Centre Number	Candidate Number

Candidate Name: _____

EXAMINATIONS COUNCIL OF ZAMBIA

Examination for School Certificate/Ordinary Level

Biology 5090/2

PAPER 2 Theory

OCTOBER 2015

Additional materials:
Answer Booklet

TIME: 1 hour 45 minutes

Instructions To Candidates

Write your name, centre number and candidate number in the spaces at the top of this page and on the **Answer Booklet** used.

There are **ten** questions in this paper.

Section A

Answer **all** questions.

Write your answers in the spaces provided on the question paper.

Section B

Answer any **three** questions.

Write your answers in the Answer Booklet provided.

At the end of the examination:

1 fasten the Answer Booklet used securely to the question paper,

2 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

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

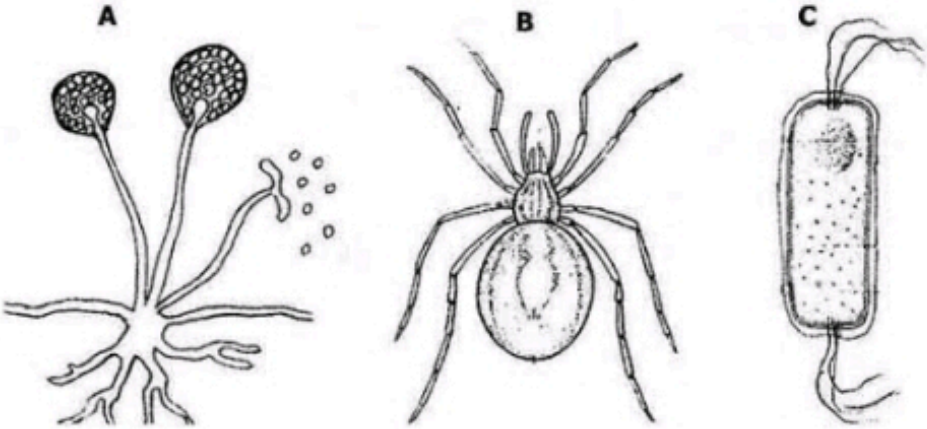
You are advised to spend no longer than one hour on Section A and no longer than 45 minutes on Section B.

Cell phones are not allowed in the examination room.

Section A [44 marks]

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

1 **Figure 1.1** shows three different types of organisms labelled **A**, **B** and **C**.



A

Figure 1.1

(a) **(i)** Identify the three organisms shown in **Figure 1.1** above.

A is .....

B is .....

C is..... [2]

(ii) Classify the organisms identified in **(a) (i)** above according to their kingdoms.

A .....

B .....

C ..... [3]

(b) **(i)** State **two** organisms which might bring about decay of organic matter.

1 .....

2 ..... [2]

(ii) Name **one** disease caused by organism **A**.

..... [1]

[Total: 9]

2 **Figure 2.1** shows the structure of a mammalian sperm

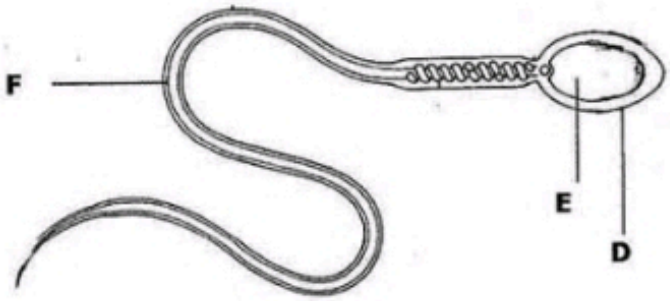


Figure 2.1

(a) **(i)** Identify the parts labelled **D** and **E**.

D .....

E ..... [2]

(ii) Explain the function of the part labelled F.

.....

..... [1]

(b) What substance produced by the cervix enable the sperm to swim in the female reproductive tract?

.....

..... [1]

(c) **(i)** Explain why only **one** sperm fertilises the ovum.

.....

.....

..... [2]

(ii) Distinguish between a sperm and an ovum.

.....

.....

..... [2]

[Total: 9]

3 **Figure 3.1** shows the life cycle of a housefly.

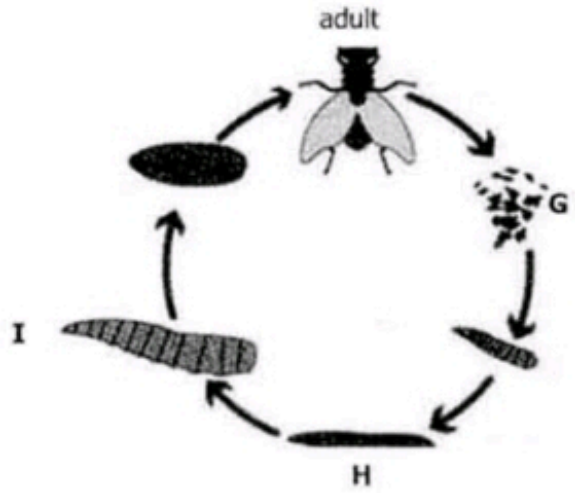


Figure 3.1

(a) **(i)** Identify the stages labelled **G** and **H**.

G ..... [1]

H ..... [1]

(ii) Explain the changes taking place during stage I.

.....

.....

..... [3]

(b) **(i)** Which stage in **Figure 3.1** would be the most effective for eradicating houseflies?

.....

.....

..... [3]

(ii) Using a named example, describe the role of a housefly in disease transmission.

.....

..... [1]

[Total: 9]

4 **Figure 4.1** shows the growth of mucor on nshima.

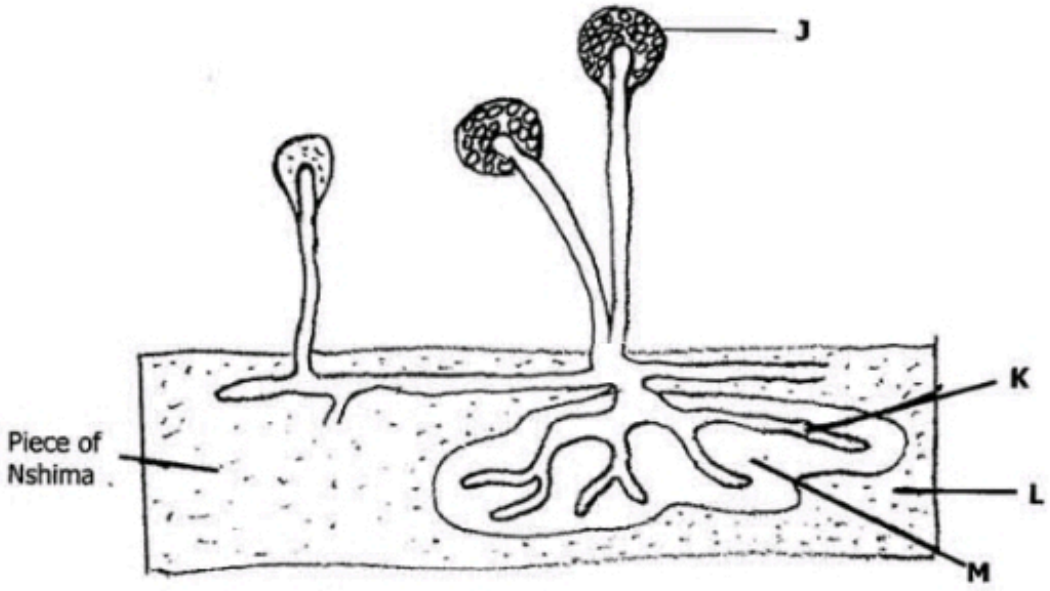


Figure 4.1

(a) **(i)** Identify structure **J** in **Figure 4.1**

.....

..... [1]

(ii) Explain how structure **K** obtains nutrients from the nshima.

.....

.....

..... [4]

(b) The nshima was flooded with iodine solution. State colour changes that would occur.

(i) at **L** .....

.....

(ii) at **M** .....

..... [2]

(c) Give reasons for the colour changes observed in **(b)** above.

.....

..... [2]

[Total: 9]

[Turn over

5 **(a)** State **one** sex linked disease

..... [1]

(b) What is meant by the term sex-linked characteristics?

.....

.....

.....

..... [3]

(c) Using a genetic diagram and appropriate symbols, explain how a man with normal eye sight married to a woman who is a carrier of the trait for colour blindness can have a child who is colour blind.

[2]

[Total: 9]

Section B [30 marks]

Answer any three questions

6 **(a)** Explain the term homeostasis [2]

(b) Discuss the role of the liver in homeostasis. [10]

[Total: 12]

7 **(a)** Describe the process of seed germination. [9]

(b) Explain how auxins affect the growth of shoots. [3]

[Total: 12]

8 **(a)** Explain the term respiration. [2]

(b) Distinguish gaseous exchange in fish and insects. [4]

(c) Explain how the alveolus is adaptation for gaseous exchange. [6]

[Total: 12]

9 **(a)** Explain what is meant by double circulation in humans? [2]

(b) Distinguish between the two parts of the double circulation. [3]

(c) Discuss the transport functions of blood. [7]

[Total: 12]

10 **(a)** Explain the following terms: [2]

(i) Community

(ii) Habitat

(iii) Niche [6]

(b) Describe the role of producers, consumers and decomposes within an ecosystem. [6]

[Total: 12]