



SCIENCE

نماذج امتحانات

الصف 3 الإعدادي

الفصل الدراسي الثاني ٢٠٢١

Answer the following questions :

Question 1 5 marks

A Complete the following sentences :

(2 marks)

- When four cells are connected in a parallel way and the e.m.f for each one 1.5 volt.
The e.m.f for the battery = volt.
- They are parts of DNA present on the chromosomes and control the hereditary traits of the individual is known as
- Radioactive elements are elements whose atoms nuclei contain a number of more than the number that is required for its stability.
- Mendel removed the stamens of the pea plant flowers to prevent the occurrence of

B Correct the underlined words :

(2 marks)

- By using 3gm of catalyst in an experiment. Its mass after finishing the reaction is less than 3 gm.
- To stimulate body's organs to respond to emergencies adrenal gland secretes insulin hormone.
- Rate of reaction of the dilute hydrochloric acid with iron filling is slower than that with the same mass of a piece of iron.
- Thyroid gland secretes a hormone that organizes the growth and development of sexual organs in the human body.

C What happens when ... ? :

(1 mark)

Two charged conductors connected with each other one of them has higher electric potential from the other.

Question 2 5 marks

A Write the scientific term for each of the following :

(2 marks)

- Reaction of an acids and an alkali to give salt and water.
- The measuring unit of absorbed nuclear radiation.
- A chemical process in which an atom of the element gains one electron or more.
- It is the state of an electric conductor that shows the transfer of the electricity from or to it, when it is connected to another conductor.

B Choose the correct answer :

(2 marks)

- All the following affect on speed of chemical reactions except
 a. reactants concentration. b. nature of reactants.
 c. temperature of the reaction. d. nature of products.
- Genes controls in hereditary traits for living organisms by producing
 a. hormones. b. enzymes. c. fats. d. vitamins.

3. In the following reaction : $\text{H}_2 + \text{CuO} \xrightarrow{\Delta} \text{Cu} + \text{H}_2\text{O}$ acts as reducing factor.

- a. H_2O b. CuO c. H_2 d. Cu

4. Mendel covered of the pistils of a pea plant, to avoid cross pollination.

- a. sepals b. stigmas c. stamens d. petals

C Explain :

(1 mark)

The effects of exposure to small doses of nuclear radiation for a long period of time.

Question 3 5 marks

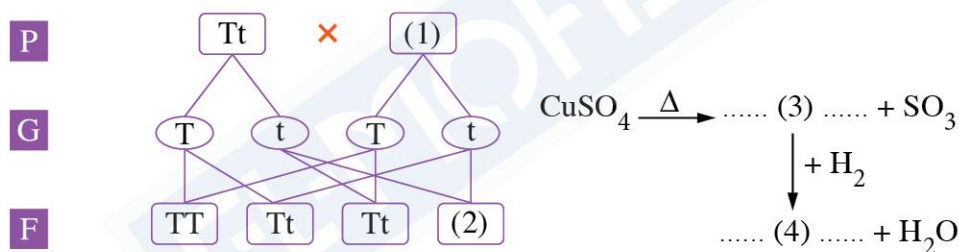
A Put (✓) or (X) :

(2 marks)

1. The first to be affected by nuclear radiation in the human body is bone marrow. ()
2. The glucagon hormone is secreted from the adrenal gland. ()
3. Potential difference = the work \times amount of electricity. ()
4. The decrease in secretion of estrogen hormone causes diabetes disease. ()

B Replace the digits (1), (2), (3) and (4) by suitable letters :

(2 marks)



C How can detect the evolved gas from reaction between Na_2CO_3 and dil. HCl .

(1 mark)

Question 4 5 marks

A Mention the symbol that represents each of the following :

(2 marks)

1. The most active metal in the chemical activity series.
2. The least active metal in the chemical activity series.
3. The ammeter in the electric circuit.
4. The voltmeter in the electric circuit.

B Cross out the odd word :

(2 marks)

1. Current intensity – Catalyst – Potential difference – Electric resistance.
2. Hair color – Skin color – Swimming – Blood group.
3. Sodium – Uranium – Radium – Cesium.
4. Free ear lobe – Narrow eyes – Curly hair – Rolling a tongue.

C Give reason for :

(1 mark)

Reactions between ionic compounds are fast.

Answer the following questions :

Question 1 5 marks

A Complete the following sentences :

(2 marks)

1. The is used to measure the electromotive force of a battery.
2. The chromosome is chemically consists of a nucleic acid called combined with protein.
3. Electric cells produce electric current.
4. The traits that are transmitted from one generation to another is the

B Correct the underline words :

(2 marks)

1. Dwarfism is a disease caused by decreasing of secretion in the calcitonin hormone at the childhood.
2. On heating copper hydroxide, we obtain copper and hydrogen.
3. The reactions of ionic compounds are slower than those of the covalent compounds.
4. Estrogen promotes the growth of endometrium.

C What happens when ... ? :

(1 mark)

Exposing a man for a large dose of nuclear radiation for a short period of time.

Question 2 5 marks

A Write the scientific term for each of the following :

(2 marks)

1. A substance which changes the rate of the chemical reaction without being changed.
2. The process of spontaneous decaying of atoms of some elements present in nature to reach a more stable condition.
3. The resistance of a conductor that allows the passing of an electric current of 1 ampere through it when the potential difference between its two ends is 1 volt.
4. An arrangement of the metals elements in a descending order according to their chemical activity.

B Mention the color that is :

(2 marks)

1. Formed when heating red mercuric oxide.
2. Formed when adding silver nitrate solution to sodium chloride solution.
3. Considered as dominant color of the seed of the pea plant.
4. Considered as recessive color of the flower of the pea plant.

C A battery consists of three electric cells the e.m.f of cell each cell is 2 volts.

Calculate the electromotive force of the battery when the cells are connected :

1. In series.
2. In parallel (explaining your answer to drawing in each case).

(1 mark)

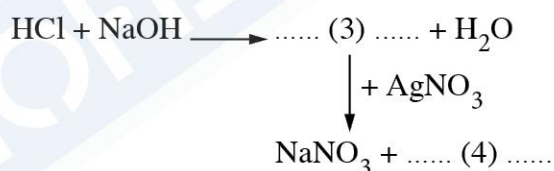
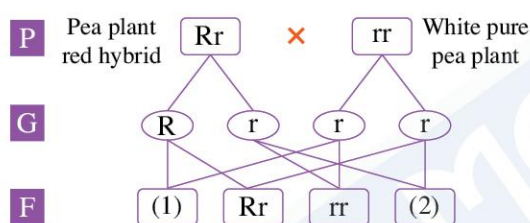
Question 3 5 marks**A Choose the correct answer :**

(2 marks)

1. Calcitonin hormone controls level in the blood.
a. potassium b. oxygen c. calcium d. iron
2. In dynamo, energy is converted into electric energy.
a. magnetic b. kinetic c. chemical d. light
3. The hormone that promotes the growth of endometrium is the hormone.
a. testosterone b. progesterone c. estrogen d. growth
4. From the properties of direct current is
a. change intensity. b. change direction.
c. constant intensity and direction. d. change intensity and direction.

B Replace the digits (1), (2), (3) and (4) by suitable letters.

(2 marks)

**C Compare between :**

(1 mark)

Ionic compound and covalent compound (as in the speed of reaction).

Question 4 5 marks**A Put (✓) or (X) :**

(2 marks)

1. In chemical activity series, metallic elements are arranged in a descending order according to their atomic weights. ()
2. The measuring unit of absorbed nuclear radiation is the ohm. ()
3. Oxidation is a chemical process in which an atom loses one proton or more. ()
4. Zirconium is considered as radioactive element. ()

B Cross out the odd word :

(2 marks)

1. Ammeter – Voltmeter – Ohmmeter – Catalytic converter.
2. Rolling the tongue – Smooth hair – Narrow eyes – Facial freckles.
3. Physical effects – Magnetic effects – Genetic effects – Cellular effects.
4. Playing football – Playing music – Swimming – Skin color.

C Explain why copper doesn't react with dilute hydrochloric acid.

(1 mark)

Answer the following questions :

Question 1 5 marks

A Mention the name of scientist (s) who :

(2 marks)

1. Deduced the relation between the electric current and the potential difference. (.....)
2. Discovered the means of how the genes control the appearance of genetic traits. (.....)
3. Discovered the radioactivity phenomenon. (.....)
4. Made a model of DNA molecule is composed of two strands coiled around each other. (.....)

B Complete the following statements :

(2 marks)

1. The change in the concentration of reactants and resultants in a unit time is known as
2. When the amount of glucose decrease in the blood, pancreas secretes of hormone.
3. The breaking up of bonds in the molecules of reactants and the formation of new bonds in the molecules of product is called
4. When the amount of iodine decreases in the food, the secretion of the hormone decreases.

C Compare between :

(1 mark)

Natural resources of nuclear radiation pollution and artificial resources of nuclear radiation pollution (as in one example for each).

Question 2 5 marks

A Correct the underlined words :

(2 marks)

1. Oxidation is a chemical process in which an atom gains one electron or more.
2. Ohm is the measuring unit for absorbed nuclear radiation.
3. In positive catalysts reaction, catalyst is used to slow down the chemical reaction.
4. Alternating current is characterized by constant intensity and direction.

B Put (✓) or (X) :

(2 marks)

1. According to Mendel's second law, the Mendel's ratio for each pair of inherited traits equal 1 : 1 ()
2. From the dominant traits in the human being is the free ear lobe. ()
3. The speed of the chemical reaction increases by increasing the concentration of the reactants. ()
4. Copper sulphate decomposes by heat into copper oxide and carbon dioxide gas. ()

C If the work done to transfer quantity of charge of 30 coulomb between two points equal 3330 joule.

Calculate the potential difference.

(1 mark)

Question 3 5 marks

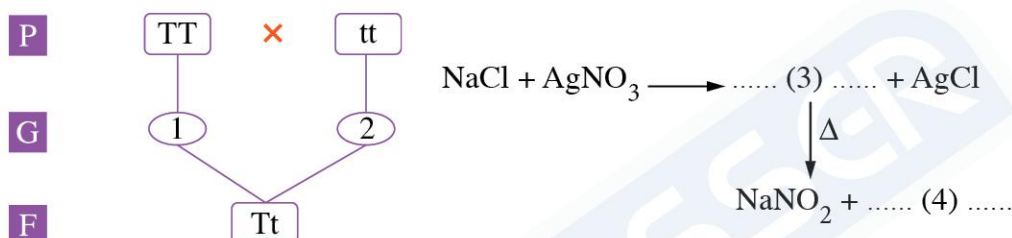
A Cross out the odd word :

(2 marks)

1. Joule – Ampere – Volt/ohm – Coulomb/sec.
2. Dwarfism – Gigantism – Simple goiter – Pancreas.
3. Selenium – Potassium – Polonium – Rubidium.
4. Testosterone – Insulin – Estrogen – Progesterone.

B Replace the digits (1) , (2), (3) and (4) by suitable letters :

(2 marks)



C Give reason for :

(1 mark)

The fridge is used to preserve food.

Question 4 5 marks

A Choose the correct answer :

(2 marks)

1. The sliding rheostats is used in in the electric circuit.
 - a. measuring potential difference
 - b. measuring resistance
 - c. change the value of resistance
 - d. measuring current intensity
2. On connecting 5 electric cells have the same electromotive force on parallel, the e.m.f of each cell is 2.5 volts, so the total e.m.f equals volts.
 - a. 2.5
 - b. 5
 - c. 7.5
 - d. 12.5
3. The reaction between acid and alkali to form salt and water is called reaction.
 - a. oxidation and reduction
 - b. simple substitution
 - c. thermal decomposition
 - d. neutralization
4. The compound decomposes by heat into its simple components in reactions.
 - a. oxidation and reduction
 - b. simple substitution
 - c. thermal decomposition
 - d. neutralization

B Write the scientific term :

(2 marks)

1. The potential difference between the two poles of the battery when the electric circuit is open.
2. The changes that appear on a living organism when exposed to nuclear radiation.

3. The individual who carries two genetic factors one of the dominant trait and the other of the recessive trait.
4. The appearance of a hereditary trait in the individuals of the first generation when two individuals are crossed over, one of them carries a pure trait contrasting the trait carried by the other individual.

C Amr placed a piece of zinc in a dilute hydrochloric acid solution, with the formation of gas bubbles around the piece of zinc :

(1 mark)

1. What is the name of the evolving gas ?
2. What is the type of reaction ?



إجابات نماذج امتحانات

الصف 3 الإعدادي

الفصل الدراسي الثاني ٢٠٢١

Answers of model 1

- 1** a. 1. 1.5 2. genes
 3. neutrons 4. self pollination.
 b. 1. equal to 2. adrenalin
 3. faster 4. pituitary
 c. The electric current will pass from the conductor of high electric potential to that of low electric potential.
- 2** a. 1. Neutralization reaction 2. Sievert
 3. Reduction 4. Electric potential
 b. 1. d 2. b 3. c 4. b
 c. physical effects, genetic effects and cellular effects.
- 3** a. 1. (✓) 2. (✗) 3. (✗) 4. (✗)
 b. 1. Tt 2. tt 3. CuO 4. Cu
 c. CO₂ gas turbids clear limewater.
- 4** a. 1. K 2. Au 3. —(A)— 4. —(V)—
 b. 1. catalyst 2. swimming
 3. sodium 4. narrow eyes
 c. Because it occurs between ions.

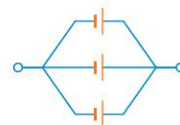
Answers of model 2

- 1** a. 1. Voltmeter 2. DNA 3. direct
 4. hereditary traits.
 b. 1. growth 2. copper oxide and water
 3. faster 4. progesterone
 c. That leads to damage of bone marrow, digestive system and central nervous system.
- 2** a. 1. catalyst 2. Natural radioactivity
 3. Ohm 4. chemical activity series
 b. 1. silver 2. white 3. yellow 4. white

- c. 1. e.m.f of battery = e.m.f of one cell \times n
 = $2 \times 3 = 6$ volt



2. e.m.f of battery = e.m.f of one cell
 = 2 volt



- 3** a. 1. c 2. b 3. b 4. c
 b. 1. Rr 2. rr 3. NaCl 4. AgCl
 c. Ionic compound : Faster reaction –
 Covalent compound : Slower reaction.
- 4** a. 1. (✗) 2. (✗) 3. (✗) 4. (✓)
 b. 1. Catalytic converter
 2. Rolling the tongue
 3. Magnetic effects
 4. Skin color
 c. Because copper is less active than hydrogen in CAS.

Answers of model 3

- 1** a. 1. Ohm 2. Badel and Tatum
 3. Henri Becquerel
 4. Watson and Crick
 b. 1. Speed of chemical reaction.
 2. glucagon 3. chemical reaction
 4. thyroxin
 c. Natural resource : cosmic radiation –
 Artificial resource : nuclear wastes
- 2** a. 1. Reduction 2. Sievert
 3. negative catalyst 4. variable
 b. 1. (✗) 2. (✓) 3. (✓) 4. (✗)
 c. $V = \frac{W}{Q} = \frac{3330}{30} = 111$ volt

3 a. 1. Joule 2. Pancreas 3. Potassium
4. Insulin

b. 1. T 2. t 3. NaNO_3 4. O_2

c. Because the low temperature in the fridge slows down the speed of the chemical reactions done by bacteria which cause the rot of food.

4 a. 1. c 2. a 3. d 4. c

b. 1. e.m.f. 2. physical changes
3. Hybrid individual
4. principle of complete dominance

c. 1. Hydrogen gas
2. Simple substitution reaction



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