ALAOWAA

Gem



Science

الصف 1 الاعدادي

إجابات النماذج الاسترشادية لشهر مارس

العام الدراسى 2024 - 2025

Model (1)

15 Marks

1 (A) Choose the correct answer:

1. Salts result from the combination of ..... .
   a) positive ion and noble gases
   b) negative ion and negative ion
   c) positive ion and another negative one
   d) negative ion and nonmetal
2. Carbon monoxide ..... .
   a) is very dangerous and causes diseases and may lead to death
   b) causes breathing problems
   c) harms the nervous system
   d) causes greenhouse effect
3. If the mass of an object is 10 kg and the Earth's gravity acceleration is 10 m/s^2, then the weight of the object equals ..... .
   a) 20 Newton
   b) 1 Newton
   c) 100 Newton
   d) 50 Newton
4. Dynamo converts ..... energy.
   a) mechanical energy to electric
   b) electric energy to mechanical
   c) sound energy to electric
   d) nuclear energy to electric

(B) Compare between acids and alkalis. (Regarding their effect on litmus paper)

Acids change the color of litmus paper from blue to red, while alkalis change the color of litmus paper from red to blue.

2 (A) Complete the following sentences:

1. The chemical formula of copper sulphate is $CuSO_4$.
2. Elements combine with each other by constant weight ratios to form chemical compounds.
3. $NH_3 + HCl \xrightarrow{conc.} NH_4Cl$
4. Strong nuclear force is used in military purposes.

(B) Calculate the amount of the produced magnesium oxide from the reaction of 32 g of oxygen with 48 g of magnesium in the following reaction:

$2Mg + O_2 \xrightarrow{\Delta} 2MgO$ (atomic mass of Mg=24, O=16)

∵ Total amount of reactants masses = Total amount of products masses

∴ The mass of magnesium + The mass of oxygen = The mass of magnesium oxide

$(2 \times 24) + (2 \times 16) = 2\,[24 + 16]$

$48\ g + 32\ g = 80\ g$

∴ The mass of magnesium oxide = 80 g

Model (2)

15 Marks

1 (A) Choose the correct answer:

1. Which of the following compounds has the smallest atomic mass?
[knowing that H = 1, C = 12, N = 14, O = 16, S = 32].

a) SO_2 b) NH_3 c) NO_2 d) CO_2

2. ..... + O_2 ⟶ $2NO_2$.

a) NO_2 b) $2NO$ c) N_2 d) N

3. ..... phenomenon increases the air temperature.

a) Environmental b) Thunder c) Greenhouse d) Rainbow

4. From the factors that affect weight is/are .....

a) the change of mass from one place to another

b) the change of the object's place

c) the object's speed

d) (a) and (b)

(B) Calculate the mass of an object if its weight is 980 Newton and the Earth's acceleration is 9.8 m/s^2.

$w = 980\ N \qquad m = ? \qquad g = 9.8\ m/s^2$

$$m = \frac{w}{g} = \frac{980}{9.8} = 100\ Kg$$

2 (A) Complete the following sentences:

1. Sodium Chloride salt dissolves in water, while silver chloride salt is insoluble in water.
2. Heating magnesium ribbon in air produces magnesium oxide.
3. The electric current has magnetic effect.
4. The atom stores a massive amount of energy inside the nucleus.

(B) Write the scientific term:

- Substances dissociate in water producing positive hydrogen ion. (Acids)

Model (3)

15 Marks

1 (A) Put (✓) or (✗):

1. Potassium sulphate dissolves in water. (✓)
2. CO gas is acidic and causes building corrosion. (✗)
3. Earth's gravity decreases by increasing the height. (✓)
4. The measuring unit of weight is Newton. (✓)

(B) Give a reason for:

- Caustic soda turns red litmus paper into blue.

Because it is a base (alkali).

2 (A) Complete the following sentences:

1. Sulphuric acid is an acid consisting of hydrogen and negative atomic group.
2. $H_2 + Cl_2 \longrightarrow 2HCl$.
3. Lung cancer is caused by burning of coal and cellulose fibers.
4. If the mass of an object is 500 gram knowing that the Earth's gravity acceleration is 9.8 m/s^2, then its weight is 4.9 N.

(B) Calculate the masses of reactants and products in the following reaction as the atomic mass of Al is 27, while O is 16:

$$4\,Al + 3O_2 \xrightarrow{\Delta} 2\,Al_2O_3$$

∵ Total amount of reactants masses = Total amount of products masses

∴ The mass of Aluminum + The mass of oxygen = The mass of aluminum oxide

$$(4 \times 27) + (6 \times 16) = 2\,[(27 \times 2) + (16 \times 3)]$$

$$108 + 96 = 2\,(54 + 48)$$

$$204\ g = 204\ g$$

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Model (4)

15 Marks

1 (A) Complete the following sentences:

1. Adding some droplets of Nitric acid turns litmus paper into red.
2. Nitrogen oxides are acidic gases that result at the time of lightning.
3. The mass of an object is fixed value, while its weight changes from one place to another on the Earth's surface.
4. Weak nuclear force uses radioactive elements and radiation that is used for medical purposes.

(B) Write the balanced chemical equation when:

- Ammonia combines with nitric acid to form ammonium nitrate.

$$NH_3 + HNO_3 \longrightarrow NH_4NO_3$$

2 (A) Choose the correct answer:

1. All of the following are salts, except ..... .

a) AgCl b) $MgCl_2$ c) Na_2O d) $CuSO_4$

2. $C + O_2 \longrightarrow CO_2$ (Atomic mass of O = 16, C = 12). From this balanced equation. We need ..... g from oxygen to burn 24 g of carbon to form ..... g from carbon dioxide.

a) 64- 88 b) 64- 28 c) 68- 44 d) 18- 38

3. Inflammation of the eye is caused by ..... .

a) CO_2 b) CO c) SO_2 d) NO_2

4. When the electric current passes through a wire near a magnetic needle it ..... .

a) doesn't move b) deflects c) produces sound d) produces heat

(B) What happens when ...?

- The mass of an object increases (relative to the weight).

The weight of the object increases.

Model (5)

15 Marks

1 (A) Choose the correct answer:

1. All of the following are nonmetal oxides, except ..... .
   a) CO_2 b) SO_2 c) CaO d) NO
2. If the Earth's gravity acceleration is 9.8 m/s^2, then the mass of an object whose weight is 98 Newton is ..... kg.
   a) 98 b) 10 c) 0.1 d) 0.01
3. White fumes of ..... is produced when ammonia combines with hydrochloric acid.
   a) ammonium chloride b) ammonium sulphate
   c) hydrochloric acid d) ammonia
4. ..... gases are poisonous and affect the nervous system and eye.
   a) Nitrogen oxides b) Sulphur oxides c) Carbon oxides d) No correct answer

(B) Calculate the masses of reactants and products in the following reaction, knowing that the masses of (Cl = 35.5, Na = 23)

$$2Na + Cl_2 \longrightarrow 2\,NaCl$$

∵ Total amount of reactants masses = Total amount of products masses

∴ The mass of sodium + The mass of chlorine = The mass of sodium chloride

$$(2 \times 23) + (2 \times 35.5) = 2\,(23 + 35.5)$$

$$46 + 71 = 2 \times 58.5$$

$$117\ g = 117\ g$$

2 (A) Complete the following sentences:

1. Acid has sour taste, and gives hydrogen ion when it dissociates in water.
2. Ammonium nitrate is composed of positive ammonium group with a negative nitrate group.
3. When an electric current passes through a wire, electromagnetic force is produced.
4. If the mass of an object is 200 gram knowing that the Earth's gravity acceleration is 9.8 m/s^2, then its weight is 1.96 N.

(B) What happens when ...?

- Adding silver chloride to water, then shaking it. (Regarding the solubility).

  Silver chloride doesn't dissolve in water.