

CANDIDATE
NAME
CENTRE
NUMBER

					CANDIDATE NUMBER				

Secondary 1

12/08/24

Science

August 2024

Paper 2

45 minutes

Candidates answer on the Question Paper.

Additional Materials:

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

You may use a soft pencil for any diagrams.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** the questions.

The number of marks is given in brackets [] at the end of each question or part question.

The total of the marks for this paper is **50**.

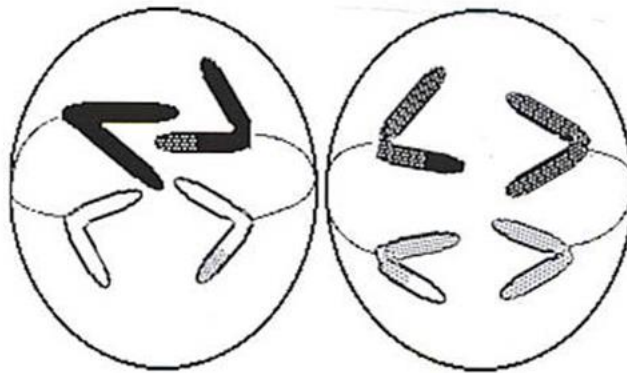
Invigilator's Name:

Invigilator's Sign:

For Teacher's Use	
Question No.	Marks
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
Total	

1. Meiosis involves two divisions of the nucleus and the cytoplasm.

The diagram shows a phase of Meiosis II.



- (a) What phase of Meiosis II does the above diagram shows?

..... [1]

- (b) Use the words and phrases from the box to complete the sentences below.

nuclear membrane	divides	Telophase I
chromosomes	chromatids	two daughter cells

During, a forms around each group of duplicated The cytoplasm through cytokinesis and form. Sister remain together.

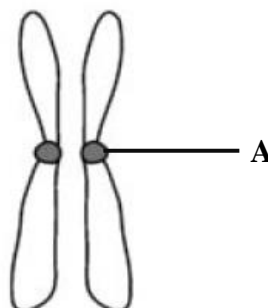
[3]

- (c) What is the female sex cell that forms in an ovary?

..... [1]

[Total: 5]

2. Look at the diagram. It shows a pair of chromosomes.



(a) What is the name of the structure labelled **A**?

..... [1]

(b) What is the function of the structure **A**?

..... [1]

(c) What's the difference between chromosomes from chromatids?

.....
.....
..... [2]

(d) The boxes show the nitrogen bases of DNA.

Draw lines from each **base** to match its bond **pair base**.

Adenine

Guanine

Cytosine

Thymine

[2]

[Total: 6]

3. Plants and animals contain cells.

(a) State if the structure is present in a plant cell or an animal cell or both.

Write **plant cell**, **animal cell**, or **both**.

A. Nucleus

B. Cell wall

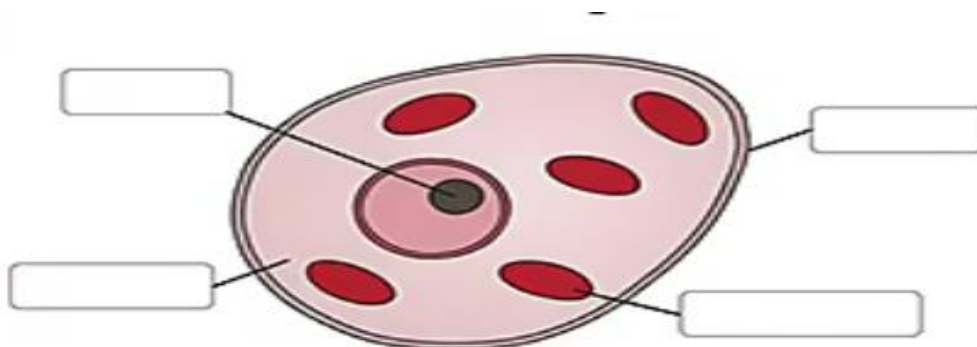
C. Cytoplasm

D. Cell membrane

E. Smaller vacuoles

[5]

(b) This is a diagram of an **animal cell**.



[4]

[Total: 9]

4. Cell differentiation is a process by which cells become different types of cells.
(a) Match this cell differentiation into its correct organ system using a straight line.

Types of cell**organ system**

1. egg cell

A. nervous system

2. brain cell

B. reproductive system

3. bone cell

C. skeletal system

[3]

- (a) Distinguish between an organ and an organ system.

.....
 [1]

- (b) Which level of organization completes a series of tasks?

Organ or organ systems? Why?

.....
 [2]

[Total: 6]

5. (a) Write any two differences between a plant cell and an animal cell. [2]

Plant Cell:

Animal Cell:

6. The Cell Cycle.

Matching: match the term to the description.

Write your answer in the line provided before each number.

You can use one option more than once.

A. Prophase**B. Interphase****C. Telophase/Cytokinesis****D. Anaphase****E. Metaphase**

- 1. The sister chromatids are moving apart.
 2. The cytoplasm of the cell is being divided.
 3. The chromosomes are located at the equator of the cell.
 4. It is the phase where chromatin condenses to form chromosomes.
 5. It is the longest phase of the cell cycle.
 6. Two cells are formed.
 7. Cell grows and DNA is replicated.
 8. It is the first phase of the second stage of the cell cycle.
 9. Its substage includes G₁, S and G₂.
 10. It follows right after mitosis.

[5]

7. All organisms require energy to survive.

(a) What do you call the process that converts the food energy into ATP?

.....

[1]

(b) Complete the equation below. Choose the answers below.

..... + 6O₂ 6CO₂ +..... +

ATP	C ₆ H ₁₂ O ₆	6H ₂ O	6HO ₂	C ₁₂ H ₆ O ₆
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[3]

[Total: 4]

8. Circle the best and accurate letter of your choice.

1. Mr Vincent works as a pathologist. He studies stool, urine and blood samples to look out for possible infections caused by bacteria and viruses in sick patients.

Which branch of science deals mainly with the study of pathology?

A. Physics

B. Chemistry

C. Biology

D. Astronomy

2. Refer to Q1. Which equipment or instrument does Mr Vincent make use of to observe the bacteria and viruses in samples from patients?
- A. telescope
 - B. microscope
 - C. thermometer
 - D. magnifying glass
3. Refer to Q2. Why does Mr Vincent need to use that equipment?
- A. To visualize objects beyond Earth.
 - B. To view microscopic organisms that eyes can't see.
 - C. To measure the hotness or coldness of an object.
 - D. To view objects easily.

[2]

[Total: 2]

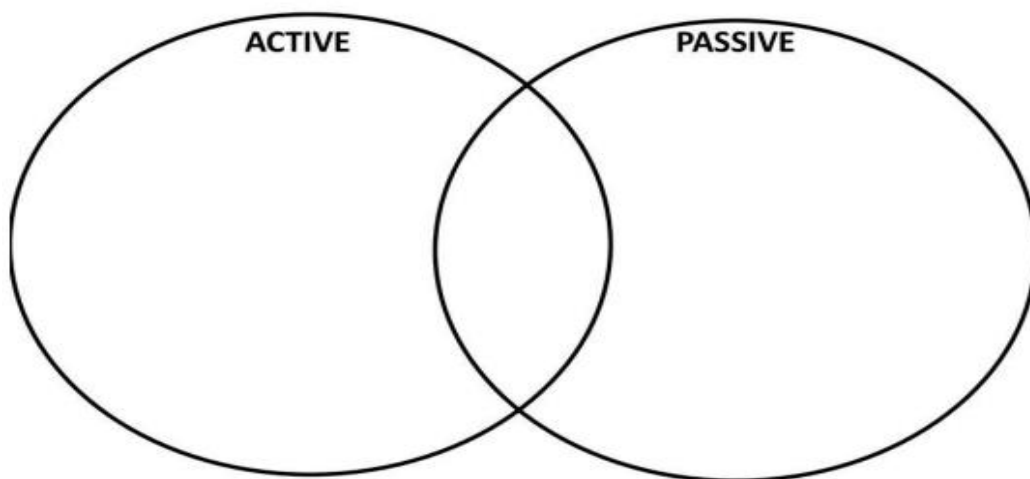
9. **Compare and Contrast.**

Moving Cellular Materials.

Provide three (a total of six) information about its differences and two (2) similarities.

You may define, describe the flow of its particles and etc.

Active vs. Passive Transport



[5]

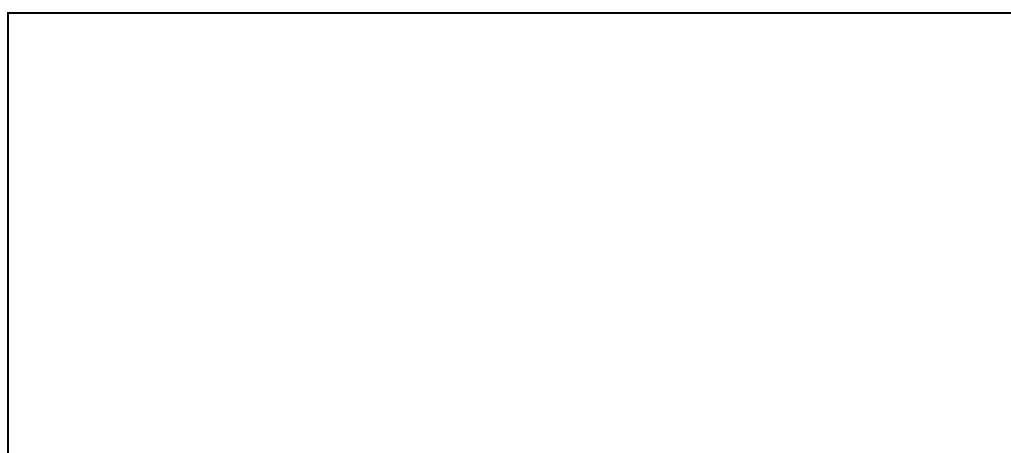
[Total: 5]

10. Imagine a scenario where a freshwater pond contains both unicellular and multicellular organisms. Describe how these organisms might interact and depend on each other within the pond's ecosystem.

.....

 [2]

- (a) Visualize. Create a habitat where you can find both organisms you mentioned above.



[2]

[Total: 4]

11. The levels of taxonomy, which classify and organize living organisms.

Fill in the table below from the most general to the most specific.

Kingdom
Order

[2]

[Total: 2]