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**EXAMINATIONS COUNCIL OF ZAMBIA****Examination for General Certificate of Education Ordinary Level****5090/1****Biology****Paper 1 Multiple Choice****Thursday****9 JULY 2026****Additional Materials:****Multiple Choice Answer Sheet****Soft clean eraser****Soft pencil (type B or HB is recommended)****Time: 50 minutes****Marks: 40****Instructions to Candidates**

1. Ensure that the **school/centre name and subject paper, subject code, paper number, centre code, your examination number and the year** are correctly printed on the Answer Sheet.
2. There are **forty** questions in this paper. Answer **all** questions.
3. For each question there are four possible answers: **A, B, C and D**. Choose the **one** you consider correct and shade your choice using a **soft HB pencil** on the separate Answer Sheet.
4. **Do not tick, cross or circle your answer.**
5. Read very carefully the instructions on the Answer Sheet.

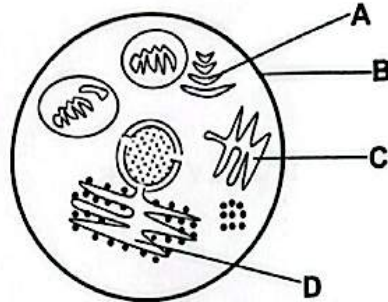
Information for Candidates

1. Each correct answer will score one mark. A mark will not be deducted for a wrong answer.
2. Any rough working should be done in this Question Paper.
3. Cell phones and other electronic devices are **not allowed** in the examination room.

1 The part of the microscope responsible for reflecting light rays onto the object is the ...

- A condenser.
- B mirror.
- C objective lens.
- D stage.

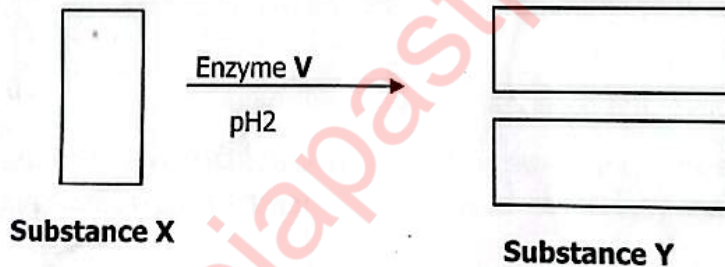
2 The diagram shows a cell seen under an electron microscope. Which labelled part modifies and carries proteins such as enzymes from the site of synthesis to the site of reaction?



3 Uptake of dissolved mineral salts by root hair cells is an example of ...

- A active transport.
- B diffusion.
- C osmosis.
- D plasmolysis.

4 The diagram shows the breakdown of a food substance.



What is substance Y and enzyme V?

	SUBSTANCE Y	ENZYME V
A	Maltose	Amylase
B	Maltose	Maltase
C	Peptide	Pepsin
D	Peptide	Pepsinogen

- 5 The following method was carried out on a food sample.

- Put 2cm ³ of the solution into a test tube.
-Add 2cm ³ of the ethanol to the solution in the test tube to dissolve the food sample.
-Add about 2cm ³ of distilled water.
-Observe the colour change.

Which food test is associated with this method?

- A Benedict's Test
 B Biuret Test
 C Emulsion Test
 D Iodine Test
- 6 Rickets develops due to a deficiency in nutrition. Which nutrient would be best to prevent the occurrence of rickets?

FOOD	CALCIUM	IODINE	IRON	VITAMIN D
A	✓	✓	X	X
B	✓	X	X	✓
C	X	✓	X	✓
D	X	✓	✓	X

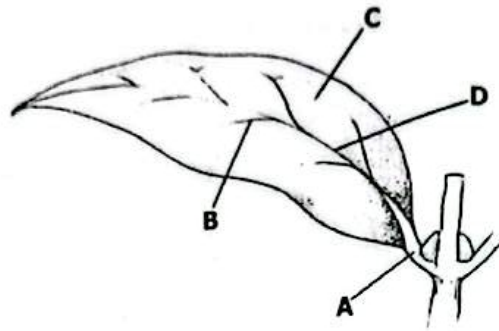
Key

✓ = Nutrient present

X = Nutrient absent

- 7 Which of the following groups of people need more energy-giving foods in their diet?
- A Aged
 B Manual worker
 C Pre-school going children
 D Sick people
- 8 Which component of a balanced diet acts as a medium for biochemical reactions in living cells?
- A Dietary fibre
 B Mineral salts
 C Vitamins
 D Water

- 9 The diagram shows the external structure of a leaf. Which labelled part is responsible for increased light energy absorption for photosynthesis?



- 10 The diagram shows a human tooth.



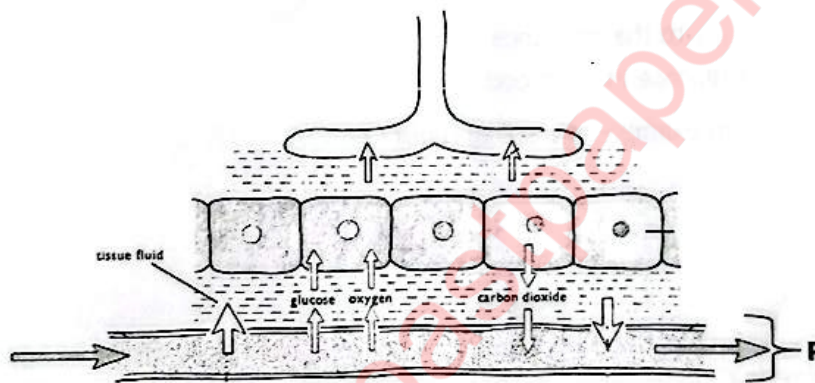
Identify the tooth and its function.

	Tooth	Function
A	Canine	Used for tearing
B	Incisor	Used for biting off pieces
C	Molar	Used for grinding and crushing
D	Premolar	Used for grinding and crushing

- 11 Which of the following food nutrients is an end product of digestion?
- A Amino acids
 - B Cellulose
 - C Fats
 - D Proteins
- 12 Between which of the following parts of an insect does gaseous exchange occur?
- A Blood and spiracles
 - B Blood and trachea
 - C Tissue and spiracles
 - D Tissue and trachea
- 13 Which substance in cigarette smoke is addictive?
- A Carbon monoxide
 - B Nicotine
 - C Sulphur dioxide
 - D Tar

- 14 Which of the following is the correct equation for anaerobic respiration in man?
- A Glucose $\longrightarrow$ Carbon dioxide + water + energy
 - B Glucose $\longrightarrow$ Ethanol + carbon dioxide + energy
 - C Glucose $\longrightarrow$ Ethanol + energy
 - D Glucose $\longrightarrow$ Lactic acid + energy
- 15 Why is it important to determine the Rhesus factor of a pregnant woman?
- A For organ transplant
 - B For purposes of blood transfusion
 - C To prevent haemolytic disease in the foetus
 - D To prevent HIV transmission
- 16 Jane whose blood group is B needs a blood transfusion. From which blood group can she receive blood?
- A A and B only
 - B AB and O only
 - C A, B and AB only
 - D B and O only

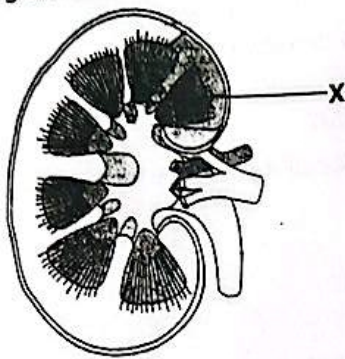
- 17 The diagram shows the relationship between blood, lymph and tissue fluid.



Identify the structure labelled P.

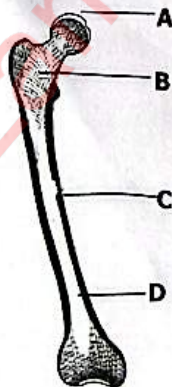
- A Blood capillary
 - B Blood cells
 - C Lacteals
 - D Lymphatic vessel
- 18 On a cold day, the learners in a class started shivering. Which of the following correctly explains this?
- A Over cooling leading to heat gain
 - B Over cooling leading to heat loss
 - C Vasoconstriction leading to heat loss
 - D Vasodilation leading to heat loss

- 19 The diagram shows the structure of a kidney.

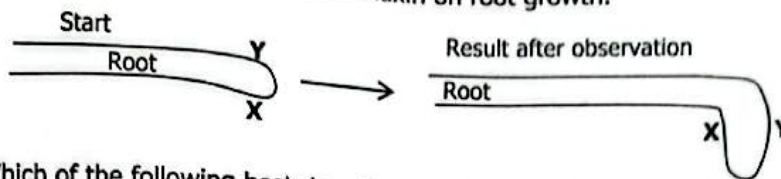


What name is given to the part labelled X?

- A Cortex
 - B Medulla
 - C Pelvis
 - D Ureter
- 20 Which of the following results from increased secretion of adrenaline?
- A Decreased breathing rate
 - B Decreased sweating
 - C Increased blood supply to the intestines
 - D Increased supply of glucose in the blood
- 21 Which of the following is an example of a spinal reflex?
- A Blinking
 - B Coughing
 - C Knee jerk
 - D Sneezing
- 22 Which of the following identifies the path taken by a ray of light in order for an image to be formed on the retina?
- A Cornea → lens → pupil → retina
 - B Cornea → pupil → lens → retina
 - C Lens → cornea → pupil → retina
 - D Pupil → cornea → lens → retina
- 23 The diagram shows the structure of a long bone. In which of the labelled parts is red bone marrow found?



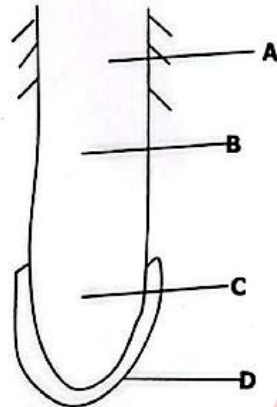
- 24 The diagram shows the effect of Auxin on root growth.



Which of the following best describes the results after observation?

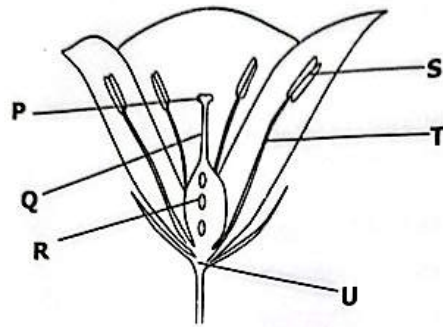
	Auxin concentration	Effect
A	Less on X	Promotes cell elongation
B	Less on Y	Promotes cell elongation
C	More on X	Retards cell elongation
D	More on Y	Retards cell elongation

- 25 The diagram shows a longitudinal section of the root tip of a flowering plant. In which of the labelled regions will there be more cell division?



- 26 What type of reproduction takes place in a Rhizopus?
- Binary fission
 - Budding
 - Fragmentation
 - Spore formation
- 27 Which of the following adaptive structures are for a wind pollinated flower?
- Brigthly coloured petals, large anthers and long filaments
 - Brigthly coloured petals, small anthers and short filaments
 - Dull coloured petals, large anthers and long filaments
 - Dull coloured petals, small anthers and short filaments

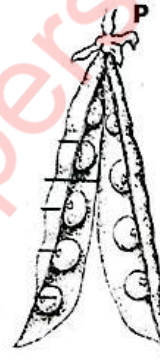
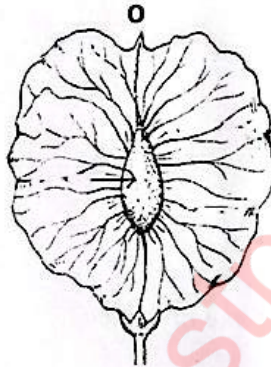
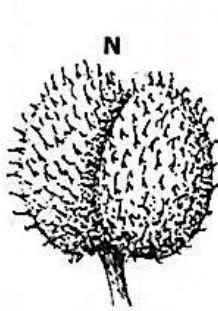
28 The diagram shows the structure of a flower.



Which parts form the female part of the flower?

- A P, Q, R
- B T, S, R
- C T, U, S
- D U, P, T

29 How are the seeds of the following plants dispersed?

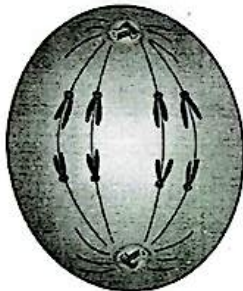


	N	O	P
A	Animal	Self	Wind
B	Animal	Wind	Self
C	Self	Animal	Wind
D	Self	Wind	Animal

30 Which hormones stimulate the secretion of oestrogen and progesterone during the menstrual cycle?

- A Adrenaline and luteinizing hormone
- B Antidiuretic hormone and follicle stimulating hormone
- C Antidiuretic hormone and luteinizing hormone
- D Follicle stimulating hormone and luteinizing hormone.

- 31 Which one of the following is **not** a healthy risk associated with foetal development?
- A Alcohol and drugs
 - B Antenatal services
 - C Poor nutrition
 - D Smoking
- 32 Which of the following is **not** a possible risk of using contraceptives?
- A Disturbed menstrual cycle
 - B Hormonal imbalance
 - C Planned families
 - D Weight gain
- 33 What stage of mitosis is illustrated in the diagram?

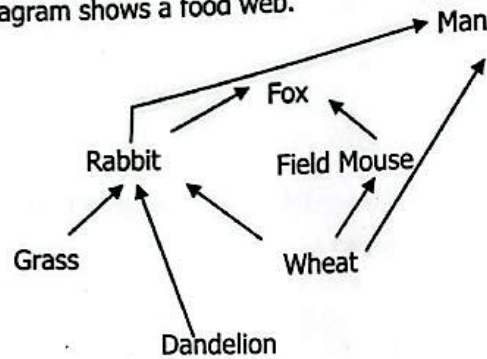


- A Anaphase
 - B Prophase
 - C Telophase
 - D Metaphase
- 34 Which statement about sperm cells is correct? They contain ...
- A either one X or one Y chromosome.
 - B one X and one Y chromosome.
 - C one X chromosome.
 - D one Y chromosome.
- 35 Which of the following phyla has organisms with three pairs of legs?
- A Annelida
 - B Arthropoda
 - C Mollusca
 - D Porifera
- 36 In which type of soil will a plant tolerant to acid and water logging be able to grow well?
- A Clay soil
 - B Limestone
 - C Loam soil
 - D Sandy soil

37 What do we call a group of organisms from different species found in the same area and interacting with each other?

- A Community
- B Habitat
- C Niche
- D Population

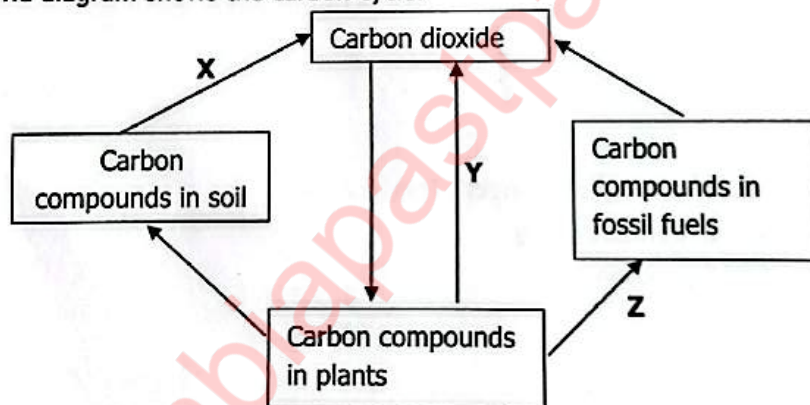
38 The diagram shows a food web.



Which organisms in the food web are producers?

- A Field mouse, dandelion and grass
- B Grass, wheat and dandelion
- C Rabbit, dandelion and field mouse
- D Wheat, rabbit and field mouse

39 The diagram shows the carbon cycle.



Identify the processes marked X, Y, and Z.

	X	Y	Z
A	Photosynthesis	Combustion	Decomposition
B	Photosynthesis	Respiration	Decomposition
C	Respiration	Photosynthesis	Fossilisation
D	Respiration	Respiration	Fossilisation

40 Which of the following will contribute to land pollution?

- A Dead plant remains
- B Mineral elements
- C Non-biodegradable materials
- D Soil microorganisms