NAME OF STUDENT/EXAMINATION NUMBER: _____

BANGWE CLUSTER EXAMINATIONS MOCK EXAMINATIONS

2022 MALAWI SCHOOL CERTIFICATE OF EDUCATION

BIOLOGY

Subject Number: M022/I
Time Allowed: 2hours
8:00-10:00 am

Tuesday, 24 May

PAPER I

(100 marks)

Theory

Instructions

1. This paper contains **12 printed** pages. **Please check**
2. Before you begin, fill in your **Examination Number/Name** at the top of the question paper and on all other answer sheets
3. This paper has two sections, **A** and **B. Section A** has ten questions and **section B** has three questions
4. Answer all the **13 questions** in the spaces provided. The maximum number of marks for each answer is indicated against each question.
5. In the table provided on this page, **tick** against the question number you have answered
6. At the end of the examination, hand in your paper to the invigilator when time is called to stop writing

Question Number	Tick if answered	Do not write in these columns	
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			

NAME OF STUDENT/EXAMINATION NUMBER: _____

Section A (70 marks)

Answer all the ten questions in this section

1. a. State the function of white blood cells

_____

(1mark)

b. Mention any two adaptations of the red cells to their function.

_____

_____

(2marks)

c. Give any two characteristics of blood capillaries

_____

_____

(2marks)

2. a. Give two products of light stage of photosynthesis

_____

_____

(2marks)

b. State the colours of each of following pigments in leaves

(i) Carotene

_____

(1mark)

(ii) Xanthophyll

_____

(1mark)

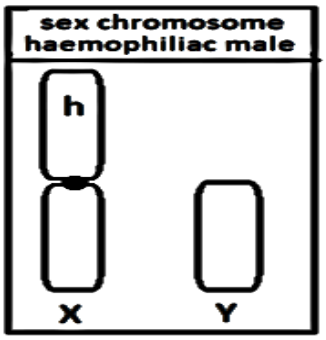
c. How are proteins formed in green plants?

_____

_____

(1mark)

3. **Figure 1** is a diagram showing sex chromosome of haemophiliac male, **Box 1.** Normal blood clotting is controlled by a dominant allele**(H).** The haemophiliac condition is controlled by the recessive allele **(h).** Use it to answer the questions that follow



Box 1

Box 2

a. Draw the sex chromosomes of a female carrier in **Box 2.** **(**2marks)

b. (i) Why is haemophilia a sex linked trait

_____

_____

(1mark)

(ii) Mention one characteristic of haemophilia

_____

(1mark)

c. (i) Define mutation

_____

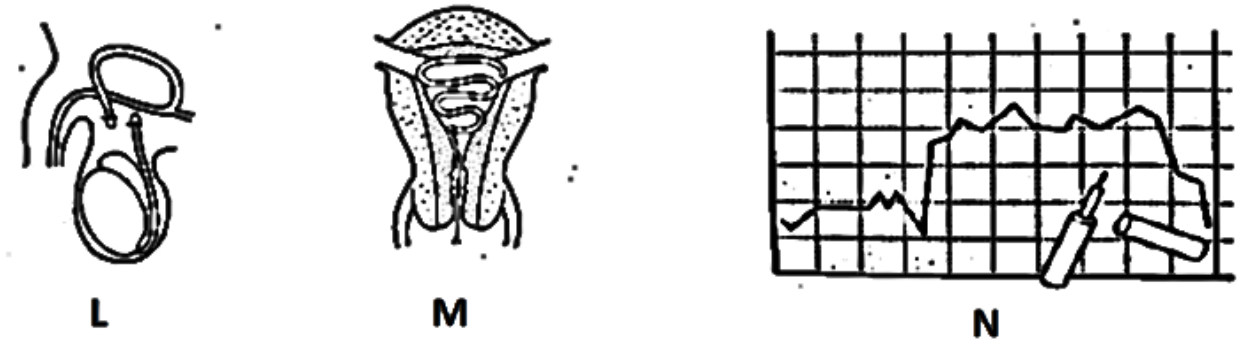
_____1mark

(ii) State any two effects of mutation

_____

_____2marks

4. **Figure 2** is a diagram showing contraceptive methods. Use it to answer the questions that follow.



a. (i) Name the contraceptive methods L and N.

L: _____

N: _____(2marks)

(ii). How does each of the following prevent pregnancy

L: _____

_____(1mark)

M: _____

_____(1mark)

b. Describe the reliability of contraceptive **N**.

_____

_____

(2marks)

5. a. Explain any two applications of biotechnology

_____

_____

_____

_____

(4marks)

b. Mention any two ways of controlling water pollution

_____

_____

(**2marks)**

c. Explain any one adaptation of the small intestines for absorption of food substances.

_____

_____

(2marks)

6. a. Mention any two general causes of deficiency diseases

_____

_____2marks

b. Explain any two ways of preventing cholera

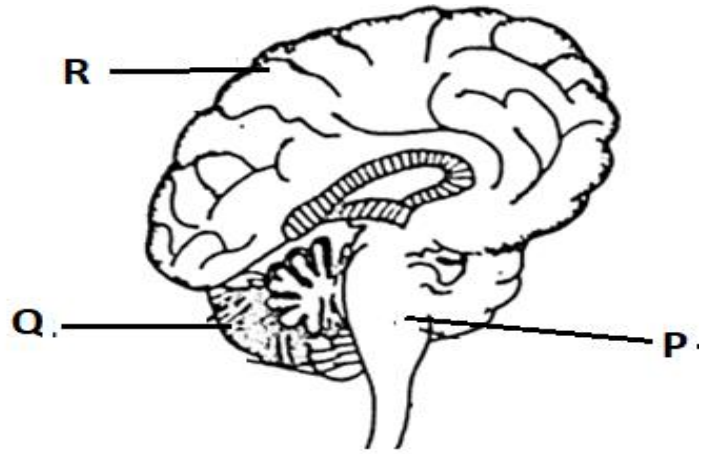
_____

_____

_____

_____4marks

7. **Figure 3** is a diagram of part of the central nervous system. Use it to answer the questions that follow.



a. (i) Identify the part labelled Q.

_____1mark

(ii). Give any two functions of part P.

_____

_____2marks

(iii) State any two adaptations of part R

_____

_____2marks

b. Mention any two differences between nervous and endocrine systems.

_____

_____2marks

8. a. (i) Mention any **two** ways of caring for the eyes.

_____

_____2marks

(ii) Describe each of the following eye defects

(1) Astigmatism

_____

_____1mark

(2) Longsight

_____

_____1mark

b. Mention any **two** characteristics between arachnids.

_____

_____2marks

9. a. (i) State **one** function of the skeleton

_____1mark

(ii) Mention any **two** adaptations of mammals to locomotion

_____

_____2marks

b. Name the enzyme that completes the digestion of each of the following food substances

(i) Sucrose

_____1mark

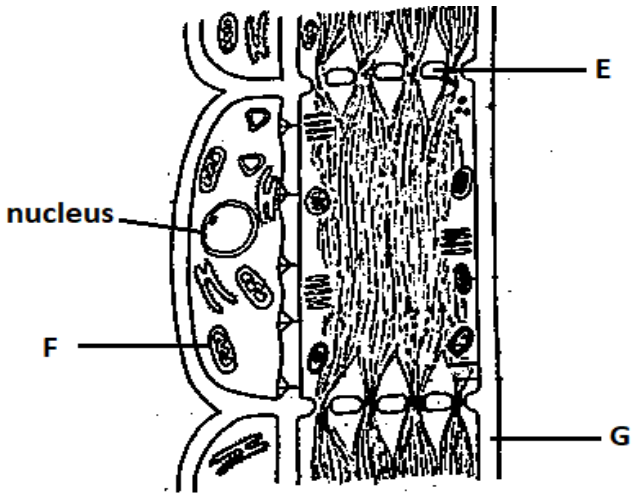
(ii) Peptides

_____1mark

(iii) Maltose

_____1mark

10. **Figure 4** is a diagram showing the structure of phloem tissue. Use it to answer the questions that follow.



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

E: _____1mark

G: _____1mark

(ii) Describe the role of part **P** in relation to the function of the tissue.

_____

_____

(3marks)

b. Explain any **two** adaptations of the xylem to its function

_____

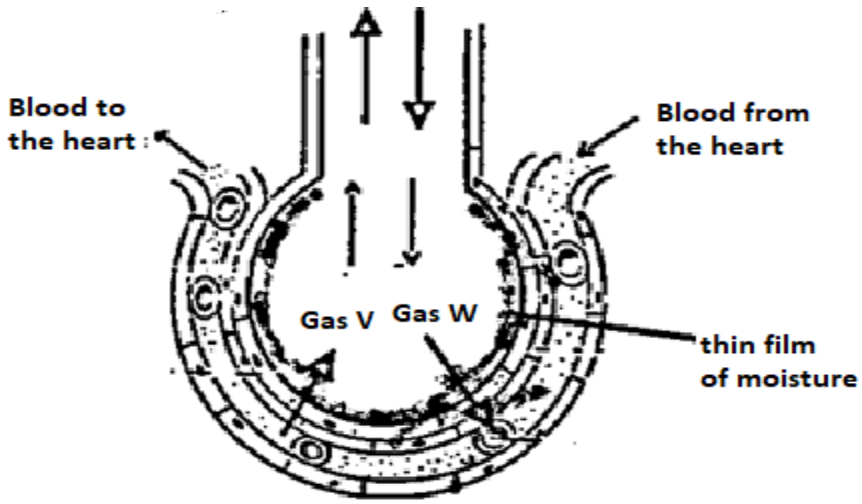
_____

_____

_____

(4marks)

c. **Figure 5** is a diagram showing a structure in the human breathing system. Use it to answer the questions that follow.



(i) Identify gas V

_____**(1mark)**

(ii) In what form is gas W transported by blood

_____(1mark)

(iii) Name the process that takes place in this structure.

_____(1mark)

(iv) Mention the use of thin film of moisture in the structure

_____(1mark)

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Section B (30 marks)

Answer all the **three** questions in this section. All your answers should be in an essay form

11. Explain any **five** adaptations of goats in their environment

_____

_____

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10marks

12. Explain any **five** factors that influence breathing rate the in humans.

10marks

13. Describe the process of urine formation in the kidneys.

10marks

END OF QUESTION PAPER