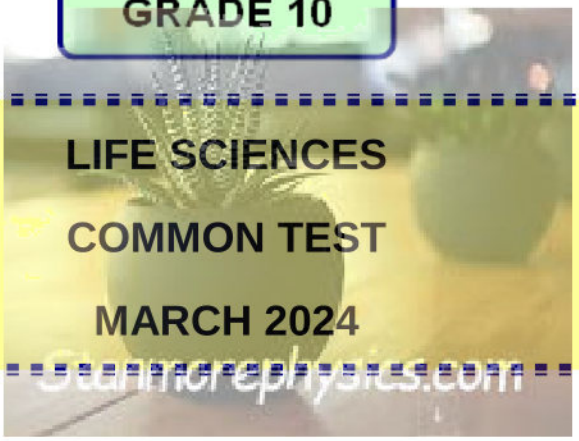
KWAZULU-NATAL PROVINCE

EDUCATION

REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 10



LIFE SCIENCES

COMMON TEST

MARCH 2024

MARKS: 50

TIME: 1 Hour

This question paper consists of 9 pages.

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INSTRUCTIONS AND INFORMATION

Read the following instructions carefully before answering the questions.

1. Answer ALL the questions.
2. Write ALL the answers in the ANSWER BOOK.
3. Start the answers to each question at the top of a NEW page.
4. Number the answers correctly according to the numbering system used in this question paper.
5. Present your answers according to the instructions of each question.
6. Do ALL drawings in pencil and label them in blue or black ink.
7. Draw diagrams, tables or flow charts only when asked to do so.
8. The diagrams in this question paper are NOT necessarily drawn to scale.
9. Do NOT use graph paper.
10. You may use a non-programmable calculator, protractor and a compass.
11. Write neatly and legibly.

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SECTION A

QUESTION 1

1.1 Various options are provided as possible answers to the following questions. Choose the correct answer and write only the letter (A to D) next to the question number (1.1.1 to 1.1.3) in your ANSWER BOOK, for example 1.1.3 D.

1.1.1 The basic unit of life is a…

A zygote
B cell
C protoplasm
D nucleus

1.1.2 Which one of the following is the CORRECT regarding the deficiency disease of vitamin C?

A Night blindness
B Loss of appetite
C Scurvy
D Immune disorders

1.1.3 The diagram below shows an enzyme activity

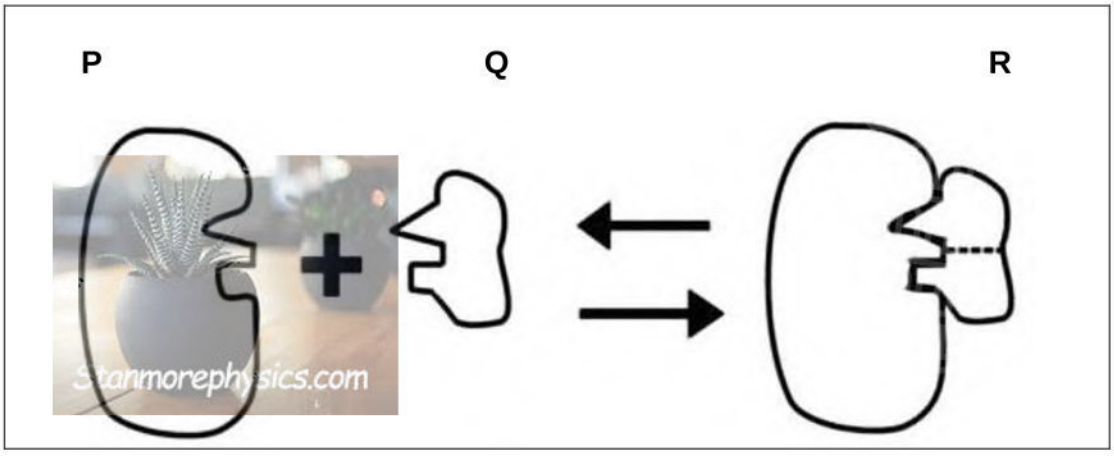


Diagram **R** above represent…

A an enzyme
B enzyme-substrate complex
C product
D substrate (3 x 2) **(6)**

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1.2 Give the correct **biological term** for each of the following descriptions. Write only the term next to the question number (1.2.1 to 1.2.5) in your ANSWER BOOK.

1.2.1 The part of microscope that is used to bring specimen sharply into focus

1.2.2 An organelle that stores digestive enzymes

1.2.3 Carbohydrates made up of only two sugar units

1.2.4 Monomers of proteins

1.2.5 Inorganic compound required for thyroxin production (5 x 1) **(5)**

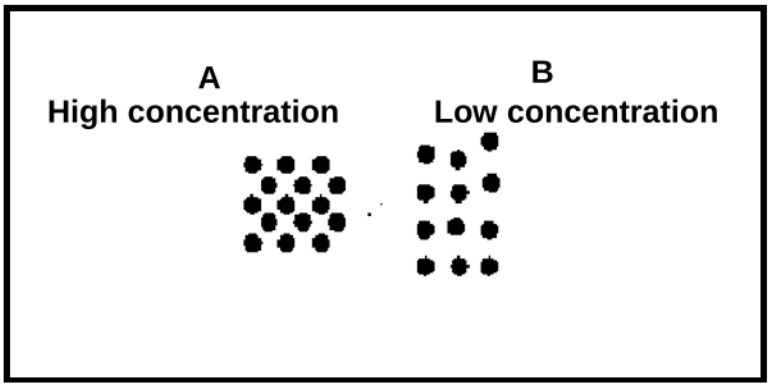
1.3 Indicate whether each of the statements in COLUMN I applies to **A ONLY**, **B ONLY**, **BOTH A AND B or NONE** of the items in COLUMN II. Write **A only**, **B only**, **both A and B,** or **none** next to the question number (1.3.1 to 1.3.2) in the ANSWER BOOK.

	COLUMN I	**COLUMN II**
1.3.1	Forms spindle fibres in an animal cell during mitosis	A: Centrosome B: Centromere
1.3.2	Two or more elements combined	A: Atom B: Compound

(2 x 2) **(4)**

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1.4 The diagram below shows a certain process taking place in plants and animal cells.



1.4.1 Identify the above process. (1)

1.4.2 State whether the process mentioned in QUESTION 1.4.1 is an active or a passive process? (1)

1.4.3 State whether the particles are likely to move from diagram **A** to **B** or diagram **B** to **A**? (1)

1.4.4 Give a reason for your answer in QUESTION 1.4.3. (2)

(5)

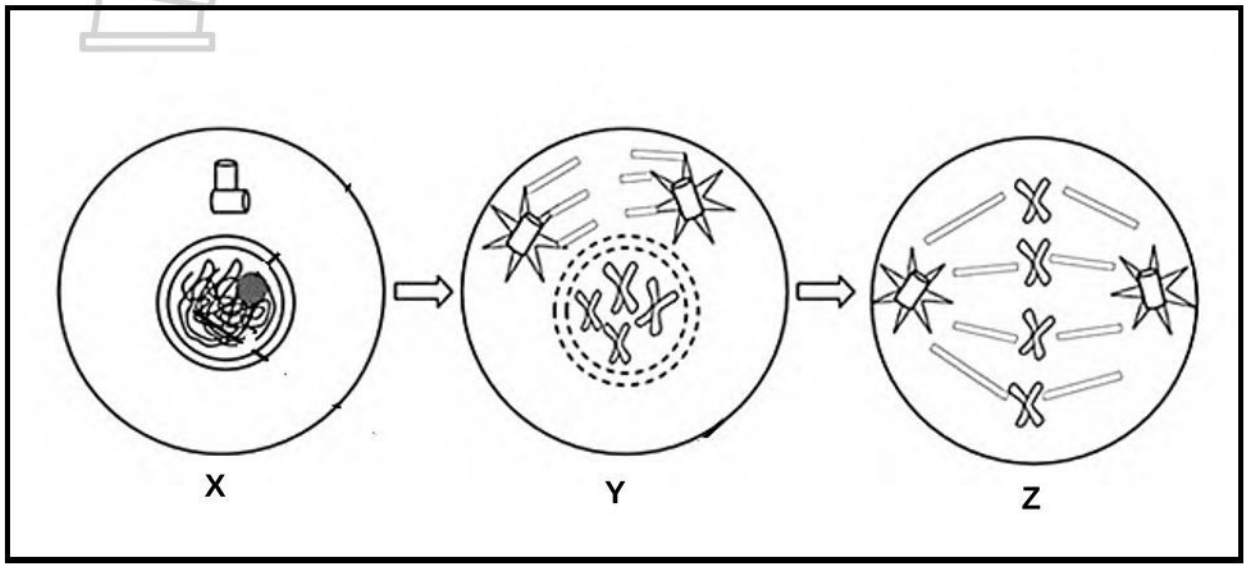
[20]

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SECTION B

QUESTION 2

2.1 The diagrams below show some of the phases of mitosis.



2.1.1 Identify phase shown in diagram **Z.** (1)

2.1.2 Give ONE visible reason for your answer in QUESTION 2.1.1. (1)

2.1.3 Name the process that takes place in the phase shown in diagram **X.** (1)

2.1.4 Explain the importance of the process named in QUESTION 2.1.4. (2)

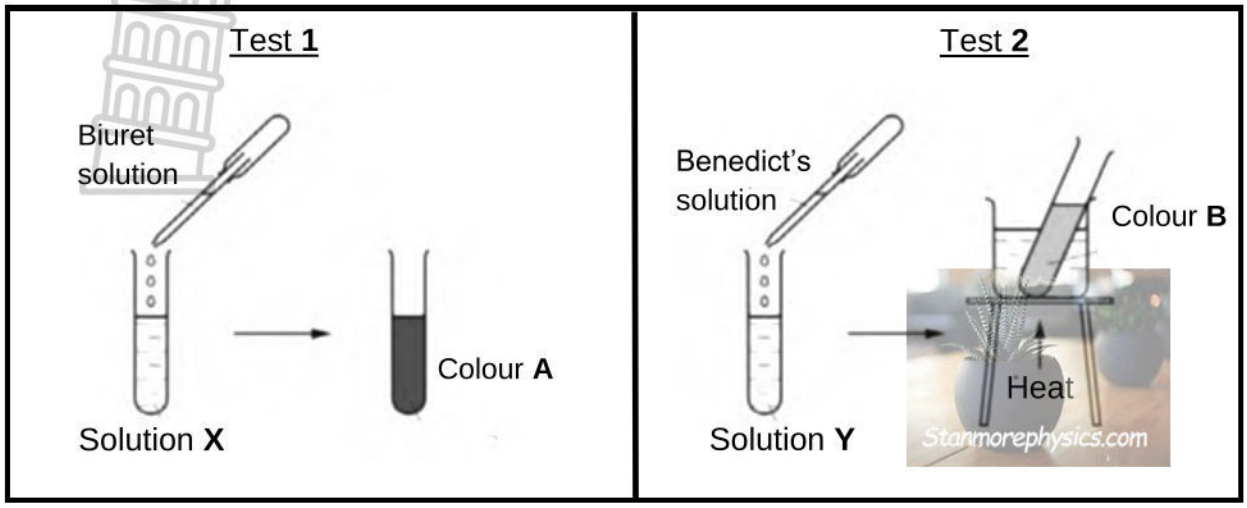
2.1.5 Describe the events that takes place in phase shown in diagram **Y.** (2)

2.1.6 How many chromosomes will be present in each cell of telophase? (1)

(8)

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2.2 A group of Grade 10 learners conducted an experiment to test for the presence of certain nutrients on different food. The apparatus was set up as follows.



2.2.1 Name the nutrient tested for in:

(a) Test **1** (1)

(b) Test **2** (1)

2.2.2 State the colour **B** for positive results in the above investigation? (1)

2.2.3 List any TWO steps that were followed in the planning of the experiment above. (2)

2.2.4 State TWO ways in which reliability of the experiment could be improved. (2)

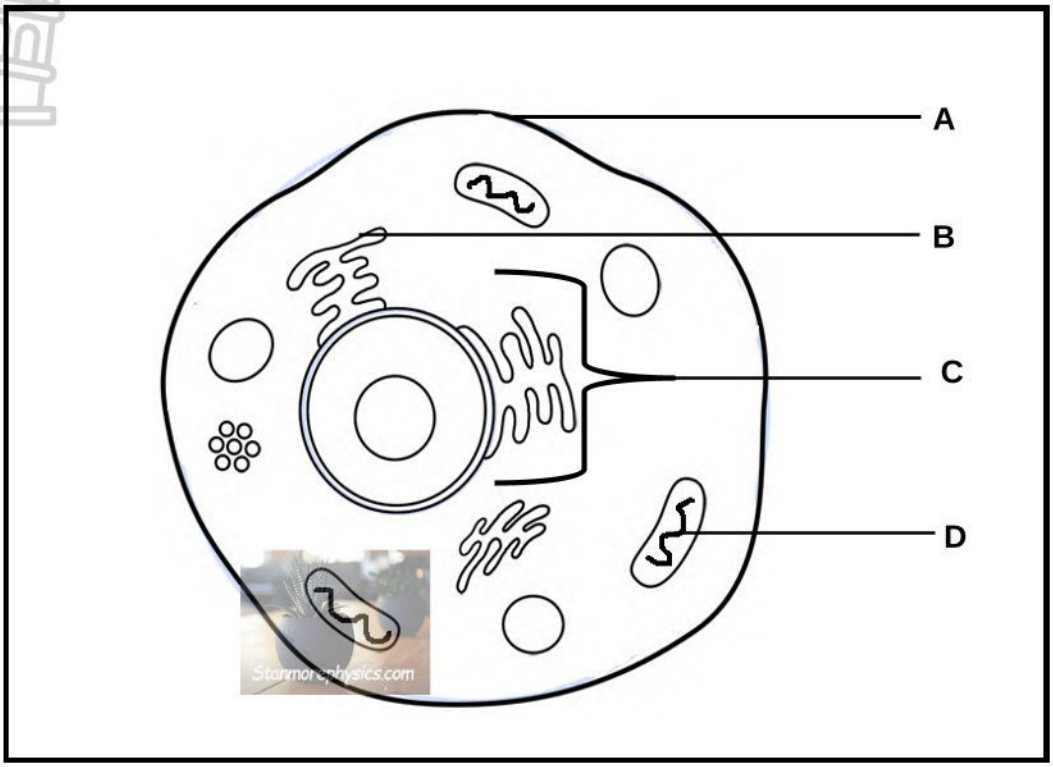
(7)

[15]

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QUEATION 3

3.1 The diagram below shows an animal cell



3.1.1 Give the LETTER and NAME of the part that controls substances coming into and out of the cell. (2)

3.1.2 State ONE function of part **B.** (1)

3.1.3 Explain the role of part **D** to the cell. (2)

3.1.4 Explain the importance of part **C** in paternity testing of the child (2)

(7)

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3.2 Onions cells were investigated under different magnification to determine the most effective magnification. The bigger the magnification size the clearer the image.

The table below shows the results:

Specimen	Ocular lens	Objective lenses	Total magnification(x)
A	10	10	100
B	10	**(P)**	40
C	10	40	**(Q)**

3.2.1 Write down the value of :

(a) **P** (1)

(b) **Q** (1)

3.2.2 Draw a bar graph to show specimen **A** and **B** and **total magnification.** (6)

(8)

[30]

GRAND TOTAL: 50

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