ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

General Certificate of Education Ordinary Level

BIOLOGY 4025/1

PAPER 1 Multiple Choice

JUNE 2020 SESSION 1 hour

Additional materials:
- Multiple Choice answer sheet
- Soft clean eraser
- Soft pencil (type B or HB is recommended)
- Mathematical tables/ Electronic calculator (optional)

TIME 1 hour

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.
Write your name, Centre number and candidate number on the answer sheet in the spaces provided unless this has already been done for you.

There are **forty** questions in this paper. Answer **all** questions. For each question, there are four possible answers, **A, B, C** and **D**. Choose the **one** you consider correct and record your choice in **soft pencil** on the separate answer sheet.

Read very carefully the instructions on the answer sheet.

INFORMATION FOR CANDIDATES

Each correct answer will score **one** mark. A mark will **not** be deducted for a wrong answer. Any rough working should be done in this booklet.

This question paper consists of 17 printed pages and 3 blank pages.

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1 In case of a fire in the laboratory, learners should

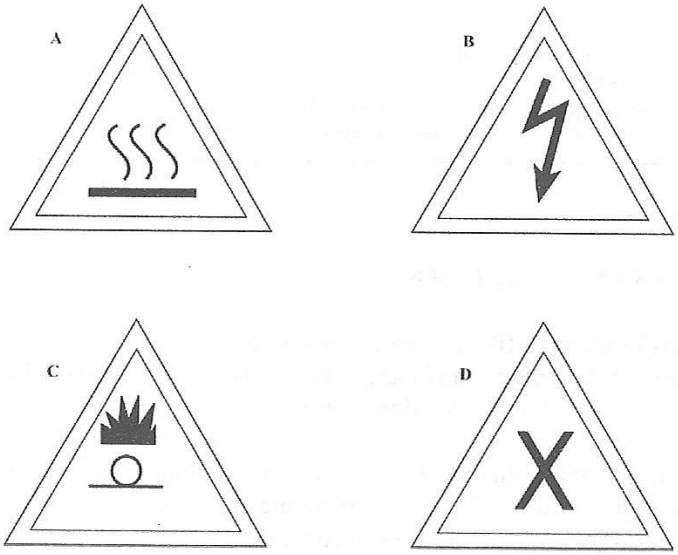
A run out of the laboratory.

B shout to warn others.

C use windows as exits.

D leave in a single file.

2 The diagrams show some warning symbols used in a laboratory.
Which symbol, **A**, **B**, **C** or **D**, warns of hot surfaces?



3 The branch of Biology associated with brewing is

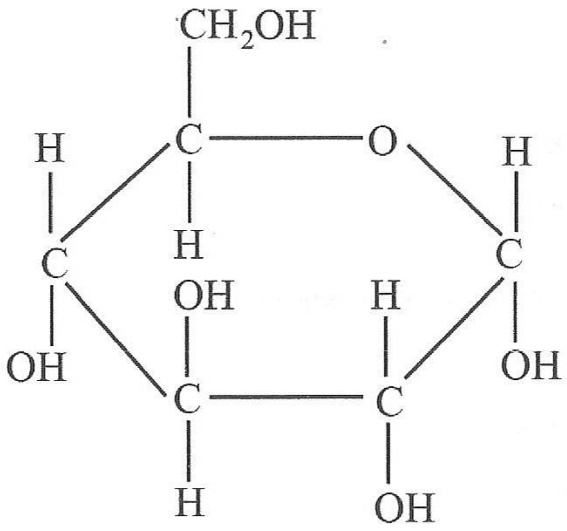
A botany.

B biotechnology.

C cytology.

D zoology.

4 The diagram shows the structure of a monossacharide.



The monossacharide is

A galactose.

B fructose.

C glucose.

D lactose.

5 Which is **not** a use of water in living organisms?

A catalyst

B habitat

C reagent

D solvent

6 Animals store carbohydrates in the form of

A starch.

B sucrose.

C glucose.

D glycogen.

7 Which part of a plant cell is freely permeable?

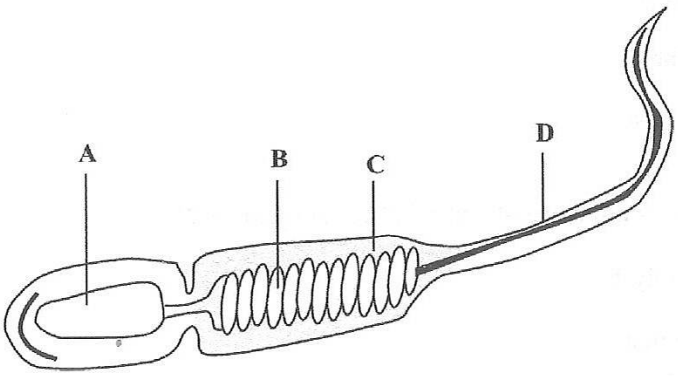
A cell wall

B cell membrane

C cytoplasm

D vacuole

8 The diagram shows a sperm cell.
Which part, **A**, **B**, **C** or **D**, produces the most energy?



9 Which statement about enzymes is **not** true?

A enzymes are protein in nature

B enzymes are substrate specific

C enzymes work best at optimum temperatures

D enzymes are broken down after the reaction

10 Some plant stems are negatively geotropic.
This means they grow

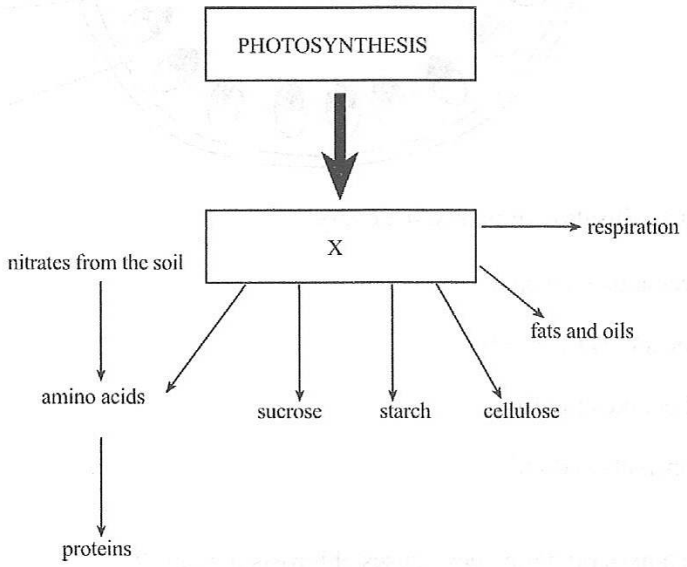
A towards gravity.

B towards light.

C away from gravity.

D away from light.

11 The diagram is a summary of the fate of products of photosynthesis.



X represents

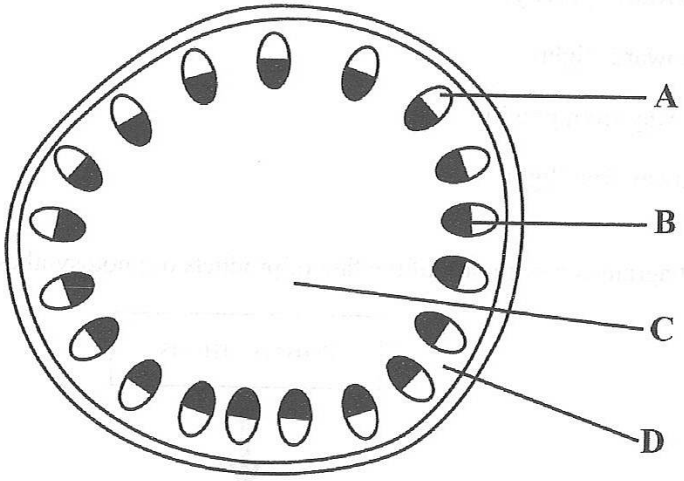
A glycogen.

B glycerol.

C glucagon.

D glucose.

12 The leaves of a plant were exposed to radioactive carbon dioxide during daylight. Which part of the stem, **A**, **B**, **C** or **D**, would contain radioactive carbon?



13 After fertilisation in plants, the ovary

A remains unchanged.

B becomes the seed.

C becomes the fruit.

D shrivels and falls.

14 Which mineral deficiency causes chlorosis in plants?

A manganese

B nitrogen

C phosphorus

D potassium

15 Which condition would cause a plant to wilt most rapidly?

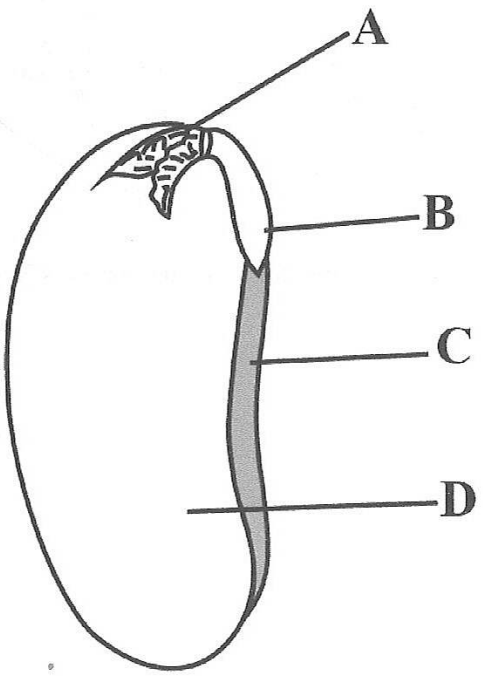
A low humidity

B low light intensity

C low temperature

D low wind speed

16 The diagram shows a section of a dicotyledonous seed.
Which part, **A**, **B**, **C** or **D**, develops into the root?



17 The role of rennin in digestion is to

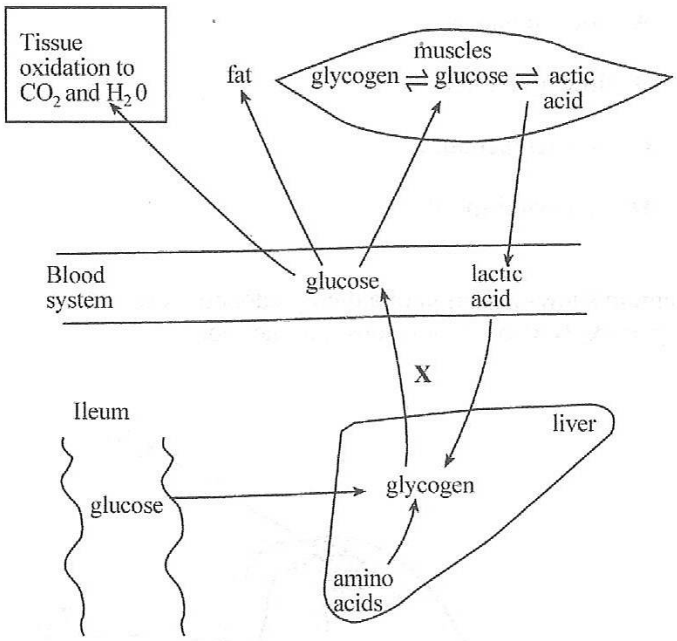
A emulsify fats.

B neutralise acids.

C destroy bacteria.

D clot milk protein.

18 The diagram shows a summary of carbohydrate metabolism.



Which hormone is responsible for regulating process **X**?

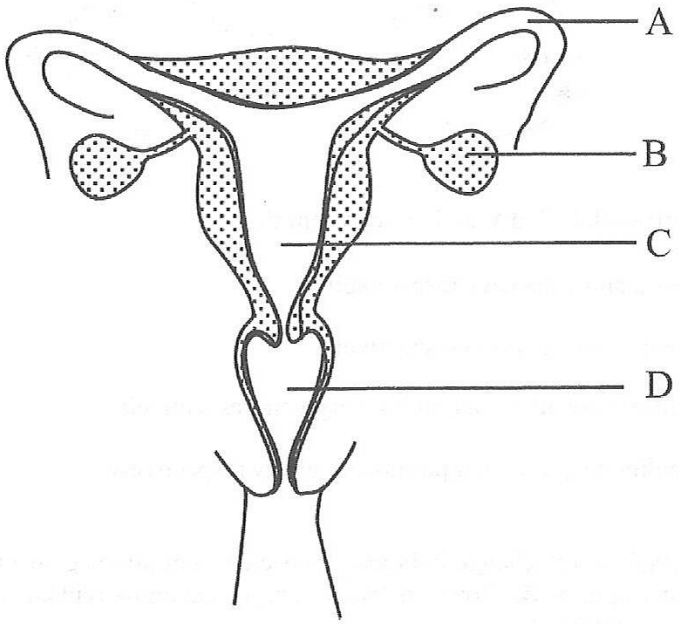
A insulin

B glycagon

C thyroxine

D adrenaline

19 The diagram shows the human female reproductive system.
In which part, **A**, **B**, **C** or **D**, does fertilisation occur?



20 The kidney is **not** responsible for

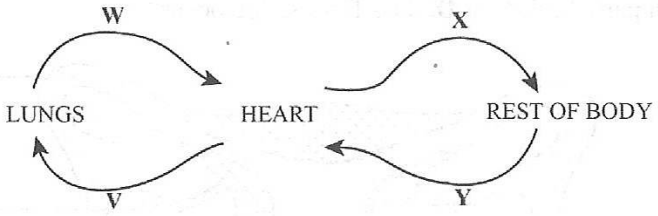
A urine formation.

B urea formation.

C pH regulation.

D reabsorption.

21 The diagram illustrates the human circulatory system.



The arrows labelled **V** and **W** represent the

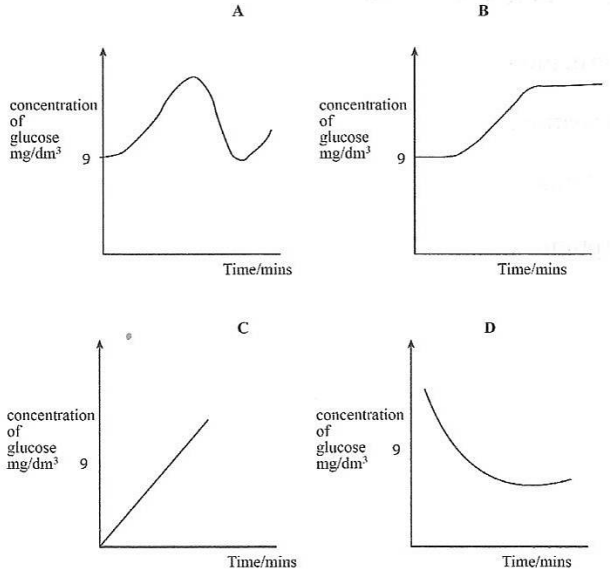
A aorta and vena cava respectively.

B vena cava and aorta respectively.

C pulmonary artery and pulmonary vein respectively.

D pulmonary vein and pulmonary artery respectively.

22 The graphs show change in blood glucose concentration against time.
Which graph, **A**, **B**, **C** or **D**, is likely to represent an individual suffering from diabetes mellitus?



23 Which component of blood forms clots?

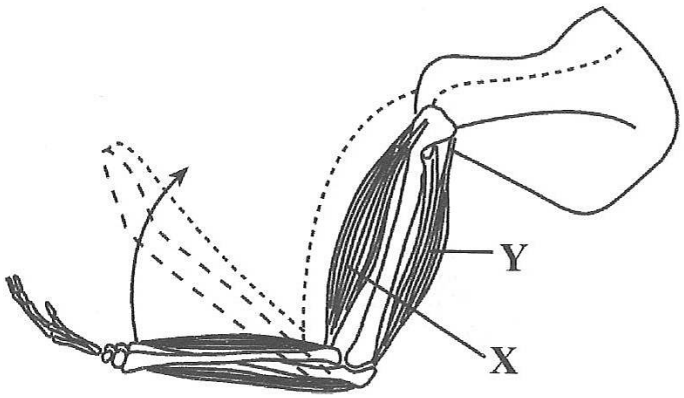
A red blood cells

B white blood cells

C platelets

D plasma

24 The diagram shows the bones and muscles of the forearm.



What happens to muscles **X** and **Y** when the arm is raised?

A **X** relaxes and **Y** contracts.

B **X** contracts and **Y** relaxes.

C **X** contracts and **Y** contracts.

D **X** relaxes and **Y** relaxes.

25 Which one is **not** a characteristic of viruses?

A they are motile

B they reproduce

C they have DNA

D they have flagella

29 What is the percentage of the homozygous recessive offspring from a cross involving two heterozygotes?

A 25%

B 50%

C 75%

D 100%

30 Which human characteristic is affected by the environment?

A tongue rolling

B earlobes

C height

D sex

31 Statement 1 and 2 describe organism **X**.

1. Reproduces asexually by means of spores.
2. Cell wall contains chitin.

To which kingdom does **X** belong?

A protista

B fungi

C plantae

D monera

32 The difference between bacteria and all other living organisms is that bacteria have no

A cell wall.

B cytoplasm.

C flagella.

D nucleus.

33 The effect of acid rain on ecosystems is that it

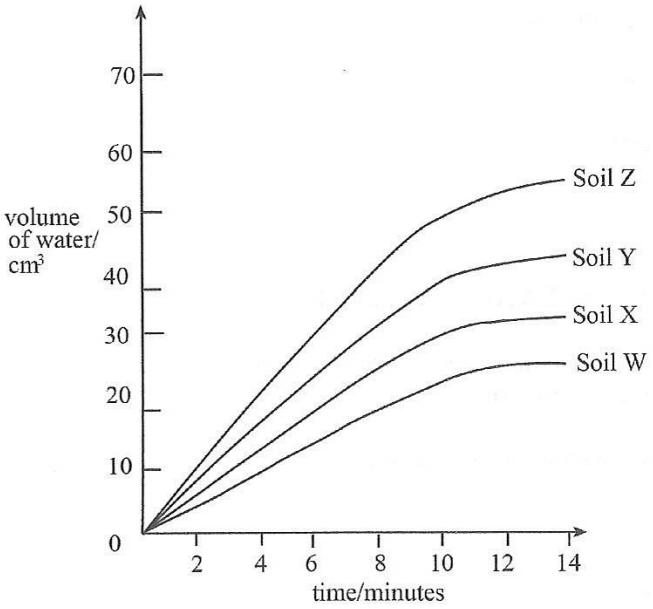
A increases plant growth.

B increases productivity.

C destroys soil organisms.

D decreases water retention.

34 An experiment was carried out to determine the drainage of four soils, W, X, Y and Z. The curves show the volume of water collected from each of the soils.



Which soil is most likely to be sand?

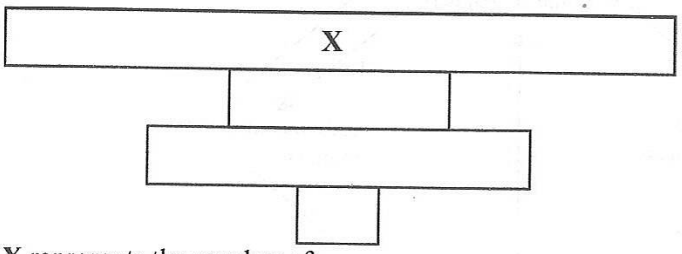
A Z

B Y

C X

D W

35 The diagram shows a pyramid of numbers for the feeding relationship between caterpillars, birds, trees and fleas.



X represents the number of

A fleas.

B caterpillars.

C trees.

D birds.

36 Which one is **not** an effect of exceeding the carrying capacity?

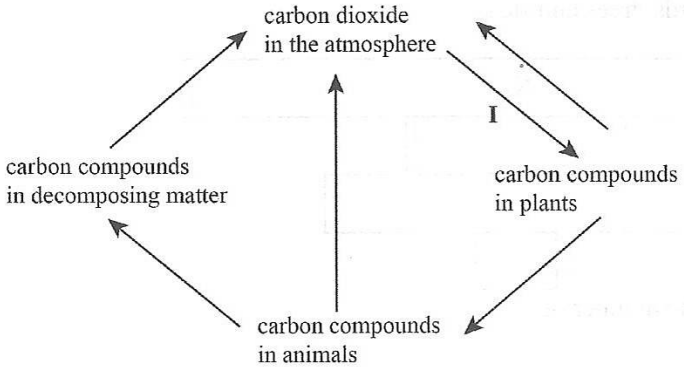
A overgrazing

B drought

C pollution

D desertification

37 The diagram shows a summary of the carbon cycle.



The letter **I** represents the process of

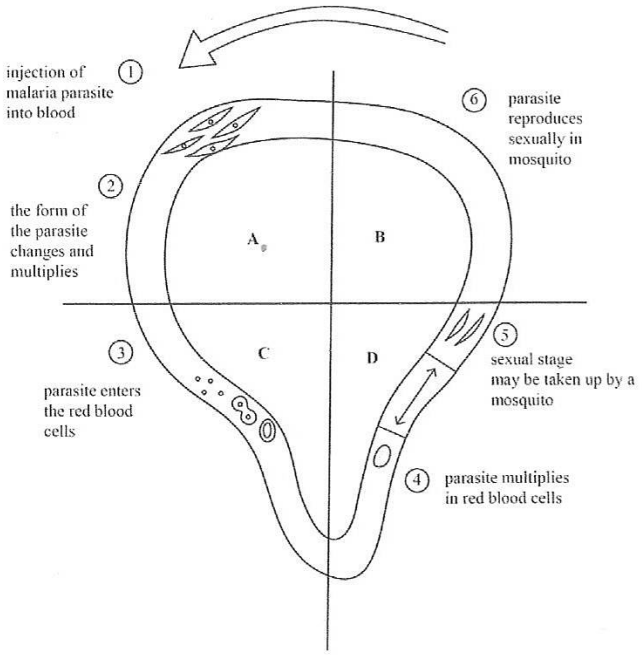
A combustion.

B respiration.

C photosynthesis.

D nutrition.

38 The diagram shows the life cycle of *Plasmodium*.
At which stage, **A**, **B**, **C** or **D**, does the patient suffer from fever?



39 Skin cancer in humans can be caused by

A tar.

B nicotine.

C radiation.

D malnutrition.

40 Tuberculosis treatment involves the use of

A antibiotics.

B chloroqine.

C analgesics.

D prophylaxis.