



ALADWANA

Gem



Science

الصف 1 الإعدادى

إجابات نماذج امتحانات الأضواء النهائية

الفصل الدراسى الثانى

2024 - 2025

Model (1)

24
Marks

1 (A) Complete the following sentences:

- 1 The chromosome consists of two strands, each one is called a **...chromatid...**, connected at the **.....centromere**
- 2 The crystals of basalt rock are **...small...** in size, while the crystals of granite rock are **...large...** in size.

(B) Give a reason for:

- 1 The bronze alloy is used in making statues instead of copper.
Because it is harder and more resistant to rusting compared to copper.
- 2 The presence of sharp canines in carnivorous animals.
To help them tear their prey.
- 3 Litmus strip is not suitable for distinguishing between strong acids and weak acids.
Because strong and weak acids change the blue litmus strip into red.
- 4 The potential energy of an object gradually decreases as it falls down.
Due to the decrease in height, as potential energy is directly proportional to height.

2 (A) Choose the correct answer:

- 1 Which of the following pH values represents the weakest acid?
a) 12 b) 7 **c) 5** d) 2
- 2 Any food chain consists of several trophic levels. The first level is occupied by
a) consumers **b) producers** c) predators d) decomposers

(B) What happens when ...?

- 1 Increasing the speed of a moving object to double its original speed.
The kinetic energy increases four times.
- 2 Adding a molten metal to another molten metal.
An alloy is formed with different properties.
- 3 Decreasing food sources in a certain environment.
Competition among organisms increases, affecting their growth and survival.
- 4 Differences in the arrangement of nucleotides on DNA.
This leads to a change in the genetic trait controlled by this gene, causing a mutation and the appearance of a new trait.

3 (A) Write the scientific term:

- 1 The process of water loss from a plant in the form of water vapor. (... **Transpiration process** ...)
- 2 The sum of potential and kinetic energy of any object. (... **Mechanical energy**...)

(B) 1 What is the importance of ...?

pH meter device

..... **It is used to determine the pH value of any solution directly and accurately.....**

Graphite

..... **It is used to make the dry cell**

2 Mention the food relationships between the following living organisms.

- (1) Lion and zebra. (...**Predation**...)
- (2) Bee and flower. (...**Mutualism**.....)

4 (A) Cross out the odd word, then mention the relation between the rest:

- 1 Hardness – Luster – Brittleness –Electrical – conductivity
(.....**Brittleness**... (**Properties of metals**).....)
- 2 Limestone – Pumice stone – Sandstone – Claystone
(.....**Pumice stone (Sedimentary rocks)**

(B) 1 What is the use of ...?

Bronze alloy:**It is used in making jewelry, statues, and medals**.....

Milk of magnesia: **It is used as a temporary treatment to neutralize gastric acidity.**

2 Compare between each of the following:

(1) Solubility of Silver Chloride and Sodium Chloride in Water.

Silver Chloride	Sodium Chloride
Insoluble in water	Soluble in water

(2) Marble and Granite “in terms to the type of rock”.

Marble	Granite
Metamorphic rock	Igneous rock

Model (2)

24
Marks

1 (A) Put (✓) or (X):

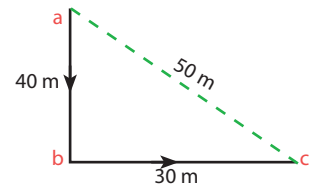
- 1 The kinetic energy of an object at rest is equal to zero. (✓)
- 2 The nutritional relationship between plover bird and Nile crocodile is a commensalism relationship (✓)

(B) 1 Mention one example of each of the following:

- (1) Liquid non-metal element. (.....Bromine.....)
- (2) A predator plant. (...Dionaea plant....)

(B) 2 The opposite figure represents an object moving from point (A) to point (C) passing through point (B). Find:

- (1) The distance: =40 + 30 =70 m.....
- (2) The displacement: =...50 m



2 (A) Cross out the odd word:

- 1 Kinetic energy – Mass – Height – Speed. (... Height....)
- 2 Oxygen – Carbon – Nitrogen – Sodium. (... Sodium....)

(B) 1 What happens when ...?

- (1) Freezing of water in rock cracks.

Water expands when it freezes, leading to rock fragmentation (mechanical weathering).

- (2) The time taken to cover a certain distance decreases "relative to the speed of the object".

The speed of the object increases.

2 What is the difference between ...?

- (1) Evaporation process and boiling process.

Evaporation	Boiling
It is the process at which liquids change into gases at any temperature.	It is the process at which liquids change into gases at their boiling point.

- (2) Spontaneous mutation and induced mutation.

Spontaneous mutations	Induced mutations
They are mutations that occur naturally without human intervention.	They are mutations that occur through human intervention.

3 (A) Complete the following:

- 1 Sulfur trioxide is**an acidic**..... oxide, while calcium oxide is ...**a basic**.... oxide.
- 2 ...**Producers**..... occupy the base of the energy pyramid, while ..**last consumer**.... occupies the apex of the energy pyramid.

(B) 1 What is the importance of ...?

(1) Dotted beetles.

.....**They feed on aphids, which are agricultural pests that harm vegetables and fruits**....

(2) Incisors in herbivorous animals.

.....**They are used for cutting plants**

2 Write the chemical formula for each of the following:

(1) Nitric acid: (..... **HNO₃**.....)

(2) Calcium hydroxide: (..... **Ca(OH)₂**.....)

4 (A) Choose the correct answer:

- 1 If the temperature of the clouds is below the freezing point, it results in
- a) rainfall **b) snowfall** c) storms d) cloud evaporation
- 2 The number of chromosomes in maize (corn) cells is
- a) 32 **b) 20** c) 46 d) 4

(B) Give a reason for:

1 Sedimentary rocks are characterized by being porous.

.....**Due to the presence of spaces between the sediment particles that form them**.....

2 The mechanical energy of a body remains constant during its fall although the decrease in its potential energy.

Because mechanical energy is the sum of potential energy and kinetic energy. As the body falls, potential energy is converted into kinetic energy, keeping the total mechanical energy constant.

3 A person may be born with a hand that has six fingers.

Due to a genetic mutation that causes a change in the genes responsible for finger growing.

4 Hydrogen gas (H₂) and chlorine gas (Cl₂) can be distinguished using litmus strips.

Because chlorine gas removes the color of the litmus strips while hydrogen gas has no effect on it.

Model (3)

24
Marks

1 (A) Complete the following:

- 1 **...Carbon...** is the only non-metal element that is a good conductor of electricity, and it is used in the manufacture of dry cells.
- 2 A spider weaving its web is **...an instinctive behavior...**, while learning languages is **... an acquired...** trait.

(B) 1 A body with a weight of 20N at a height of 5 m, and its kinetic energy is 60 J.

Calculate:

(1) Its potential energy $PE = \text{Weight (w)} \times \text{Height (h)} = 20 \times 5 = 100 \text{ J}$

(2) The mechanical energy $ME = PE + KE = 100 + 60 = 160 \text{ J}$

2 Compare between each of the following:

(1) Acids and Alkalis "in terms of the effect on litmus paper".

Acids	Alkalis
They change the blue litmus paper into red.	They change the red litmus paper into blue.

(2) Mechanical weathering and chemical weathering "in terms of their definition".

Mechanical weathering	Chemical weathering
It is a process by which the rocks are broken down without change in their structure.	It is a process by which the rocks are broken down with change in their chemical structure.

2 (A) Choose the correct answer:

- 1 Metamorphic rocks are formed through the processes of
 - a) melting and crystallization
 - b) transportation and deposition
 - c) heat and pressure**
 - d) erosion and weathering
- 2 All of the following are properties of non-metals, except
 - a) brittle
 - b) do not conduct electricity
 - c) all are solid elements**
 - d) poor conductors of heat

(B) 1 What happens when ...?

(1) Throwing a body upwards "in relation to potential and kinetic energy".

.....The potential energy increases, while the kinetic energy decreases.....

(2) Exposure of tropical regions to vertical sunlight.

.... This leads to the concentration of sunlight on a smaller area of the Earth's surface, causing a rise in temperature and an increase in the evaporation rate in these regions...

2 What is the importance of ...?

(1) Universal indicator strip.

It is used to distinguish between acids and alkalis, or to differentiate between different acids or different alkalis.

(2) The High Dam. It is used to generate electricity.....

3 (A) Write the scientific term:

1 A change in the nature of a gene that occurs spontaneously, leading to a change in the genetic trait controlled by the gene. (.....Mutation.....).

2 The change of a matter from the gaseous state to the liquid state by losing heat. (... Condensation)

(B) 1 Classify the following into "inherited trait – acquired trait – instinctive behavior":

Breastfeeding	Instinctive behaviors
Eye color	Inherited traits
Drawing skills	Acquired traits

2 A force of 50 N was applied to a stationary object, causing it to move a displacement of 3 m in the same direction of the force. Calculate the amount of work done.

$$\text{Work done} = \text{Force (F)} \times \text{Displacement (s)} = 50 \times 3 = 150 \text{ J}$$

4 (A) Put (✓) or (X):

1 There are no food relationships between living organisms. (X)

2 Evaporation requires the losing of heat from water. (X)

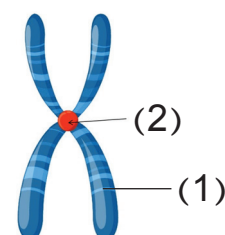
(B) 1 Look at the opposite figure, then answer:

(1) This figure represents thechromosome.....

(2) Write the labels on this figure:

1-.....Chromatid.....

2-.....Centromere.....



2 Name the following compounds:

(1) H_2SO_4 :Sulfuric acid.....

(2) NaOH :Sodium hydroxide.....

Model (4)

24
Marks

1 (A) Complete the following sentences:

- Plants are examples of **.....producers.....**, while fungi are examples of **....decomposers.....**
- Weight is measured in **.....newton (N).....**, while work is measured in **....joule (J).....**

(B) 1 What happens when ...?

- The mass of a body is doubled and its speed is reduced to half "concerning its kinetic energy".
..... The kinetic energy is decreased to half.....
- A litmus strip is dipped in NaOH solution.
.....The red litmus paper changes into blue

2 Give one example for each of the following:

- An organism that occupies the base of the energy pyramid. (**.....Plant.....**)
- A neutral salt solution. (**....Sodium chloride (NaCl)....**)

2 (A) Choose the correct answer:

- Which of the following gases turn red litmus strip into blue when it is wetted with water?
a) Chlorine. **b) Ammonia.**
c) Carbon dioxide gas. d) Sulphur trioxide.
- When a ball is thrown vertically upwards, its mechanical energy
a) remains constant b) increases
c) decreases d) doubles

(B) Give a reason for:

- Aluminum is harder and has a higher melting point than sodium.
.....Because , it has stronger metallic bonds due to more valence electrons
- The weight of an object differs from its mass.
.....Because weight equals the product of mass × gravitational field strength.....
- Avoid tasting, touching, or smelling any chemicals in the lab without the teacher's permission.
.....Because these substances could be burning acids or caustic alkalis.....
- Graphite is used in making dry cell batteries.
.....Because it is a good conductor of electricity.....

3 (A) Write the scientific term:

1 A feeding relationship where one organism benefits, while the other neither benefits nor is harmed. (**.....Commensalism.....**)

2 The process of breaking rocks into smaller pieces without changing their chemical composition. (**..... Mechanical weathering.....**)

(B) 1 What happens when...?

(1) An acid is added to a piece of limestone.

.....Effervescence occurs, and carbon dioxide gas is released.....

(2) Acid rains fall on Earth's surface

.....They cause destruction of forests and corrosion of buildings.....

2 Write the chemical formula for the following compounds:

(1) Sodium carbonate. (**..... Na₂CO₃.....**)

(2) Silver chloride. (**..... AgCl.....**)

4 (A) Cross out the odd word:

1 Detergents – Baking soda – Sodium hydroxide solution – **Hydrochloric acid solution**

2 Basalt – Granite – Pumice – **Marble**

(B) 1 Mention the function of each of the following:

(1) Hydrochloric acid secreted by the stomach. (**..... It helps in food digestion.....**)

(2) Chemical indicators.

(They are used to distinguish between acids, bases, and neutral substances).

2 Identify the feeding relationship between the following:

(1) Polar bear and seal. (**..... Predation relationship.....**)

(2) Two lions are eating a zebra. (**.....Competition relationship.....**)

Model (5)

24
Marks

1 (A) Complete the following sentences:

- Short legs of arctic foxes is a.. **genetic...** trait, while the taming lions is**an acquired...**trait.
- The chemical formula of calcium hydroxide is ...**Ca(OH)₂.....**, while the chemical formula of hydro sulphuric acid is.... **H₂S.....**

(B) 1 What is meant by ...?

(1) Indicators.

(They are chemical substances whose color differs in acidic medium from that in alkaline medium).

(2) Food web. **(...It is the interconnection and overlapping of multiple food chains...).**

2 A small ball whose mass is 4 kg moves at a speed of 5 m/s. Calculate:

(1) Kinetic energy:

$$KE = \frac{1}{2}mv^2 = \frac{1}{2} \times 4 \times 5 \times 5 = 50 \text{ J}$$

(2) Its kinetic energy when the object stops moving:

KE= zero

2 (A) Correct the underlined words:

- If a body moves 70 meters north and then returns 20 meters south, its displacement is 90 meters. **(.....50....)**
- Tin element makes up 95% of the bronze alloy. **(.. 5%..)**

(B) 1 Mention one difference between:

(1) Growing hydrangea plants in acidic soil versus alkaline soil.

Growing hydrangea plants in acidic soil	It becomes blue in color.
Growing hydrangea plants in alkaline soil	It becomes red in color.

(2) Energy and Force (in terms of measuring units).

Energy	The measuring unit is Joule.
Force	The measuring unit is Newton.

2 Write the formula and name of the acid containing the following anions:

- Iodide (I): **(..... HI (Hydroiodic acid).....)**
- Carbonate (CO₃²⁻): **(.....H₂CO₃ (Carbonic acid).....)**

3 (A) Choose the correct answer:

1 Which of these organisms cannot make its own food?

- a) Cactus. b) Bean plant. **c) Bee.** d) Green algae.

2 Which ion increases in concentration when an acidic oxide dissolves in water?

- a) H⁺** b) OH⁻ c) Cl⁻ d) Na⁺

(B) 1 What happens when...?

(1) A litmus strip is dipped in acetic acid.

..... **The blue litmus strip changes into red**.....

(2) A sever muscular dystrophy occurs in some newborns.

..... **Wasting and weakness of the muscles and may lead to death**.....

2 When do the following values equal zero?

(1) Kinetic energy of an object (**..... When the object is at rest**)

(2) Displacement of an object (**..... When the object returns to its starting point....**)

4 (A) Write the scientific term:

1 The set of points through which an object passes during its motion. (**.....Path of motion....**)

2 A non-metal element that is a good conductor of electricity. (**...Graphite....**)

(B) 1 Give a reason for:

(1) Milk of magnesia is used as a temporary treatment for stomach acidity.

...As it contains magnesium hydroxide, which neutralizes excess stomach acid.....

(2) The work done by a truck is greater than the work done by a car.

.....Because the mass of the truck is greater than the mass of the car.....

2 What is the importance of ...?

(1) Demolition ball (**..... To break down buildings**).

(2) pH value (**.....To determine the acidity or basicity of solutions....**)