

Centre Number				Examination Number									

5090-2-050-200

EXAMINATIONS COUNCIL OF ZAMBIA

Examination for General Certificate of Education Ordinary Level

Biology

Paper 2 Theory

5090/2

2020

Additional materials:
Answer Booklet

Time: 1 hour 45 minutes

Marks: 80

Instructions to Candidates

- 1 Write the **centre number** and your **examination number** on every page of this question paper and on the separate **Answer Booklet** provided.
- 2 There are **ten** questions in this paper.
- 3 **Section A**
 - (i) Answer **all** questions.
 - (ii) Write your answers in the spaces provided on the question paper.
- 4 **Section B**
 - (i) Answer any **three** questions.
 - (ii) Write your answers in the Answer Booklet provided.
- 5 At the end of the examination:
 - (i) fasten the Answer Booklet used securely to the question paper.
 - (ii) **enter** the numbers of the Section B questions you have answered in the grid on the bottom right side corner.

FOR EXAMINER'S USE	
Section A	
Section B	
Total	

Information for Candidates

- 1 The number of marks is given in brackets [] at the end of each question or part question.
- 2 You are advised to spend no longer than one hour on Section A and no longer than 45 minutes on Section B.
- 3 **Cell phones are not allowed in the examination room.**

Centre Number				Examination Number										

Section A [44 marks]

Answer **all** the questions in the spaces provided on the question paper.

1 **Figure 1.0** shows a plant cell.

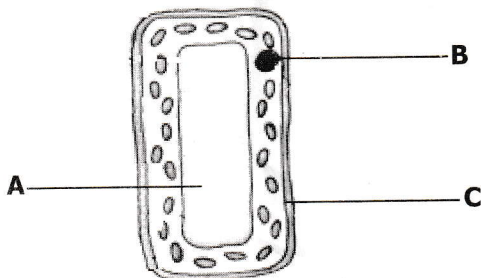


Figure 1.0

(a) (i) Name the parts labelled **A**, **B** and **C**.

A [1]

B [1]

C [1]

(ii) Name the organ in the plant in which **figure 1.0** is found.
Give a reason for your answer.

Organ of plant.....

Reason

..... [2]

(b) Describe **two** adaptations of the cell in **figure 1.0** which enable it to carryout its functions.

Adaptation 1 [1]

Adaptation 2 [1]

(c) Explain what would happen to the cell in **figure 1.0** above, if it was placed in a test tube containing distilled water.

.....

..... [2]

[Total: 9]

Centre Number	Examination Number										

2 Figure 2.0 below shows the internal structure of a tooth.

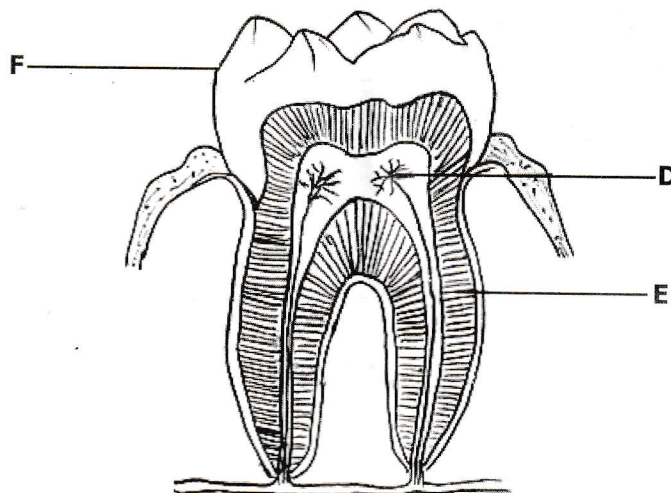


Figure 2.0

(a) Name the parts labelled **D** and **E** in **figure 2.0** above.

D [1]

E [1]

(b) (i) Explain what happens to the part labelled **F** during tooth decay.

.....
 [3]

(ii) Looking at the shape of the tooth in **figure 2.0** above, suggest the role it plays in the digestion of food.

.....
 [1]

(c) Complete the human dental formula below by filling in the missing numbers **G**, **H** and **J**.

$$G \left(i \frac{2}{2} \ c \ \frac{1}{H} \ pm \ \frac{2}{2} \ m \ \frac{J}{3} \right) = 32$$

G [1]

H [1]

J [1]

[Total: 9]

[Turn over

Centre Number				Examination Number									

3 Figure 3.0 below shows a section through a nephron.

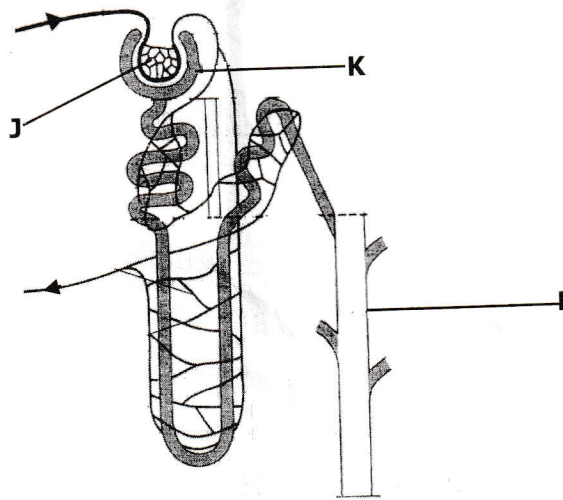


Figure 3.0

(a) Name the parts labelled J, K and L.

- J [1]
 K [1]
 L [1]

(b) (i) Suggest **three** substances that are **not** filtered out at J.

- 1 [3]
 2
 3

(ii) Explain what would happen at J if the coiling of the blood capillary was increased.

..... [1]

(c) Name the hormone that causes the reabsorption of water in the kidney and the organ where it is produced.

- Hormone [1]
 Name of organ [1]

[Total: 9]

Centre Number	Examination Number

4 **Figure 4.0** below shows the external parts of the human eye.

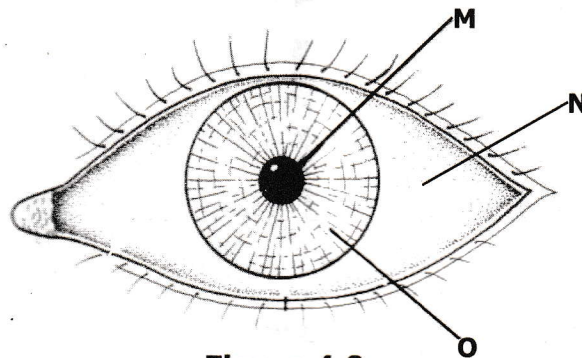


Figure 4.0

(a) (i) Name the parts labelled **M** and **N**.

M [1]

N [1]

(ii) Explain how **N** is adapted to its function.

.....
 [2]

(b) Describe the role played by **M** and **O** when a person moves to a room with dim light.

M

O [3]

(c) Explain the cause of short sightedness and how it can be corrected.

Causes

.....

Correction

..... [2]

[Total: 9]

Centre Number	Examination Number

Section B [36 marks]

Answer any **three** questions.

All answers should be in sentence form and in paragraphs.

- 6** (a) Describe the health risks associated with foetal development in humans. [4]
- (b) Describe the benefits and possible risks of using contraceptive pills and injections. [4]
- (c) Explain other methods of birth control in humans apart from the use of contraceptive pills and injections. [4]
- [Total: 12]**
- 7** (a) Explain the components of blood plasma. [3]
- (b) Investigate and describe the common blood disorders. [9]
- [Total: 12]**
- 8** Describe malaria as a disease under the following:
- (a) causative agent, [1]
- (b) signs and symptoms, [7]
- (c) methods of transmission and control. [4]
- [Total: 12]**
- 9** (a) With the help of **named** examples, describe the different types of skeletons. [8]
- (b) Explain the functions of the vertebral column. [4]
- [Total: 12]**
- 10** (a) Explain the meaning of the following ecological terms:
- (i) Species, [2]
- (ii) Niche, [2]
- (iii) Habitat. [2]
- (b) Identify the undesirable effects of water pollution by raw sewage. [6]
- [Total: 12]**
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