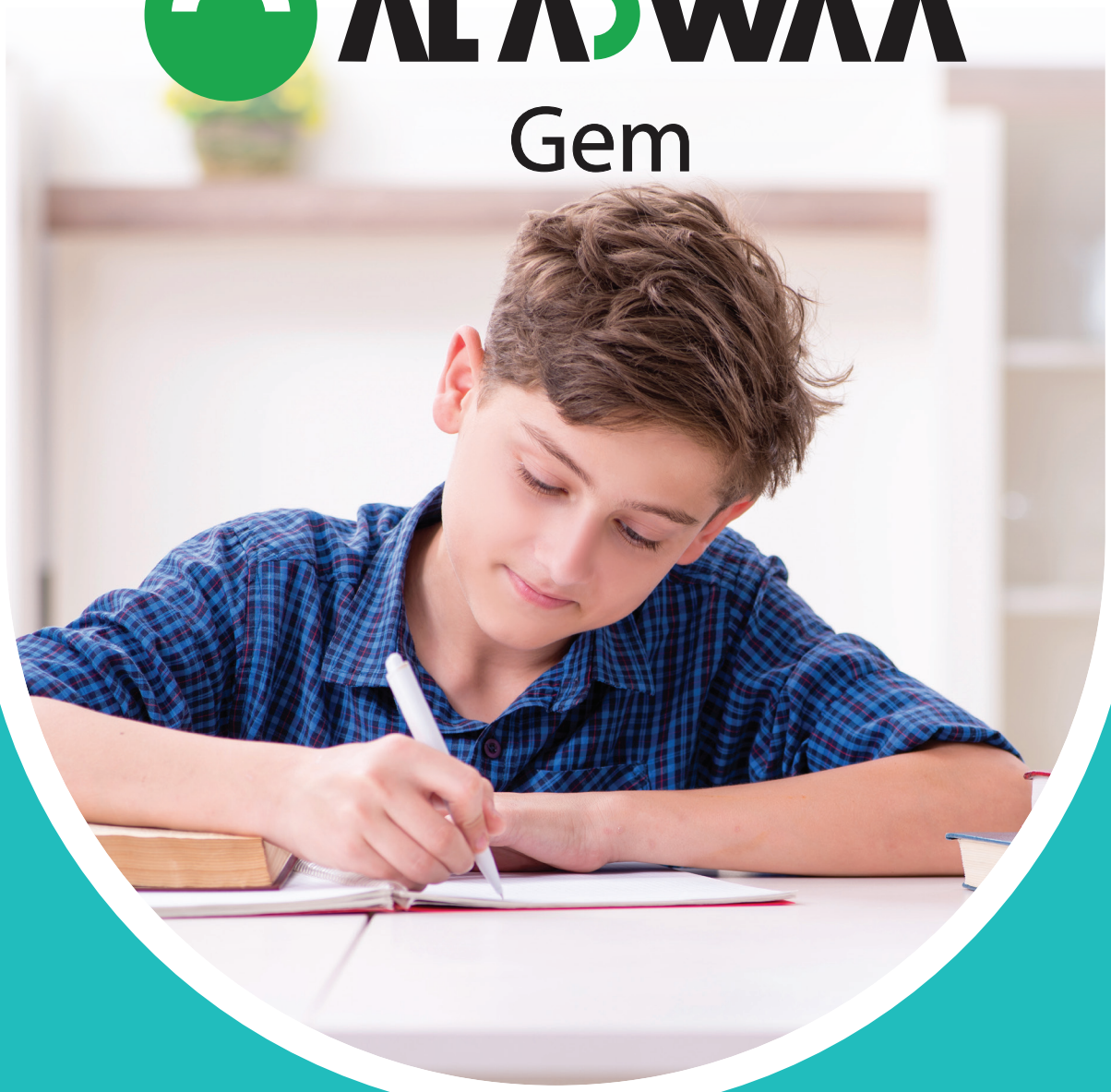
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Science

الصف 1 الإعدادى

النماذج النهائية للفصل الدراسى الأول

العام الدراسى

2024 - 2025

Model (1)

24 Marks

1 A) Choose the correct answer:

1. The nucleus of an oxygen atom ($_{8}O$) contains ..... protons.

   a) 2 b) 8 c) 16 d) 24

2. Which of the following is considered a field force?

   a) Friction. b) Collision. c) Magnetism. d) Elasticity.

B) First: What happens when ...?

1. The Moon is found completely inside the Earth's shadow.

   - .....

2. Keeping yogurt out of the refrigerator.

   - .....

Second: Compare between the following:

1. Mammals and fish (with respect to their respiratory organs)

Mammals	Fish
.....	.....

2. Iron and copper (with respect to their chemical symbols and their ability to be attracted to the magnet)

Points of comparison	Iron	Copper
Chemical symbols	Fe	Cu
The ability to be attracted to the magnet	Magnetic material	Non-magnetic material

2 A) Write the scientific term:

1. Electrostatic attraction between a positive ion and a negative ion. (.....)
2. The simplest pure form of matter that cannot be separated into components by physical or chemical methods. (.....)

B) Give a reason:

1. Fuel transport vehicles must be in contact with the ground using metal chains.

   - .....

2. The nodular bacteria have great importance for leguminous plants.

   - .....

3. The length of the shadow at noon is the shortest.

   - .....

4 The atom is electrically neutral.

- .....

3 A) Put (✓) or (X):

1 Elements in the same group have similar chemical properties. (✓)

2 The mass of a body on Earth = weight × gravitational field strength. (X)

B) Mention the importance of each of the following:

1 Hofmann Voltmeter:

- .....

2 Penicillium notatum fungus.

- .....

3 Helium gas:

- .....

4 Stem cells in humans:

- .....

4 A) Complete the following sentences:

1 The group of ..... planets are described as rocky planets such as Earth.

2 The valency of alkaline earth metals is ....., while the valency of halogens is .....

B) Answer the following questions:

1 An element (M) whose nucleus contains 12 neutral particles and has 23 nucleons:

(A) Calculate the number of protons and neutrons.

(B) Write the symbol of the element, including Z and A.

Solution:

.....

.....

.....

2 Classify the following living organisms according to what you have studied, then mention the similarities between them:

1- Bacteria 2- Euglena

	Bacteria	Euglena
Classification	Prokaryotes - Unicellular organisms	Eukaryote - Unicellular organism
Similarities	Both of them are unicellular organisms.	

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Model (2)

24 Marks

1 A) Write the scientific term:

1. The electric charges accumulate on the surfaces of objects when they lose or gain electrons.

(.....)

2. The phase of the Moon when it appears as a completely dark disk at the end of the lunar month.

(.....)

B) Give a reason:

1. The weight of an object changes from one planet to another.

- .....

2. Nitrogen is used to fill car tires instead of air.

- .....

3. Classifying living organisms is important.

- .....

4. An atom becomes a positive ion when it loses one or more electrons.

- .....

2 A) Correct the underlined words:

1. The sand and salt solution mixture can be separated by <u>condensation</u> followed by evaporation.

(.....)

2. The mathematical relation $2n^2$ determines the number of <u>neutrons</u> in the main energy levels.

(.....)

B) First: Compare between each of the following:

1. Mercury and Earth (With respect to the atmosphere and volcanic activity).

Points of comparison	Mercury	Earth
Atmosphere	Very thin, composed of hydrogen and helium gases	Composed mainly of nitrogen and oxygen gases
Volcanic activity	No active volcanoes	Many active volcanoes

Second: Mention one use for each of the following:

1. Aluminum-titanium alloy:

- .....

2. Electroscope:

- .....

3 A) Cross out the odd word:

1. Arteries – Veins – Heart – Phloem Rissues (.....)
2. Number of Protons – Number of Electrons – Atomic Number – Mass Number (.....)

B) What happens when ...?

1. The angle at which sunlight falls on the different areas of Earth's surface changes.
   - .....
2. A sodium atom ($_{11}$Na) loses an electron from its outermost energy level.
   - .....
3. An ebonite rod is rubbed with wool (With respect to types of charges).
   - .....
4. The human body lacks vitamin D.
   - .....

4 A) Choose the correct answer:

1. Gravity is a type of ..... .
   a) energy b) matter c) force d) speed
2. The difference between the mass number (A) and atomic number (Z) equals the number of ..... .
   a) electrons b) protons c) nucleons d) neutrons

B) Answer the following questions:

First: Answer the following problem:

- A body has a mass of 100 kg on Earth. Calculate the following:

(1) Its mass on the Moon:

- .....

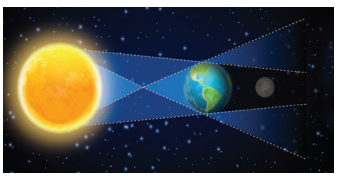
(2) Its weight on Earth, given that the gravitational field strength is 10 N/kg:

- .....

Second: 1- Write the electronic configuration for ($_{19}$K), then determine:
The type of atom, the valency and the type of ion.

	Electronic configuration	Type of atom	Valency	Type of ion
$_{19}$K	2,8,8,1	Metal	Monovalent	Positive ion

2- Look at the opposite figure, then answer:



- What is the name of the region where the Moon is located?
  - .....
- What phenomenon is shown in the diagram?
  - .....

Model (3)

24 Marks

1 A) Complete the following sentences:

1. The oxygen molecule O_2 is an example of ..... molecule, while methane CH_4 is an example of ..... molecule.
2. Yogurt bacteria convert lactose sugar in the milk into ....., which gives yogurt its distinctive taste and texture.

B) Give a reason:

1. The mass number is often greater than the atomic number.

   - .....

2. The difference in the angle at which sunlight falls on different areas of Earth's surface.

   - .....

3. A glass rod and an ebonite rod attract each other when rubbed with silk.

   - .....

4. Bacteria differ from amoebas although both are unicellular organisms.

   - .....

2 A) Put (✓) or (X):

1. The Moon appears as a partial disk during a total lunar eclipse. (×)
2. Elements were arranged in Mendeleev's table in ascending order according to their atomic number. (×)

B) Answer the following questions:

First: Mention the importance of:

1. Guard cells in plants:

   - .....

2. The coulometer:

   - .....

Second: Write the electronic configuration for the following elements, then determine their location in the modern periodic table:

1. $_{10}Ne$
2. $_{20}Ca$

Element	Electronic configuration	No. of period	No. of group
$_{10}Ne$	2,8	Period 2	Group (0)
$_{20}Ca$	2,8,8,2	Period 2	Group 2A

3 A) Cross out the odd word:

1. Iron – Copper – Cobalt – Nickel (.....)
2. Prokaryote – Relatively Small – Multicellular – Unicellular (.....)

B) Answer the following questions:

First: Mention one difference between:

1. Yeast fungus and penicillium notatum fungi (with respect to the use):

Using of yeast fungus	Using of lactic acid bacteria
It is used in making bread and ethyl alcohol production.	They convert lactose, "Milk sugar" into lactic acid, which gives yogurt its sour taste and thickness.

2. Mars and Jupiter (with respect to atmospheric composition):

Mars	Jupiter
Its atmosphere is composed mainly of carbon dioxide gas.	It is a gaseous planet, its atmosphere composed of hydrogen and helium gases.

Second: An element with a mass number of 40 and 20 neutrons in its nucleus. Determine:

1. The number of occupied energy levels in the atom. (.....)
2. The number of electrons in the outermost energy level. (.....)

4 A) Write the scientific term:

1. Compounds with high melting points that dissolve in water. (.....)
2. The arrangement of materials according to their ease of losing electrons when rubbed together. (.....)

B) What happens when ...?

1. A glass rod is brought close to an ebonite rod after rubbing both with cotton cloth.
   - .....
2. A freely moving magnet is suspended from its center.
   - .....
3. A part of the moon enters Earth's shadow.
   - .....
4. The atomic number increases within the same group (regarding atomic radius).
   - .....

Model (4)

24 Marks

1 A) Choose the correct answer:

1. Paramecieum and bacteria are similar in that both are ..... .

   a) multicellular b) unicellular c) prokaryotes d) eukaryotes

2. An element located in the third period and group 5A has an atomic number of ..... .

   a) 5 b) 8 c) 13 d) 15

B) Compare between each of the following:

1. S-block and P-block elements (with respect to their location in the periodic table and the number of groups):

Points of comparison	S block elements	P block elements
Location	Left side of the table	Right side of the table
Number of groups	2 groups	6 groups

2. Photosynthesis process and cellular respiration (with respect to their products and the organelle responsible for each):

Points of comparison	Photosynthesis process	Cellular respiration
Products	Oxygen gas Glucose sugar	Carbon dioxide gas Water Energy
Responsible organelles	Green plastids	Mitochondria

2 A) Write the scientific term:

1. An imaginary line passing through Earth from the North Pole to the South Pole through Earth's center. (.....)
2. The unit that is used to measure electric charge. (.....)

B) What happens when ...?

1. Contaminated food is ingested with the Entamoeba histolytica microbe.

   - .....

2. The apparent height of the Sun increases in the sky during the day.

   - .....

3. The nucleus of an atom doesn't contain neutrons.

   - .....

4. A non-metal atom gains one or more electrons during a chemical reaction.

   - .....

3 A) Correct the underlined words:

1. All inner planets have a thick crust except Mars. (.....)
2. The molecule of Egyptian blue dye is composed of three elements. (.....)

B) Mention one importance for each of the following:

1. Tide: .....
2. Penicillium roqueforti fungus:

   - .....
3. Aerogel and its exceptional insulation ability:

   - .....
4. Stainless steel: .....

4 A) Mention the number for each of the following:

1. The number of gaseous planets in the solar system. (.....)
2. The number of electrons in an ion of an element with an atomic number of 13. (.....)

B) Answer the following questions:

1. Write two properties of electric field lines.

   1- .....

   2- .....
2. Classify the following materials into two groups: (Copper – Cobalt – Silver – Iron)

Magnetic materials	Non-magnetic materials
Iron - Cobalt	Copper - Silver

3. Compare between plant and animal cells (with respect to the presence of centrioles and chloroplasts):

Points of comparison	Plant cell	Animal cell
Centrioles	Absent	Present
Chloroplasts	Present	Absent

4. In light of your understanding of electric field lines, indicate the type of positive charge or negative charge that is placed in the red and blue circles.



   - .....

Model (5)

24 Marks

1 A) Choose the correct answer:

1. ..... is an example of a heterogeneous mixture.
   a) Milk b) Oil in water c) Mineral water d) Atmospheric air
2. All the following are from the components of an animal cell except ..... .
   a) centriole b) plasma membrane c) cell wall d) nucleus

B) What happens when ...?

1. Two objects with different electric charges are brought close to each other.
   - .....
2. Methane gas is found in the atmosphere of Uranus planet.
   - .....
3. The atomic number equals the mass number in a hydrogen atom.
   - .....
4. The roots of leguminous plants are left in the soil after harvest.
   - .....

2 A) Put (✓) or (X):

1. Helium is a flammable gas used to fill balloons. (×)
2. A person's weight on the Moon is greater than their weight on Earth. (×)

B) Give a reason:

1. The compass needle takes a fixed direction in the same place.
   - .....
2. The phenomenon of the Moon's phases occurs.
   - .....
3. Green plants and algae perform photosynthesis.
   - .....
4. Ionic bonds only produce compound molecules.
   - .....

3 A) Complete the following sentences:

1. ..... and ..... are considered a prokaryotic beneficial microbe.
2. The symbol for the element carbon is ....., and the symbol for sodium is .....

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B) Define the following:

1. Ion:

- .....

2. Apparent motion of the Sun:

- .....

3. Law of attraction and repulsion:

- .....

4. Valence electrons:

- .....

4 A) State the number for each of the following:

1. The total number of elements in the modern periodic table: (.....)
2. The number of particles in the nucleus of a hydrogen atom: (.....)

B) Answer the following questions:

1. Draw the electric field lines of a positive charge.

- .....

2. How can microbes enter the human body?

- .....

3. What is meant by the atomic number?

- .....

4. Calculate the weight of an object with a mass of 6 kg, given that the Earth's gravitational field strength is 10 N/kg.

- .....