ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

General Certificate of Education Ordinary Level

BIOLOGY

PAPER 1 Multiple Choice

4025/1

NOVEMBER 2019 SESSION

1 hour

Additional materials:
Multiple Choice answer sheet
Soft clean eraser
Soft pencil (type B or HB is recommended)

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.

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1 Productivity in farming can be improved by

A cytology.
B ecology.
C biotechnology.
D microbiology.

2 Cytology is a branch of Biology which deals with

A modification of genes.
B cell structure and function.
C classification of animals.
D parts of the body and their function.

3 Ice protects aquatic life by

A allowing light to pass through.
B acting as a conductor of heat.
C insulating the water below.
D keeping predators out.

4 The sub units of genetic molecules are

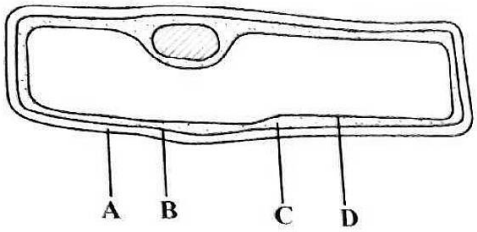
A amino acids.
B fatty acids.
C glucose.
D nucleotides.

5 The part of a eukaryotic cell that contains DNA is the

A cytoplasm.
B membrane.
C nucleus.
D vacuole.

6 The diagram shows a plant cell.

Which part, **A**, **B**, **C** or **D**, controls the turgidity of the cell?

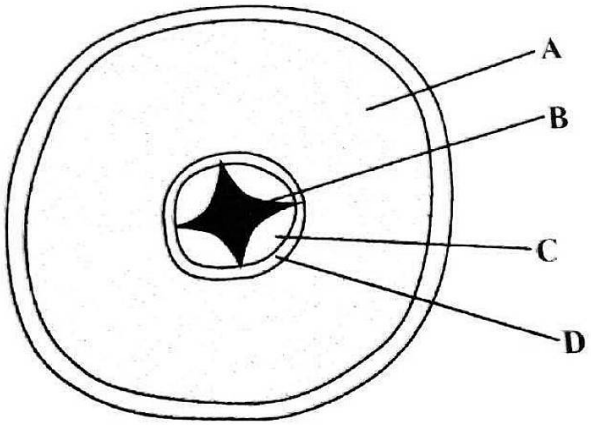


7. The sub units of sucrose are

A galactose and fructose.
B galactose and glucose.
C glucose and ribose.
D glucose and fructose.

8. The diagram shows a transverse section of a dicotyledonous root.

Which tissue, **A**, **B**, **C** or **D**, is the cortex?



9. In plants, carbohydrates are translocated in the form of

A maltose.
B glucose.
C fructose.
D sucrose.

10 Different sized pustules on plant organs are caused by

A bacterial wilt.
B fungal rust.
C sap-sucking pests.
D tissue-eating pests.

11 Which mineral element is deficient in plants showing poor flowering and fruiting?

A magnesium
B nitrogen
C phosphorus
D potassium

12. Which pair of factors reduces the rate of water loss in plants?

A low humidity and high wind speed
B high humidity and low temperature
C high temperature and high wind speed
D low humidity and high light intensity

13 Which one is an artificial method of vegetative propagation?

A cuttings
B rhizomes
C suckers
D tubers

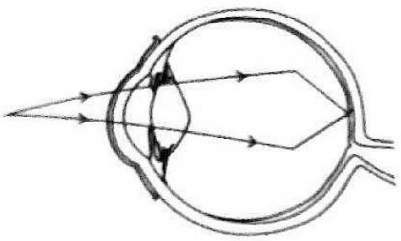
14 A characteristic of insect pollinated flowers is

A dull petals.
B feathery stigma.
C production of rough pollen grains.
D production of large amounts of pollen.

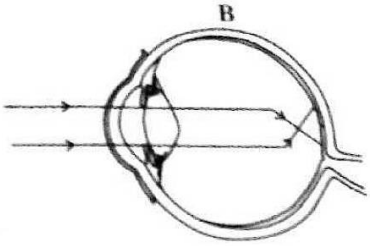
15 The diagrams show the accommodation of light in the eye.

Which diagram, **A**, **B**, **C** or **D**, shows how light from a near object falls on the back of the eye to form a clear image?

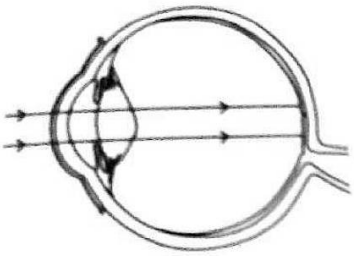
A



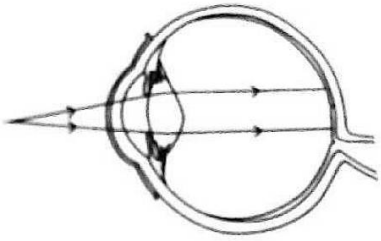
B



C



D



16 During inhalation,

A chest pressure increases.
B chest volume increases.
C the rib cage is lowered.
D the diaphragm relaxes.

17 Which animal parasite is controlled by dipping?

A tape worm
B round worm
C tick
D fluke

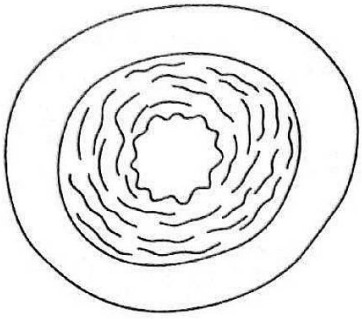
18 Which hormone is released when an animal is frightened?

A thyroxine
B insulin
C glucagon
D adrenaline

19 Which one is the site of anaerobic respiration in a living cell?

A chloroplast
B cytoplasm
C mitochondrion
D nucleus

20 The diagram shows the cross section of a mammalian vessel.



The vessel is

A a capillary.
B an artery.
C a vein.
D a lymph vessel.

21 What is the action of the extensor and flexor muscles when stretching the arm?

A extensor contracts and flexor contracts
B extensor relaxes and flexor relaxes
C extensor contracts and flexor relaxes
D extensor relaxes and flexor contracts

22 Which two bones form a ball and socket joint?

A femur and scapula
B humerus and scapula
C pelvis and humerus
D pelvis and tibia

23. Which bone is part of the hind limb of a mammal?

A femur
B humerus
C radius
D scapula

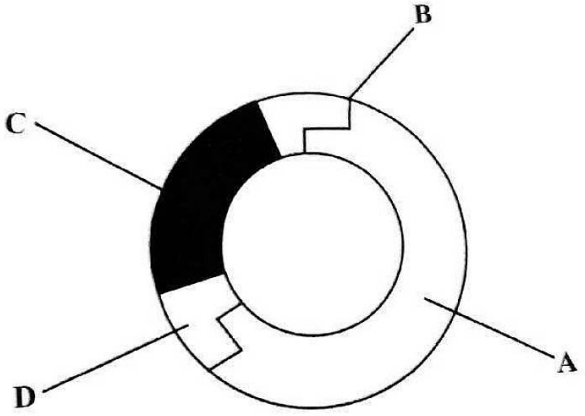
24 Immunity can be acquired by transmission of antibodies from mother to foetus.

This type of immunity is

A natural active.
B natural passive.
C artificial active.
D artificial passive.

25 The diagram shows recombinant DNA.

Which part, **A**, **B**, **C** or **D**, represents the vector?



26 Bacteria is used in the production of

A alcohol.
B bread.
C penicillin.
D yoghurt.

27 Viruses can be classified as living organisms because they

A excrete.
B feed.
C reproduce.
D respire.

28 The full set of genes in an organism is its

A genotype.
B genome.
C phenotype.
D alleles.

29 Which condition is a result of chromosomal mutation?

A albinism
B Down's syndrome
C haemophilia
D sickle cell anaemia

30 An allele is

A a section of DNA coding for a single characteristic.
B the set of genes in the nucleus of an individual.
C the external appearance of an organism.
D the alternative form of a gene.

31 In certain plants, red petals is dominant over white petals. When two heterozygous plants were crossed, 85 of the plants produced had white petals.

How many plants had red petals?

A 21
B 64
C 85
D 255

32 The allele which influences the appearance of the phenotype even in the presence of an alternative allele is

A dominant.
B heterozygous.
C homozygous.
D recessive.

33 Which one is a balanced ecosystem?

A orchard
B forest
C garden
D pond

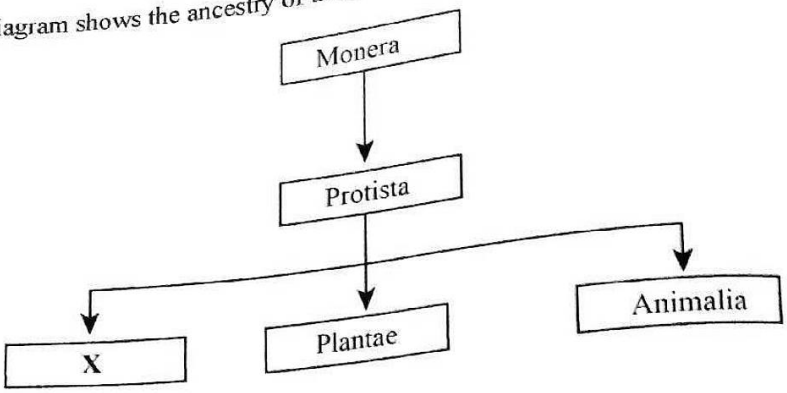
34 The diagram shows an organism.



The organism belongs to kingdom

A animalia.
B fungi
C plantae.
D protista.

35 The diagram shows the ancestry of the five kingdoms.



An example of an organism in kingdom **X** is

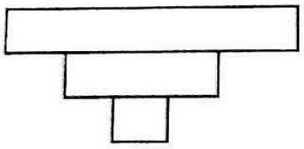
A *E. coli.*
B *Penicillium.*
C *Plasmodium.*
D *Vibrio cholerae.*

36 Three living organisms in an ecosystem are represented by the food chain:

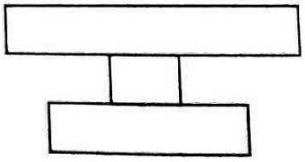
grass ⟶ caterpillars ⟶ birds

Which pyramid of biomass represents this food chain?

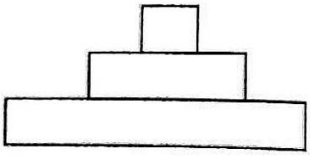
A



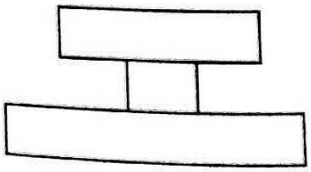
B



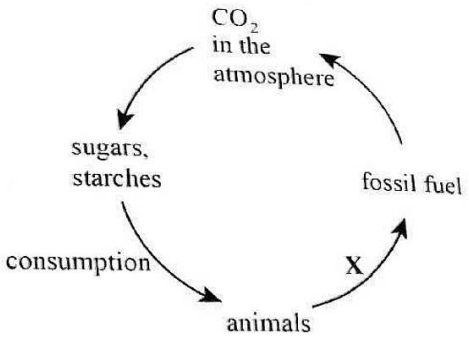
C



D



37 The diagram shows the carbon cycle.



What is process **X**?

A respiration
B transpiration
C decomposition
D digestion

38 Which disease is caused by a worm?

A bilharzia
B cholera
C syphilis
D typhoid

39 Which one is a short term effect of drinking alcohol?

A heart disease
B liver cirrhosis
C damaged blood vessels
D increased reaction time

40 Drugs used to treat bacterial illnesses are

A antibiotics.
B analgesics.
C prophylactics.
D diuretics.