept in open absorbs moisture and

turns sticky. The compound is also a by-product of chloro-alkali process.

What is the raw material used in chloro-alkali?

A. Aqueous solution of sodium chloride

B. Sodium chloride in dry form

C. Sodium hydroxide

D. Sodium carbonate

Answer: A

Watch Video Solution

42. Read the given passage and answer the following questions.

A dry pellet of a common base B when kept in open absorbs moisture and turns sticky. The compound is also a by-product of chloro-alkali process.

When aqueous sodium carbonate (Na_2CO_3) reacts with HCl (aq), it gives

A. $NaOH$, H_2 and CO_2

B. $NaCl$, H_2O and CO_2

C. $NaHCO_3$, H_2 and CO_2

D. $NaHCO_3$, H_2O and CO_2

Answer: B

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Self Assessment 1 I Objective Type Questions A Multiple Choice Questions

1. Which of the following statements about acids is correct ?

A. They turn red litmus blue.

B. They turn blue litmus red.

C. They have bitter taste.

D. They are soapy in touch

Answer:

Watch Video Solution

2. What happens when prolong supply of Carbon dioxide gas is provided in lime water?

A. Lime water turns milky.

B. Milkiness of lime water disappears.

C. Colour of lime water becomes black.

D. Lime water changes to gaseous state.

Answer:

Watch Video Solution

3. Which of these is an example of synthetic indicators?

A. Phenolphthalein.

B. Turmeric juice.

C. Litmus.

D. Vanilla extract.

Answer:

Watch Video Solution

Self Assessment 1 I Objective Type Questions B Passage Table Based Questions

1. Study the given table and answer the following questions. It shows the pH value of the plaque (which collects around teeth) surrounding the teeth of a child over three hours.

Time/h	pH
0.00	7.0
1.0	7.0
2.0	7.1
3.0	7.2
4.0	4.1

The three constituents of plaque are :

A. Acid.

B. Saliva.

C. Bacteria.

D. All of these.

Answer:

Watch Video Solution

2. Study the given table and answer the following questions. It shows the pH value of the plaque (which collects around teeth) surrounding the teeth of a child over three hours.

Time/h	pH
0.00	7.0
1.0	7.0
2.0	7.1
3.0	7.2
4.0	4.1

What causes tooth decay?

Watch Video Solution

3. Study the given table and answer the following questions. It shows the pH value of the plaque (which collects around teeth) surrounding the teeth of a child over three hours.

Time/h	pH
0.00	7.0
1.0	7.0
2.0	7.1
3.0	7.2
4.0	4.1

State the time during the day when condition is most favorable for process of tooth decay.

A. 1.0

B. 2.0

C. 3.0

D. 4.0

Answer:

Watch Video Solution

4. Study the given table and answer the following questions. It shows the pH value of the plaque (which collects around teeth) surrounding the teeth of a child over three hours.

Time/h	pH
0.00	7.0
1.0	7.0
2.0	7.1
3.0	7.2
4.0	4.1

The nature of toothpastes commonly used to protect tooth decay is _____.

Watch Video Solution

Self Assessment 1 I Objective Type Questions C Assertion And Reason Type Questions

1. Assertion : Hydrochloric acid and Nitric acid are strong acids.

Reason: Acids which ionize completely in aqueous solutions are strong acids.

A. Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B. Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C. Assertion (A) is true but reason (R) is false.

D. Assertion (A) is false but reason (R) is true.

Answer:

Watch Video Solution

2. Assertion: The milk when changes to curd becomes more acidic.

Reason : Lesser the pH value, more is the acidic nature.

A. Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B. Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C. Assertion (A) is true but reason (R) is false.

D. Assertion (A) is false but reason (R) is true.

Answer:

Watch Video Solution

Self Assessment 1 D Very Short Answer Type Questions

1. Which one or these has a higher concentration of H^+ ions ?

$1MHCl$ or $1MCH_3COOH$.

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2. Fresh milk has a pH of 6. When it changes into curd (Yogurt), will its pH value increase or decrease ? Why?

Watch Video Solution

3. What is the action of litmus on solution of ammonia gas in water?

Watch Video Solution

Self Assessment 2 I Objective Type Questions A Multiple Choice Questions

1. Identify the basic salt from the following salts:

A. Na_2CO_3

B. NH_4CI

C. $NaNO_3$

D. KCI

Answer:

Watch Video Solution

2. Which of these is a white powder, which on mixing with water changes into gypsum, a hard solid mass?

A. Bleaching powder

B. Plaster of Paris

C. Washing soda

D. Baking soda

Answer:

Watch Video Solution

3. Which of these is produced by the action of chlorine on dry slaked lime?

A. Washing soda

B. Baking soda

C. Sodium chloride

D. Bleaching powder

Answer:

Watch Video Solution

4. Salts formed by reaction between a strong acid and weak base are acidic in nature. Its pH value is

A. Less than 7

B. More than 7

C. Equal to 7

D. Zero

Answer:

Watch Video Solution

Self Assessment 2 I Objective Type Questions B Passage Diagram Based Questions

1. Read the passage and answer the following questions.

A dry pellet of a common base B when kept in open absorbs moisture and turns sticky. The compound is also a by-product of chlor-alkali process.

Identify B.

Watch Video Solution

2. A dry pellet of a common base B, When kept in open absorbs moisture and turns sticky. The compound is also a by product of chloroalkali process . Identify B, what type of reaction occurs when B is treated with an acidic oxide? Write a balanced chemical equation for one such solution

Watch Video Solution

3. A dry pellet of a common base B, When kept in open absorbs moisture and turns sticky. The compound is also a by product of chloroalkali process . Identify B, what type of reaction occurs when B is treated with an acidic oxide? Write a balanced chemical equation for one such solution

Watch Video Solution

4. Read the passage and answer the following questions.

A dry pellet of a common base B when kept in open absorbs moisture and turns sticky. The compound is also a by-product of chlor-alkali process.

When aqueous sodium carbonate (Na_2CO_3) reacts with HCl (aq), it gives.

A. $NaOH$, H_2 and CO_2

B. $NaCl$, H_2O and CO_2

C. $NaHCO_3$, H_2 and CO_2

D. $NaHCO_3$, H_2O and CO_2

Answer:

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Self Assessment 2 I Objective Type Questions C Assertion And Reason Type Questions

1. Assertion (A) : Sodium hydrogen carbonate is an acidic salt.

Reason (R) : It is a salt produced by the neutralization reaction between a strong base (NaOH) and a weak acid (H_2CO_3).

A. Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B. Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C. Assertion (A) is true but reason (R) is false.

D. Assertion (A) is false but reason (R) is true.

Answer:

Watch Video Solution

2. Assertion (A): Plaster of Paris is used by doctors for setting fractured bones.

Reason (R) : When Plaster of Paris is mixed with water and applied around the fractured limbs, it sets into a hard mass.

A. Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B. Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C. Assertion (A) is true but reason (R) is false.

D. Assertion (A) is false but reason (R) is true.

Answer:

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Self Assessment 2 D Very Short Answer Type Questions

1. How many molecules of water are present in hydrated copper sulphate ? Write its formula.

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2. A white powder is added while baking breads and cakes to make them soft and fluffy. Write the name of the powder. Name its main ingredients.

Watch Video Solution

3. State what happens when Gypsum is heated at 373 K.

Watch Video Solution

Watch Video Solution

Ncert Corner Intext Questions

1. You have been provided with three test tubes. One of them contains distilled water and the other two contain an acidic solution and a basic solution, respectively. If you are given only red litmus paper, how will you identify the contents of each test tube?

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2. Why should curd and sour substances not be kept in brass and copper vessels?

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3. Which gas is usually liberated when an acid reacts with a metal? Illustrate with an example. How will you test for the presence of this gas?

Watch Video Solution

4. Metal compound A reacts with dilute hydrochloric acid to produce effervescence. The gas evolved extinguishes a burning candle. Write a balanced chemical equation for the reaction if one of the compounds formed is calcium chloride.

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5. Why do HCl, HNO_3, etc., show acidic characters in aqueous solutions while solutions of compounds like alcohol and glucose do not show acidic character?

Watch Video Solution

6. Why does an aqueous solution of an acid conduct electricity?

Watch Video Solution

7. Why does dry HCl gas not change the colour of the dry litmus paper?

Watch Video Solution

8. How is the concentration of hydroxide ions(OH^-) affected when excess base is dissolved in a solution of sodium hydroxide?

Watch Video Solution

9. How is the concentration of hydronium ions$\left(H_3O^+\right)$ affected when a solution of an acid is diluted?

Watch Video Solution

10. While diluting an acid, why is it recommended that the acid should be added to water and not water to the acid?

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11. You have two solutions, A and B. The pH of solution A is 6 and pH of solution B is 8. Which solution has more hydrogen ion concentration? Which of this is acidic and which one is basic?

Watch Video Solution

12. What effect does the concentration of $H^+(aq)$ ions have on the nature of the solution?

Watch Video Solution

13. Do basic solutions also have $H^+(aq)$ ions? If yes, then why are these basic?

Watch Video Solution

14. Under what soil condition do you think a farmer would treat the soil of his fields with quick lime (calcium oxide) or slaked lime (calcium hydroxide) or chalk (calclum carbonate)?

Watch Video Solution

15. What is the common name of the compound$CaOCl_2$?

Watch Video Solution

16. Name the substance which on treatment with chlorine yields bleaching powder.

Watch Video Solution

17. Name the sodium compound which is used for softening hard water.

Watch Video Solution

18. What will happen if a solution of sodium hydrocarbonate is heated? Give the equation of the reaction involved.

Watch Video Solution

19. Write an equation to show the reaction between Plaster of Paris and water

Watch Video Solution

Ncert Corner Exercise Questions

1. A solution turns red litmus blue, its pH is likely to be

A. 1

B. 4

C. 5

D. 10

Answer: D

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2. A solution reacts with crushed egg-shells to give a gas that turns lime-water milky. The solution contains

A. NaCl

B. HCl

C. LiCl

D. KCl

Answer: B

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3. 10 mL of a solution of NaOH is found to be completely neutralised by 8 mL of a given solution of HCl. If we take 20 mL of the same solution of NaOH, the amount HCl solution (the same solution as before) required to neutralise it will be

A. 4 mL.

B. 8 mL.

C. 12 mL.

D. 16 mL.

Answer: D

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4. Which one of the following types of medicines is used for treating indigestion?

A. Antibiotic

B. Analgesic

C. Antacid

D. Antiseptic

Answer: C

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Ncert Corner Exercise Questions Short Answer Type Questions

1. Write word equations and then balanced equations for the reaction , taking place when :

Dilute sulphuric acid reacts with zinc granules

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2. Write word equations and then balanced equations for the reaction taking place when

dilute hydrochloric acid reacts with magnesium ribbon.

Watch Video Solution

3. Write word equations and then balanced equations for the reaction taking place when

dilute sulphuric acid reacts with aluminium powder.

Watch Video Solution

4. Write word equations and then balanced equations for the reaction taking place when

dilute hydrochloric acid reacts with iron filings.

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5. Compounds such as alcohols and glucose also contain hydrogen but are not categorised as acids. Describe an Activity to prove it.

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6. Why does distilled water not conduct electricity, whereas rain water does?

Watch Video Solution

7. Why do acids not show acidic behaviour in the absence of water?

Watch Video Solution

8. Five solutions A,B,C,D and E when tested with universal indicator showed pH as 4,1,11,7 and 9, respectively. Which solution is

(a) neutral?

(b) strongly alkaline?

(c) strongly acidic?

(d) weakly acidic?

(e) weakly alkaline?

Arrange the pH in increasing order of hydrogen-ion concentration.

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9. Equal lengths of magnesium ribbons are taken in test tubes A and B. Hydrochloric acid (HCl) is added to test tube A, while acetic acid (CH_3COOH) is added to test tube B. Amount and concentration taken for both the acids are same. In which test tube will the fizzing occur more vigorously and why?

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10. Fresh milk has a pH of 6. How do you think the pH will change as it turns into curd? Explain your answer.

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11. A milkman adds a very small amount of baking soda to fresh milk .

Why does he shift the pH of the fresh milk from 6 to slightly alkaline ?

Watch Video Solution

12. A milkman adds a very small amount of baking soda to fresh milk.

Why does this milk take a long time to set as curd?

Watch Video Solution

13. Plaster of Paris should be stored in a moisture-proof container. Explain why?

Watch Video Solution

14. What is neutralization reaction? Give two examples.

Watch Video Solution

15. Give two important uses of washing soda and baking soda.

Watch Video Solution

Ncert Exemplar Multiple Choice Type Questions

1. What happens when a solution of an acid is mixed with a solution of a base in a test tube ?

(i) The temperature of the solution increases

(ii) The temperature of the solution decreases

(iii) The temperature of the solution remains the same

(iv) Salt formation takes place

A. (i) only

B. (i) and (iii)

C. (ii) and (iii)

D. (i) and (iv)

Answer: D

Watch Video Solution

2. An aqueous solution turns red litmus solution blue. Excess addition of which of the following solutions would revers the change ?

A. Baking powder

B. Lime

C. Ammonium hydroxide solution

D. Hydrochloric acid

Answer: D

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3. During the preparation of hydrogen chloride gas on a humid day, the gas is usually passed through the guard tube containing anhydrous

calcium chloride. The role of anhydrous calcium chloride taken in the guard tube is to

A. Absorb the evolved gas.

B. Moisten the gas.

C. Absorb moisture from the gas.

D. Absorb Cl^- from the evolved gas.

Answer: C

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4. Which of the following salts does not contain any water of crystallisation ?

A. Blue vitriol

B. Baking soda

C. Washing soda

D. Gypsum

Answer: B

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5. Sodium carbonate is basic salt because it is a salt of

A. strong acid and strong base.

B. weak acid and weak base.

C. strong acid and weak base.

D. weak acid and strong base.

Answer: D

Watch Video Solution

6. Calcium phosphate is present in tooth enamel. Its nature is

A. basic

B. acidic

C. neutral

D. amphoteric

Answer: A

Watch Video Solution

7. A sample of soil is mixed with water and allowed to settle. The clear supernatant solution turns the pH paper yellowish-orange. Which of the following would change the colour of this pH paper to greenish-blue ?

A. Lemon juice

B. Vinegar

C. Common salt

D. An antacid

Answer: D

Watch Video Solution

8. Which of the following gives the correct increasing order of acidic strength ?

A. Water $<$ Acetic acid $<$ Hydrochloric acid

B. Water $<$ Hydrochloric acid $<$ Acetic acid

C. Acetic acid $<$ Water $<$ Hydrochloric acid

D. Hydrochloric acid $<$ Water $<$ Acetic acid

Answer: D

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9. If a few drops of a concentrated acid accidentally spill over the hand of a student, what should be done ?

A. Wash the hand with saline solution.

B. Wash the hand immediately with plenty of water and apply paste of sodium hydrogen carbonate.

C. After washing with plenty of water, apply solution of sodium hydroxide on the hand.

D. Neutralize the acid with a strong alkali.

Answer: B

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10. Sodium hydrogen carbonate when added to acetic acid evolves a gas. Which of the following statements are true about the gas evolved ?

(i) It turns lime water milky

(ii) It extinguishes a burning splinter

(iii) It dissolves in a solution of sodium hydroxide

(iv) It has a pungent odour.

A. (i) and (ii)

B. (i), (ii) and (iii)

C. (i), (iii) and (iv)

D. (i) and (iv)

Answer: B

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11. Common salt besides being used in kitchen can also be used as the raw material for making (i)washing soda (ii)bleaching powder (iii)baking soda (iv)slake

A. (i) and (ii)

B. (i) and (iii)

C. (i), (i) and (iv)

D. (i), (iii) and (iv)

Answer: C

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12. One of the constituents of baking powder is sodium hydrogen carbonate. The other constituent is :

A. hydrochloric acid

B. tartaric acid

C. acetic acid

D. sulphuric acid

Answer: B

Watch Video Solution

13. To protect tooth decay, we are advised to brush out teeth regularly. The nature of the tooth paste commonly used is

A. acidic

B. neutral

C. basic

D. corrosive

Answer: C

Watch Video Solution

14. Which of the following statements is correct about an aqueous solution of an acid and of a base ?

(i) Higher the pH, stronger the acid

(ii) Higher the pH, weaker the acid

(iii) lower the pH, stronger the base

(iv) Lower the pH, weaker the base

A. (i) and (iii)

B. (ii) and (iii)

C. (i) and (iv)

D. (ii) and (iv)

Answer: D

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15. The pH of the gastric juices released during released during digestion is

A. less than 7

B. more than 7

C. equal to 7

D. equal to 0

Answer: A

Watch Video Solution

16. Which of the following phenomena occur when a small amount of acid is added to water ?

(i) Ionisation

(ii) neutralisation

(iii) Dilution

(iv) Salt formation

A. (i) and (ii)

B. (i) and (iii)

C. (ii) and (iii)

D. (ii) and (iv)

Answer: B

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17. Which one of the following can be used as an acid base indicator by a visually impared student ?

A. Litmus

B. Turmeric

C. Vanilla essence

D. Petunia leaves

Answer: C

Watch Video Solution

18. Which of the following substances will not give carbon dioxide on treatment with dilute acid ?

A. Marble

B. Limestone

C. Baking soda

D. Lime

Answer: D

Watch Video Solution

19. Which of the following is acidic in nature ?

A. Lime juice

B. Human blood

C. Lime water

D. Antacid

Answer: A

Watch Video Solution

20. In an attemp to demonstrate electrical conductivity through an electrolyte, the apparatus set up is given. Which among the following statement (s) is (are) correct ?

(i) Bulb will not glow because electrolyte is not acidic

(ii) Bulb will glow because HCl is strong acid and furnishes ions for conduction.

(iii) Bulb will not glow because circuit is incomplete

(iv) Bulb will not glow because it depends upon the type of electrolytic solution

A. (i) and (iii)

B. (ii) and (iv)

C. (ii) only

D. (iv) Only

Answer: C

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21. Which of the following is used for dissolution of gold ?

A. Hydrochloric acid

B. Sulphuric acid

C. Nitric acid

D. Aqua regia

Answer: D

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22. Which of the following is not a mineral acid?

A. Hydrochloric acid

B. Citric acid

C. Sulphuric acid

D. Nitric acid

Answer: B

Watch Video Solution

23. Which amongst the following is not a base?

A. NaOH

B. KOH

C. NH_4OH

D. C_2H_5OH

Answer: D

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24. Which of the following statements is not correct?

A. All metal carbonates react with acid to give a salt, water and carbon dioxide.

B. All metal oxides react with water to give salt and acid.

C. Some metals react with acids to give salt and hydrogen

D. Some non-metal oxides react with water to form an acid.

Answer: B

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25. Match the chemical substances given in Column (A) with their appropriate application given in Column (B)

Column (A)	Column (B)
(A) Bleaching powder	(i) Preparation of glass
(B) Baking soda	(ii) Production of H_2 and Cl_2
(C) Washing soda	(iii) Decolourisation
(D) Sodium chloride	(iv) Antacid

A. A-(i), B–(i), C-(iv), D-(iii)

B. A-(iii), B-(ii), C-(iv), D-(i)

C. A-(iii), B-(iv), C-(i), D ii)

D. A -(i), B-(iv), C-(i), D-(iii)

Answer: C

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26. Equal volumes of hydrochloric acid and sodium hydroxide solutions of same concentration are mixed and the pH of the resulting solution is checked with a pH paper . What would be the colour obtained ? (you may use color guide given in figure of NCERT Book(science class x) on page 26)

A. Red

B. Yellow

C. Yellowish green

D. Blue

Answer: C

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27. Which of the following is /are true when HCI (g) is passed through water?

(i) It does not ionise in the solution as it is a covalent compound .

(ii) It ionises in the solution.

(iii) It gives both hydrogen and hydroxyl ion in the solution

(iv) It forms hydronium ion in the solution due to the combination of hydrogen ion with water molecule.

A. (i) only

B. (iii) only

C. (ii) and (iv)

D. (iii) and (iv)

Answer: C

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28. Which of the following statement is true for acids?

A. Bitter and change red litmus to blue.

B. Sour and change red litmus to blue.

C. Sour and change blue litmus to red.

D. Bitter and change blue litmus to red.

Answer: C

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29. Which of the following are present in a dilute aqueous solution of hydrochloric acid?

A. $H_3O^+ + Cl^-$

B. $H_3O^+ + OH^-$

C. $Cl^- + OH^-$

D. Unionized HCl

Answer: A

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30. Identify the correct represention of reaction occureing during chloralkali process.

A. $2NaCl(l) + 2H_2O(l) \rightarrow 2NaOH(l) + Cl_2(g) + H_2(g)$

B. $2NaCl(aq) + 2H_2O(aq) \rightarrow 2NaOH(aq) + Cl_2(g) + H_2(aq)$

C. $2NaCl(aq) + 2H_2O(l) + 2NaOH(aq) + Cl_2(aq) + H_2(aq)$

D. $2NaCl(aq) + 2H_2O(l) \rightarrow 2NaOH(aq) + Cl_2(g) + H_2(g)$

Answer: D

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31. Match the acids given in Column A with their correct source given in Column (B)

Column (A)	Column (B)
(a) Lactic acid	(i) Tomato
(b) Acetic acid	(ii) Lemon
(c) Citric acid	(iii) Vinegar
(d) Oxalic acid	(iv) Curd

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32. Match the important chemicals given in column (A) with the chemical formulaw given in column (B).

Column (A)	Column (B)
Plaster of Paris	$Ca(OH)_2$
Gypsum	$CaSO_4 . ½ H_2O$
Bleaching Powder	$CaSO_4 . 2H_2O$
Slaked Lime	$CaOCl_2$

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33. What will be the action of the following substances on litmus paper? Dry HCl gas moistened NH_3 gas, lemon juice , carbonated soft drink, curd, soap solution.

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34. Name the acid present in ant sting and give its chemical formula. Also give the common method to get relief from the discomfort caused by the ant sting.

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35. What happens when nitric acid is added to egg shell ?

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36. A student prepared solutions of (i) an acid and (ii) a base in two separate beakers. She forgot to label the solutions and litmus paper is not available in the laboratory. Since both the solutions are colourless how will she distinguish between the two ?

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37. How would you distinguish between baking powder and washing soda by heating ?

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38. Salt A commonly used in bakery products on heating gets converted into another salt B which itself is used for removal of hardness of water and a gas C is evolved. The gas C when passed through lime water, turns it milky. Identify A, B and C.

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39. In one of the industrial processes for manufacture of sodium hydroxide a gas x is formed as by product .The gas x reacts with lime water to give a compound y which used as a bleaching agent in chemical industry. Identify x and y giving the chemical equation of the reactions involved

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40. Fill in the missing data in the following table :

S. No.	Name of the salt	Formula	Salt obtained from	
			Base	Acid
(i)	Ammonium chloride	NH_4Cl	NH_4OH	—
(ii)	Copper sulphate	—	—	H_2SO_4
(iii)	Sodium chloride	NaCl	NaOH	—
(iv)	Magnesium nitrate	$Mg(NO_3)_2$	—	HNO_3

(v)	Potassium sulphate	K_2SO_4	—	—
(vi)	Calcium nitrate	$Ca(NO_3)_2$	$Ca(OH)_2$	—

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41. What are strong and weak acids? In the following list of acids separate strong acids from weak acids . Hydrochloric acid, citric acid , acetic acid, nitric acid formic acid , suphuric acid.

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42. When zinc metal is treated with a dilute solution of a strong acid, a gas is evolved which is utilised in the hydrogenation of oil. Name the gas evolved . Write the chemical equation of the reaction involved and also wrote a test to detect the gas formed.

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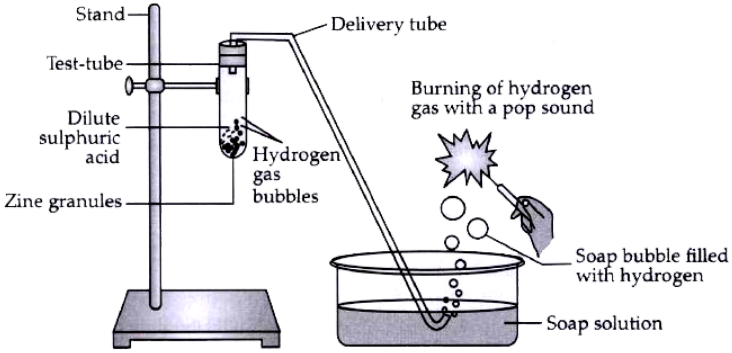
43. In the following schematic diagram for the preparation of hydrogen gas as shown in figure, what would happen if following changes are made ?



In place of zinc granules, same amount of zinc dust is taken in the test tube.

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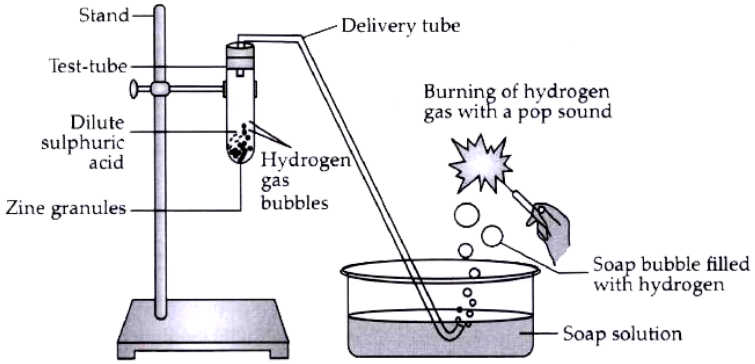
44. In the following schematic diagram for the preparation of hydrogen gas as shown in figure, what would happen if following changes are made ?



Instead of dilute sulphuric acid, dilute hydrochloric acid is taken.

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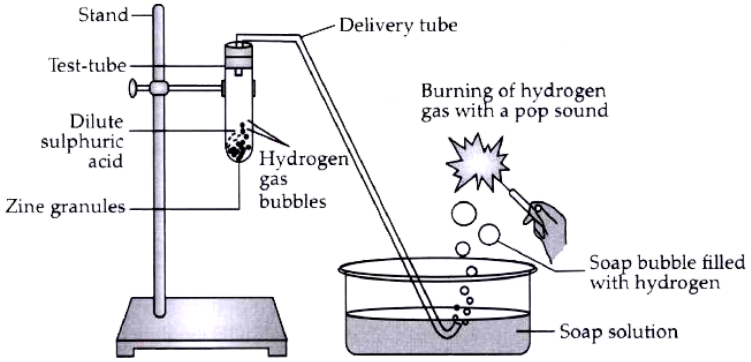
45. In the following schematic diagram for the preparation of hydrogen gas as shown in figure, what would happen if following changes are made ?



In place of zinc, copper turnings are taken.

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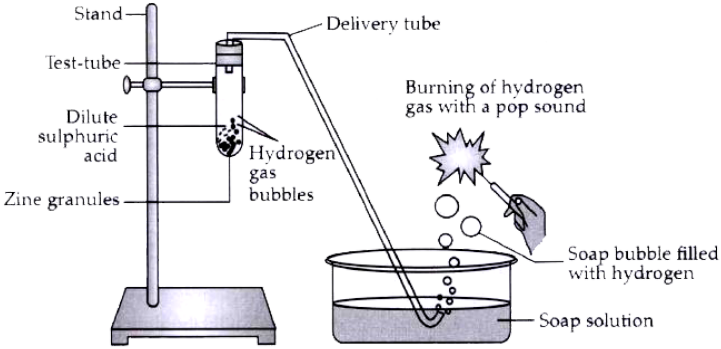
46. In the following schematic diagram for the preparation of hydrogen gas as shown in figure, what would happen if following changes are made ?



Sodium hydroxide is taken in place of dilute sulphuric acid and the tube is heated.

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47. For making cake, baking powder is taken. If at home your mother uses baking soda instead of baking powder in cake,

How will it affect the taste of the cake and why?

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48. For making cake, baking powder is taken. If at home your mother uses baking soda instead of baking powder in cake,

How can baking soda be converted into baking powder?

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49. For making cake, baking powder is taken. If at home your mother uses baking soda instead of baking powder in cake,

What is the role of tartaric acid added to baking soda?

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50. A metal carbonate X on reacting with an acid gives a gas which when passed through a solution Y gives the carbonate back. On the other hand, a gas G that is obtained at anode during electrolysis of brine is passed on

dry, it gives a compound Z, used for disinfecting drinking water . Identify X,Y,G and Z.

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51. A dry pellet of a common base B, When kept in open absorbs moisture and turns sticky. The compound is also a by product of chloroalkali process . Identify B, what type of reaction occurs when B is treated with an acidic oxide? Write a balanced chemical equation for one such solution

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52. A sulphate salt of group 2 element of the periodic tables is a white soft substance which can be moulded in to different shapes by making its dough. When this compound is left in open for some time, it becomes a solid mass and cannot be used for moulding purposes . Identify the sulphates salt and why does it show such a behaviour ? Give the reaction involved .

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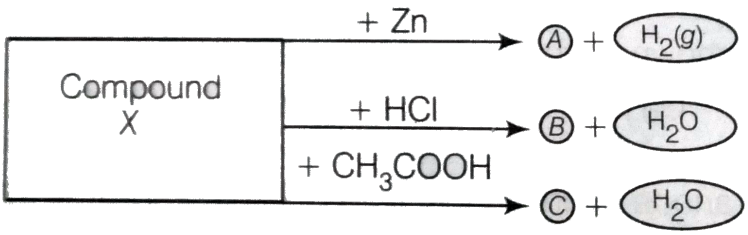
53. Identify the compound X on the basis of he reactions given below Also, wrote the name and chemical formulae of A, B and C



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Board Corner Single Answer Type Questions

1. A compound 'X' of sodium is used as an antacid and it decomposes on strong heating.

Name the compound 'X' and give its chemical Formula.

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2. A compound 'X' of sodium is used as an antacid and it decomposes on strong heating.

Write a balanced chemical equation to represent the decomposition of 'X'.

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3. A compound 'X' of sodium is used as an antacid and it decomposes on strong heating.

Give one use of compound 'X' besides an antacid.

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4. You are provided with 90 mL of distilled water and 10 mL of concentrated sulphuric acid to prepare dilute sulphuric acid.

What is the correct way of preparing dilute sulphuric acid? Give reason.

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5. You are provided with 90 mL of distilled water and 10 mL of concentrated sulphuric acid to prepare dilute sulphuric acid.

How will the concentration of H_3O^+ ions change on dilution?

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6. 'Sweet tooth may lead to tooth decay'. Explain why? What is the role of tooth paste in preventing cavities?

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7. In the electrolysis of water,

Name the gas collected at anode and cathode.

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8. In the electrolysis of water,

Why is the volume of gas collected at one electrode double than the other?

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9. In electrolysis of water,

What would happen if dil. H_2SO_4 is not added to water.

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10. pH has a great importance in our daily life. Explain by giving three examples.

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11. Identify the compound of calcium which is used for plastering of fractured bones. With the help of chemical equation show how is it prepared and what special precautions should be taken during the preparation of this compound.

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12. A compound which is prepared from gypsum has the property of hardening when mixed with proper quantity of water. Identify the compound. Write chemical equation to preapar the compound. Mention one important use of the compound.

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13. Identify the acid and the base from which sodium chloride is obtained. Which type of

salt is it? When is it called rock salt? How is rock salt formed?

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14. Identify the acid and base which form sodium hydrogen carbonate. Write chemical

equation in support of your answer. State whether this compound is acidic, basic or

neutral. Also write its pH value.

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15. While diluting an acid, why is it recommended that the acid should be added to water and not water to the acid?

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16. Dry hydrogen chloride gas does not change the colour of dry litmus paper. Why?

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17. In one of the industrial processes for manufacture of sodium hydroxide a gas x is formed as by product .The gas x reacts with lime water to give a compound y which used as a bleaching agent in chemical industry. Identify x and y giving the chemical equation of the reactions involved

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18. The pH of a salt used to make tasty and crispy pakoras is 14. Identify the salt and write a chemical equation for its formation. List its two uses.

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Board Corner Long Answer Type Questions

1. Write the main difference between an acid and a base. With the help of suitable examples explain the term neutralization and the formation of:

acidic,

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2. Write the main difference between an acid and a base. With the help of suitable examples explain the term neutralization and the formation of: basic salt

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3. Write the main difference between an acid and a base. With the help of suitable examples explain the term neutralization and the formation of: neutral salts.

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