



CHEMISTRY

BOOKS - X BOARDS

QUESTION PAPER 2022 TERM1

Section A

1. A student took Sodium Sulphate solution in a test tube and added Barium Chloride solution to it. He observed that an insoluble substance

has formed .The colour and molecular formula of the insoluble substance is

A. Grey , Ba_2SO_4

B. Yellow $Ba(SO_4)_2$

C. White, $BaSO_4$

D. Pink, $BaSO_4$

Answer:



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2. Which of the following oxide (s) is / are soluble in water to form alkalies ?

(i) Na_2O , (ii) SO_2 , (iii) K_2O , (iv) NO_2

A. (i) and (iii)

B. (i) only

C. (ii) and (iv)

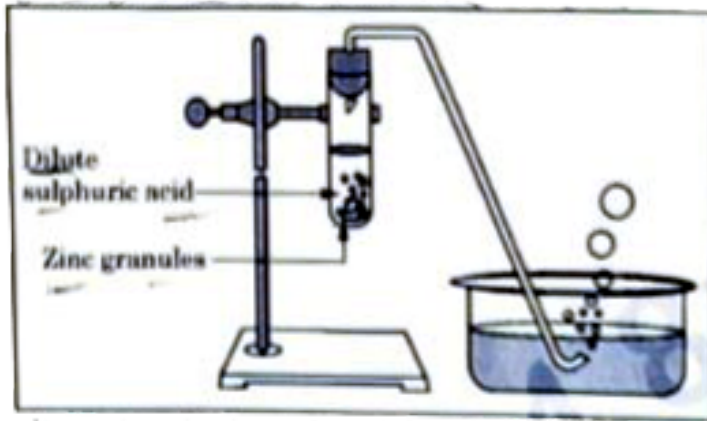
D. (iii) only

Answer:



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3. Study the diagram given below and identify the gas formed in the reaction



A. Carbon di - oxide which extinguishes the burning candle

B. Oxygen due to which the candle burns more brightly

C. Sulphure dioxide which produces a suffocating smell

D. Hydrogen which while burning produces a popping sound

Answer:

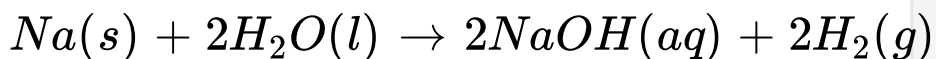


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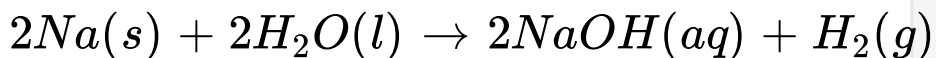
4. Sodium reacts with water to form sodium hydroxide and hydrogen gas .

The balanced equation which represents the above reaction is

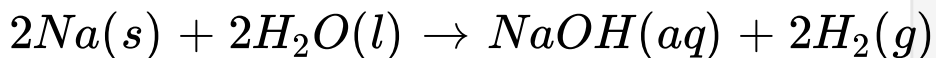
A.



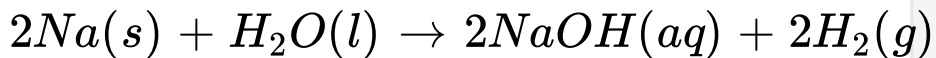
B.



C.



D.



Answer:



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5. Which of the options in the given table are correct ?

Option	Natural Source	Acid Present
(i)	Orange	Oxalic acid
(ii)	Sour milk	Lactic acid
(iii)	Ant sting	Methanoic acid
(iv)	Tamarind	Acetic acid

A. (i) and (ii)

B. (i) and (iv)

C. (ii) and (iii)

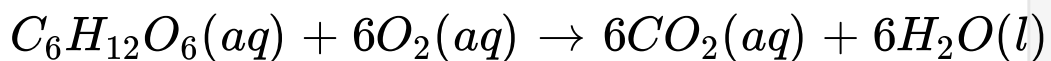
D. (iii) and (iv)

Answer:



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6.



The above reaction is a/an

A. displacement reaction

B. endothermic reaction

C. exothermic reaction

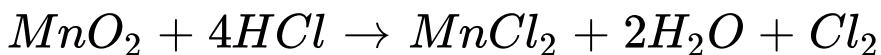
D. neutralisation reaction

Answer:



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7. Which of the following statements about the reaction given below are correct ?



- (i) HCl is oxidized to Cl_2
- (ii) MnO_2 is reduced to $MnCl_2$
- (iii) $MnCl_2$ acts as an oxidizing agent
- (iv) HCl acts as an oxidizing agent

A. (ii), (iii) and (iv)

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

C. (i) and (ii) only

D. (iii) and (iv) only

Answer:



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8. Select from the following the statement which is true for bases

- A. Bases are bitter and turn blue litmus red
- B. Bases have a pH less than 7
- C. Bases are sour and change red litmus to blue
- D. Bases turn pink when a drop of phenolphthalein is added to them

Answer:



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9. Study the following table and choose the correct option

	Salt	Parent Acid	Parent Base	Nature of Salt
(a)	Sodium Chloride	HCl	NaOH	Basic
(b)	Sodium Carbonate	H ₂ CO ₃	NaOH	Neutral
(c)	Sodium Sulphate	H ₂ SO ₄	NaOH	Acidic
(d)	Sodium Acetate	CH ₃ COOH	NaOH	Basic



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10. It is important to balance the chemical equations to satisfy the law of conservation of mass. Which of the following statements of the law is incorrect

A. The total mass of the elements present in the reactants is equal to the total mass of the elements presents in the products.

B. The number of atoms of each element remains the same, before and after a chemical reaction.

C. he chemical composition of the reactants is the same before and after the reaction.

D. Mass can neither be created nor can it be destroyed in a chemical reaction.

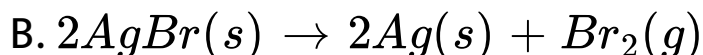
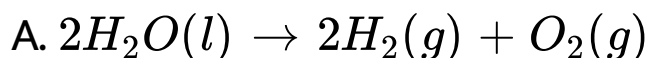
Answer:

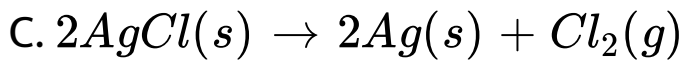


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Section B

1. Which one of the following reactions is categorised as thermal decomposition reaction ?





Answer:



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2. Consider the pH value of the following acidic samples:

S. No.	Sample	pH Value
1.	Lemon Juice	2.2
2.	Gastric Juice	1.2
3.	Vinegar	3.76
4.	Dil. Acetic acid	3.0

The decreasing order of their H^+ ion concentration is

A. $3 > 4 > 1 > 2$

B. $2 > 1 > 3 > 4$

C. $2 > 1 > 4 > 3$

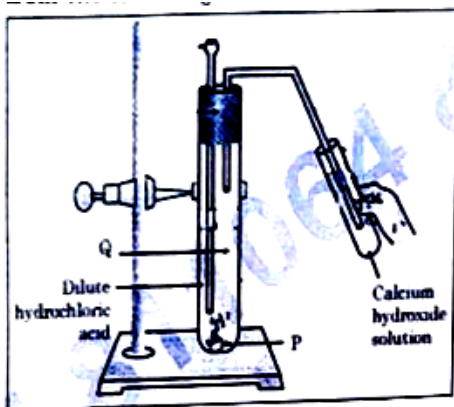
D. $3 > 4 > 2 > 1$

Answer:



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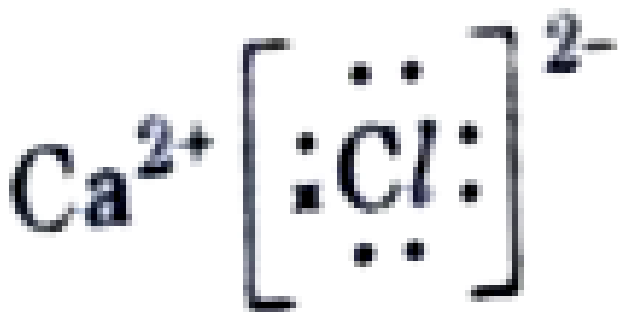
3. Study the experimental set up shown in given figure and choose the correct option from the following:



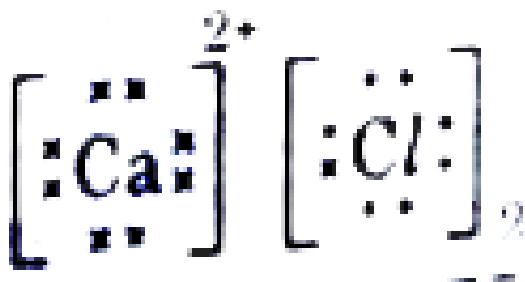
	P	Q	Change observed in calcium hydroxide solution
(a)	K_2CO_3	Cl_2 gas	No change
(b)	$KHCO_3$	CO_2 gas	No change
(c)	$KHCO_3$	H_2 gas	Turns milky
(d)	K_2CO_3	CO_2 gas	Turns milky

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4. Which one of the following structures correctly depicts the compound $CaCl_2$?



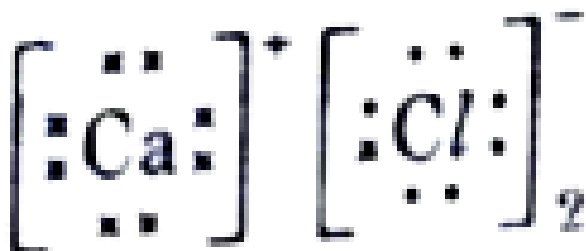
A.



B.



C.



D.

Answer:



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5. The pair(s) which will show displacement reaction is/are

(i) NaCl solution and copper metal

(ii) $AgNO_3$ solution and copper metal

(iii) $Al_2(SO_4)_3$ solution and magnesium metal

(iv) $ZnSO_4$ solution and iron metal

A. (ii) only

B. (ii) and (iii)

C. (iii) and (iv)

D. (i) and (ii)

Answer:



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6. Which of the following salts do not have the water of crystallisation ?

(i) Bleaching Powder (ii) Plaster of Paris

(iii) Washing soda (iv) Baking soda

A. (ii) and (iv)

B. (i) and (iii)

C. (ii) and (iii)

D. (i) and (iv)

Answer:



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7. Assertion (A) : Sodium hydrogen carbonate is used as an ingredient in

Reason (R) : $NaHCO_3$ is a mild non - corrosive basic. Salt.

A. Both (A) and (R) are true (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, but (R) is true.

Answer:



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8. Assertion (A) : Burning of Natural gas is an endothermic process.

Reason (R) : Methane gas combines with oxygen to produce carbon dioxide and water.

A. Both (A) and (R) are true (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.

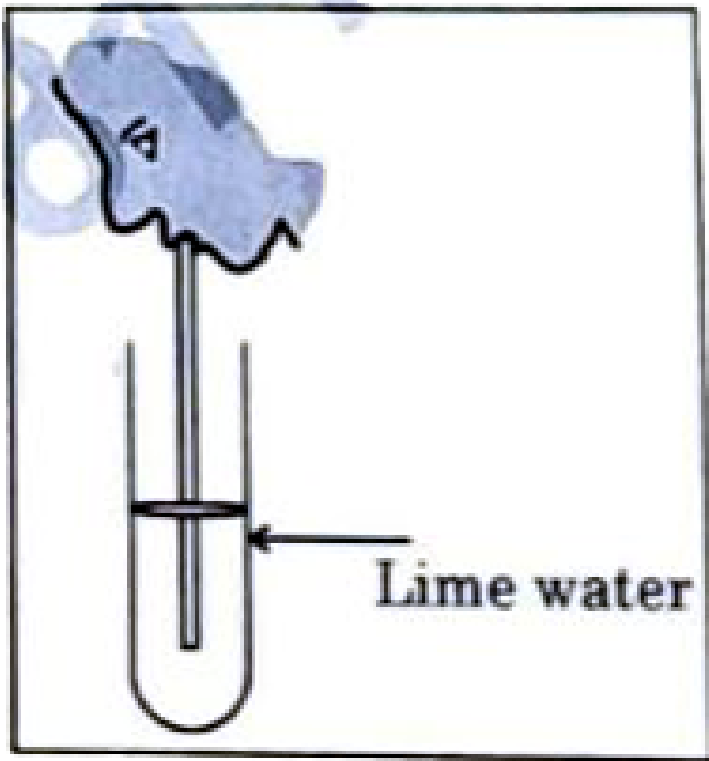
D. (A) is false, but (R) is true.

Answer:



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9. Observe the diagram of an activity given below. What does it help to conclude, when the person exhales into the test - tube?



A. Percentage of carbon dioxide is more in inhaled air

B. Fermentation occurs in the presence of oxygen.

C. Percentage of carbon dioxide is more in the exhaled air

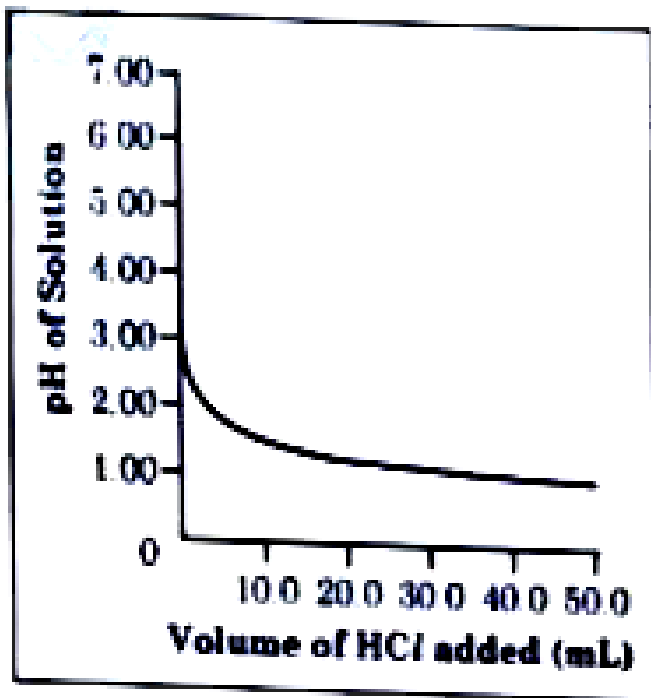
D. Fermentation occurs in the presence of carbon dioxide.

Answer:



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10. 50.0 mL of tap water was taken in a beaker. Hydrochloric acid was added drop by drop to water. The temperature and pH of the solution was noted. The following graph was obtained. Choose the correct statements related to this activity.



- (i) The process of dissolving an acid in water is highly endothermic
- (ii) The pH of the solution increases rapidly on addition of acid.
- (iii) The pH of the solution decreases rapidly on

addition of acid.

(iv) The pH of tap water was around 7.0

A. i) and (i)

B. (i) and (iii)

C. (iii) and (iv)

D. (ii) and (iv)

Answer:



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1. A student, took four metals P, Q, R and S and carried out different experiments to study the properties of metals. Some of the observations were

All metals could not be cut with knife except metal R.

Metal P combined with oxygen to form an oxide, M_2O , which reacted with both acids and bases.

Reaction with water.

P- Did not react either with cold or hot water but reacted with steam

Q- Reacted with hot water and the metal started floating

R- Reacted violently with cold water

S- Did not react with water at all

Based on the above observations answer the following:

Out of the given metals, the one which needs to be stored under Kerosene is

A. P

B. R

C. S

D. Q

Answer:



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2. A student, took four metals P, Q, R and S and carried out different experiments to study the properties of metals. Some of the observations were

All metals could not be cut with knife except metal R.

Metal P combined with oxygen to form an oxide, M_2O , which reacted with both acids and

bases.

Reaction with water.

P- Did not react either with cold or hot water
but reacted with steam

Q- Reacted with hot water and the metal started
floating

R- Reacted violently with cold water

S- Did not react with water at all

Based on the above observations answer the
following:

Out of the given metals, the metal Q is

A. Iron

B. Zinc

C. Potassium

D. Magnesium

Answer:



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3. A student, took four metals P, Q, R and S and carried out different experiments to study the properties of metals. Some of the observations were

All metals could not be cut with knife except metal R.

Metal P combined with oxygen to form an oxide, M_2O , which reacted with both acids and bases.

Reaction with water.

P- Did not react either with cold or hot water but reacted with steam

Q- Reacted with hot water and the metal started floating

R- Reacted violently with cold water

S- Did not react with water at all

Based on the above observations answer the

following:

Metal which forms amphoteric oxides is

A. P

B. Q

C. R

D. S

Answer:



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4. A student, took four metals P, Q, R and S and carried out different experiments to study the properties of metals. Some of the observations were

All metals could not be cut with knife except metal R.

Metal P combined with oxygen to form an oxide, M_2O , which reacted with both acids and bases.

Reaction with water.

P- Did not react either with cold or hot water but reacted with steam

Q- Reacted with hot water and the metal started floating

R- Reacted violently with cold water

S- Did not react with water at all

Based on the above observations answer the following:

The increasing order of the reactivity of the four metals is,

A. $P < Q < R < S$

B. $S < R < Q < P$

C. $S < P < Q < R$

D. $P < R < Q < S$

Answer:



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