



Subject: Grade 10 Life Sciences
Topic: Life Sciences: Term 2 - Exam 1
Total: 159 Marks

Name: _____

Date: _____

Question 1: Text Input

3 marks

Give the scientific name for the following:

The overuse of fertilisers that are washed away into rivers and dams causes the algae to grow resulting in the death of water plants and finally fish.

Question 2: Multiple Choice

4 marks

Which of the following is NOT a main function of leaves?

- | | |
|----------|------------------|
| A | Photosynthesis |
| B | Gaseous exchange |
| C | Transport |
| D | Growth |

Question 3: Text Input

3 marks

Name the structure that is found in the centre of the stem of a plant?

Question 4: Multiple Choice

4 marks

The phase of mitosis where the chromosomes are lined up on the equator.

- | | |
|----------|-----------|
| A | Prophase |
| B | Metaphase |
| C | Anaphase |
| D | Telophase |



Question 5: True/False

2 marks

Macroelements are needed in large quantities.

TRUE**FALSE****Question 6: Please Fill In The Blanks**

8 marks

Complete the following below regarding the deficiency diseases in humans for various minerals:

Calcium deficiency causes - (1) .

Sodium deficiency causes - (2) .

Iron deficiency causes - (3) .

Iodine deficiency causes - (4) .

Possible Answers: Muscle cramps | Rickets | Arthritis | Anaemia | Cancer | Pneumonia | Goitre

1	
3	

2	
4	

Question 7: Text Input

3 marks

Which mesophyll cells contain the most chloroplasts?

Give ONE word.

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Question 8: Please Fill In The Blanks

8 marks

Mitosis has a few important functions to play in cells:

- New cells ensure that the organism (1) .
- New cells ensure that dead cells are (2) and damaged cells are (3) .
- It results in (4) of simple organisms.

Possible Answers: reproduction | replaced | reduced | grows | repaired | grouping

1	
3	

2	
4	

Question 9: Text Input

3 marks

Give ONE word for the following:

The division of the cytoplasm, organelles and cell membrane.

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Question 10: True/False

2 marks

In animal cells a cell plate forms during cytokinesis to create two daughter cells.

TRUE	FALSE
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Question 11: Text Input

3 marks

Give ONE word for the cancer treatment that uses chemical agents.

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This image refers to question: 12



Question 12: Multiple Choice

4 marks

What is the phenomenon seen in the diagram called?

- | | |
|----------|---------------|
| A | Wilting |
| B | Guttation |
| C | Transpiration |
| D | Translocation |

Question 13: Multiple Choice

4 marks

If a cell with 24 chromosomes undergoes mitosis, how many chromosomes will each of the daughter cells have after telophase?

- | | |
|----------|----|
| A | 48 |
| B | 24 |
| C | 12 |
| D | 6 |

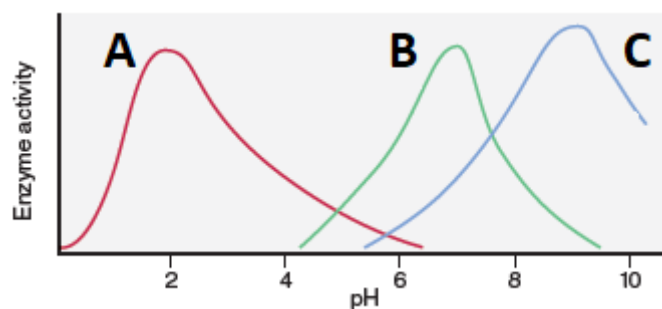
Question 14: True/False

2 marks

Diffusion is the movement of water molecules from a high concentration to a low concentration.

TRUE**FALSE**

This image refers to question: 15

**Question 15: Multiple Choice**

4 marks

Which enzyme, if any, would represent an enzyme found in the stomach?

- | | |
|----------|------|
| A | A |
| B | B |
| C | C |
| D | None |

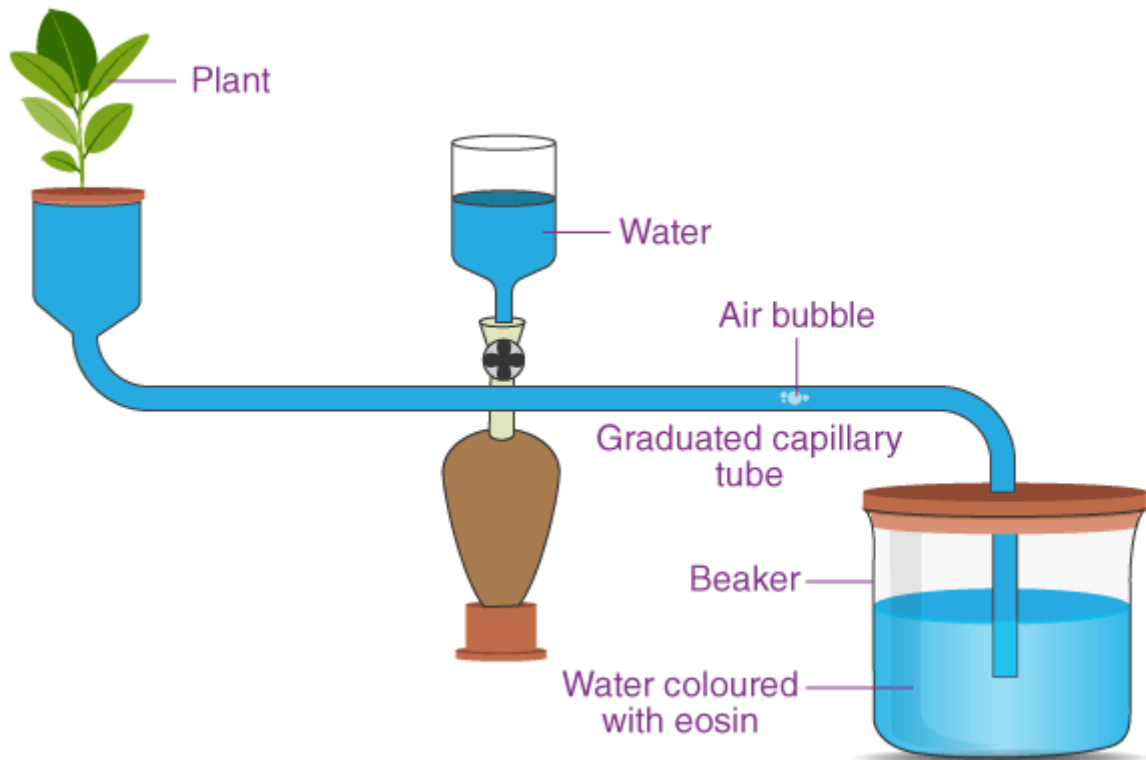
Question 16: Multiple Choice

4 marks

Cancer cells that have spread to other parts of the body are called ...

- | | |
|----------|------------|
| A | Metastasis |
| B | Malignant |
| C | Benign |
| D | Carcinogen |

This image refers to question: 17



Question 17: True/False

2 marks

The instrument used to measure the rate of translocation is called a potometer.

TRUE

FALSE

Question 18: Please Fill In The Blanks

8 marks

Complete the following regarding the solvent function of water:

(1) in the soil dissolve in water so that the (2) of the plant can absorb them. Oxygen and (3) must be dissolved in water on a moist respiratory surface before they can enter or leave animal cells. Metabolic waste products, like (4) , also dissolve in water.

Possible Answers: carbon oxide | nitrogen | leaves | stems | roots | mineral salts | enzymes | urea

1	
3	

2	
4	

Question 19: True/False

2 marks

Wilting is caused due to the over-watering of a plant.

☐ **TRUE**☐ **FALSE****Question 20: Text Input**

3 marks

A chromosome consists of two chromatids that are held together by a

This image refers to question: 21



Question 21: Please Fill In The Blanks

8 marks

Study the diagram illustrating a food test.

In this food test the potato turned a (1) colour, meaning it tested (2) for (3) . The indicator used for this test is (4) .

Possible Answers: positive | negative | Benedict's solution | Iodine solution | glucose | protein | starch | yellow-brown | blue-black

1	
3	

2	
4	

Question 22: True/False

2 marks

The plant only consists of these organs - roots, stems and flowers.

TRUE	FALSE
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Question 23: Please Fill In The Blanks

8 marks

The following factors will increase the transpiration rate in plants:

1. (1) temperature.
2. (2) light intensity.
3. (3) humidity.
4. (4) wind.

Possible Answers: Increased | Constant | Decreased

1	
3	

2	
4	

Question 24: Multiple Choice

4 marks

A deficiency of which vitamin causes scurvy?

A	A
B	B1
C	C
D	D

Question 25: True/False

2 marks

Water helps to regulate body temperature.

TRUE	FALSE
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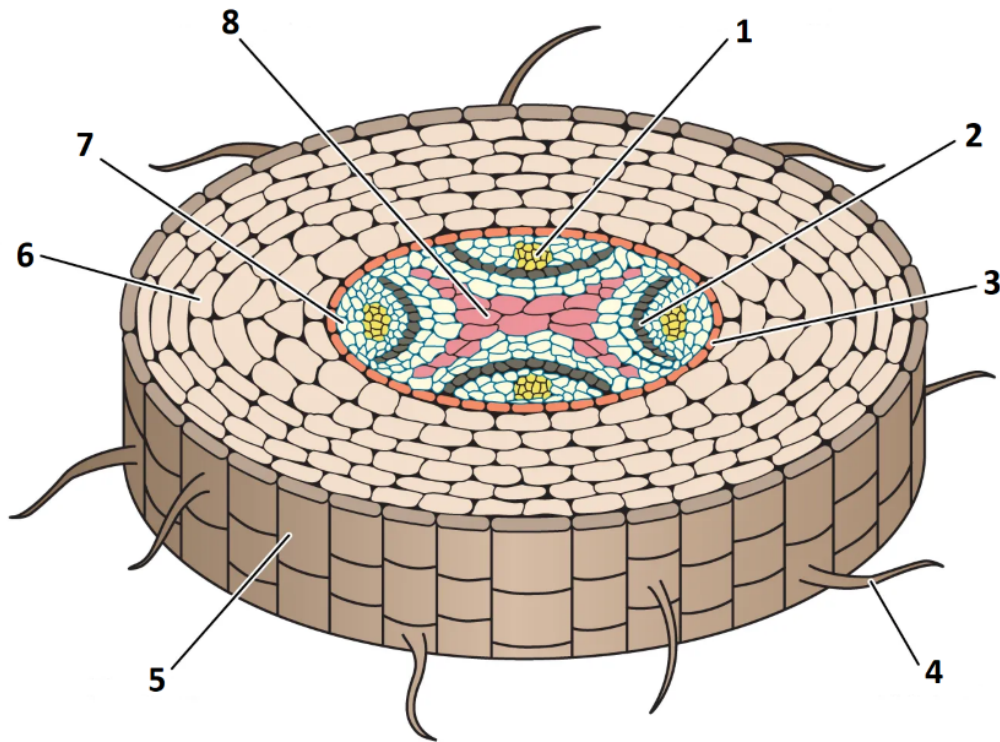
Question 26: Text Input

3 marks

Name the element that is the difference between organic and inorganic compounds.

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This image refers to question: 27



Question 27: True/False

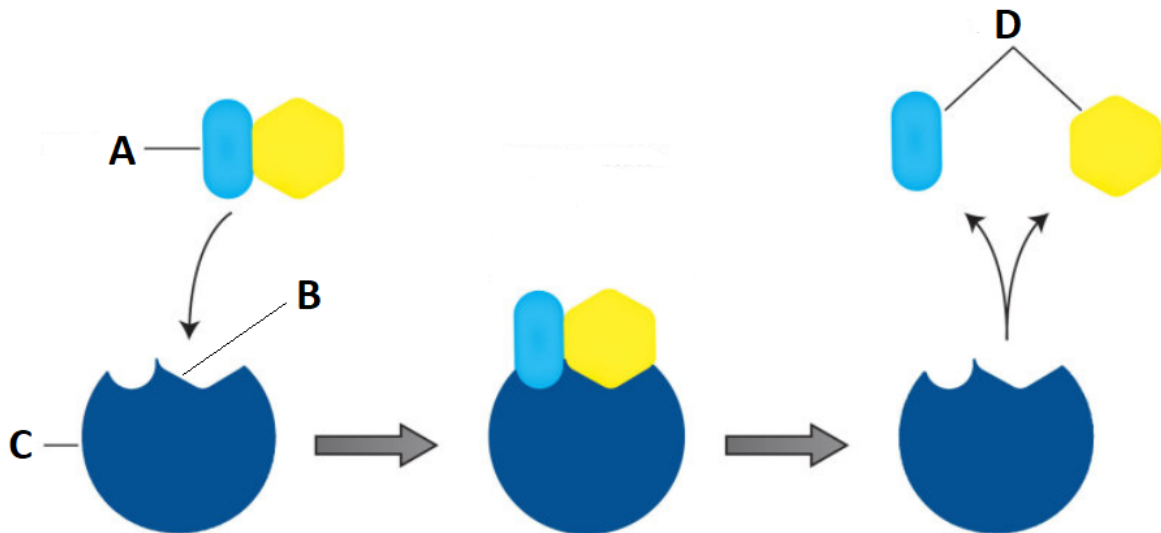
2 marks

The diagram depicts a cross-section of the root of a plant.

TRUE

FALSE

This image refers to question: 28



Question 28: Please Fill In The Blanks

8 marks

Provide labels for the lock-and-key model of an enzyme shown in the diagram:

- A - (1) .
- B - (2) .
- C - (3) .
- D - (4) .

Possible Answers: Anabolic | Catabolic | Product | Substrate | Enzyme | Active site

1	
3	

2	
4	

Question 29: True/False

2 marks

Cholesterol causes atherosclerosis.

TRUE	FALSE
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Question 30: Text Input

3 marks

The xylem and phloem make up what part of the leaf?

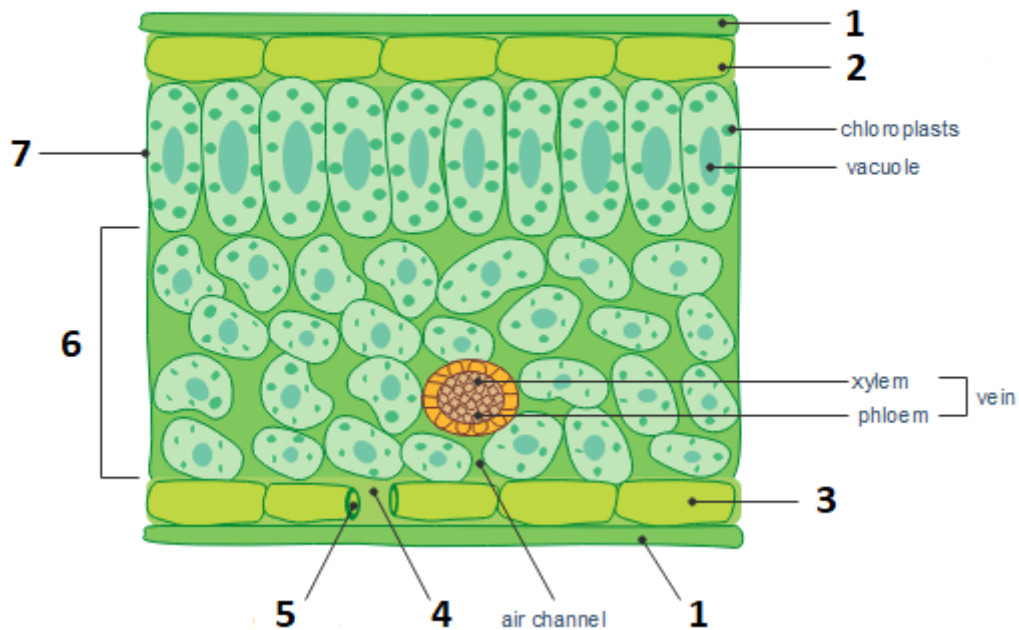
Question 31: Text Input

3 marks

Give **TWO words** for the form in which chromosomes will be for most of a cell's life.

This image refers to question: 32

CROSS SECTION OF A LEAF



Question 32: Please Fill In The Blanks

10 marks

Provide labels for the following parts of the leaf diagram:

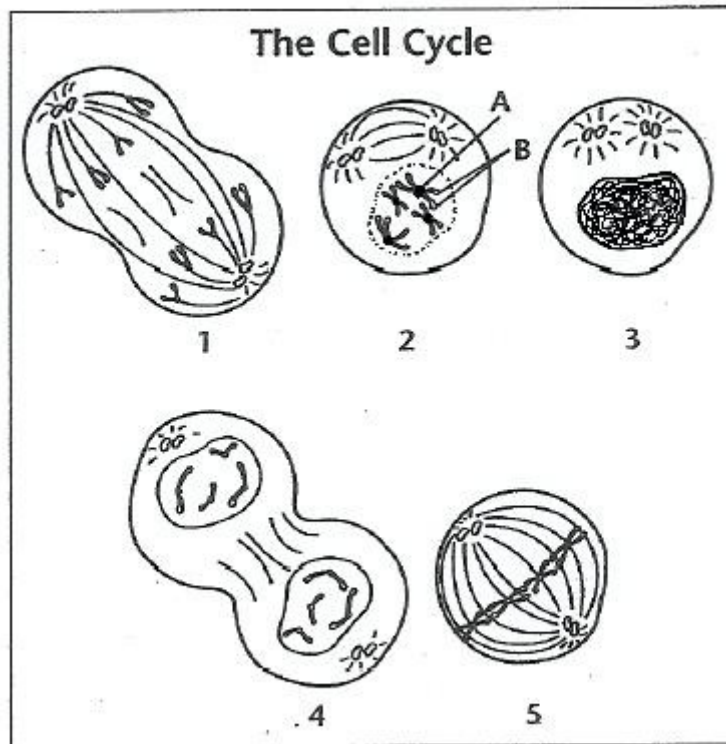
- 1 - (1) .
- 4 - (2) .
- 5 - (3) .
- 6 - (4) .
- 7 - (5) .

Possible Answers: Palisade mesophyll | Spongy mesophyll | Epidermis | Cuticle | Air chamber | Stomata | Guard cells

1	
3	
5	

2	
4	

This image refers to question: 33



Question 33: Please Fill In The Blanks

10 marks

Place these five phases as seen in the diagram of the cell cycle in the correct order:

First phase - number (1) .

Second phase - number (2) .

Third phase - number (3) .

Fourth phase - number (4) .

Last phase - number (5) .

Possible Answers: 1 | 2 | 3 | 4 | 5

1	
3	
5	

2	
4	

Question 34: True/False

2 marks

Cancer is a result of **controlled mitosis**.

TRUE	FALSE
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Question 35: True/False

2 marks

Plants absorb mineral salts from the soil, whereas animals and humans absorb them from the air.

TRUE

FALSE

Question 36: Multiple Choice

4 marks

Which of the following is a polysaccharide?

- | | |
|----------|-----------|
| A | Glycogen |
| B | Glucose |
| C | Galactose |
| D | Glucagon |

Question 37: Multiple Choice

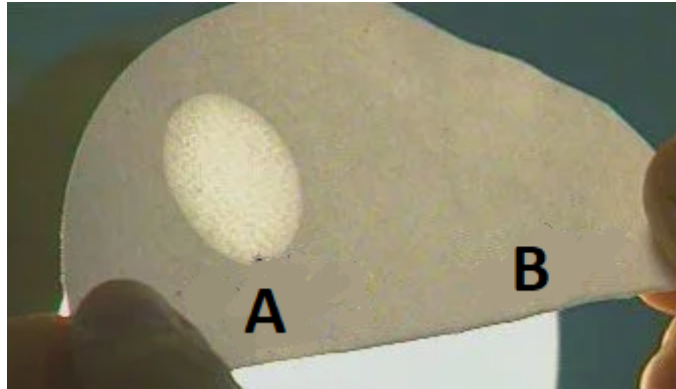
4 marks

Which of the following does NOT happen during interphase?

- | | |
|----------|--|
| A | Growing |
| B | Replication of DNA |
| C | Preparation for mitosis |
| D | Karyokinesis (division of the nucleus) |



This image refers to question: 38



Question 38: Text Input

3 marks

The diagram is illustrating the results of a lipid test. Which side (A or B) shows a positive result?

Question 39: Text Input

3 marks

Water provides shape and rigidity to certain animals such as jellyfish and earthworms. What type of skeleton do these animals have?

Total: 159 Marks