

GENERAL CERTIFICATE OF EDUCATION BOARD

General Certificate of Education Examination

JUNE 2024**ORDINARY LEVEL**

Centre Number	
Centre Name	
Candidate Identification Number	
Candidate Name	

Mobile phones are NOT allowed in the examination room.

MULTIPLE CHOICE QUESTION PAPER**Duration: One and a Half Hours****INSTRUCTIONS TO CANDIDATES**

Read the following instructions carefully before you start answering the questions in this paper. Make sure you have a soft HB pencil and an eraser for this examination.

- USE A SOFT HB PENCIL THROUGHOUT THE EXAMINATION.
- DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

Before the examination begins:

- Check that this question booklet is headed "Ordinary Level – 0510 Biology 1"
- Fill in the information required in the spaces above.
- Fill in the information required in the spaces provided on the answer sheet using your HB pencil:
Candidate Name, Exam Session, Subject Code and Candidate Identification Number.
Take care that you do not crease or fold the answer sheet or make any marks on it other than those asked for in these instructions.

How to answer the questions in this examination

- Answer **ALL** the 50 questions in this Examination. All questions carry equal marks.
- Non-programmable Calculators are allowed.
- Each question has FOUR suggested answers: **A, B, C** and **D**. Decide which answer is appropriate. Find the number of the question on the Answer Sheet and draw a horizontal line across the letter to join the square brackets for the answer you have chosen.

For example, if **C** is your correct answer, mark **C** as shown below:

[A] [B] [**C**] [D]

- Mark only one answer for each question. If you mark more than one answer, you will score a zero for that question. If you change your mind about an answer, erase the first mark carefully, then mark your new answer.
- Avoid spending too much time on any one question. If you find a question difficult, move on to the next question. You can come back to this question later.
- Do all your rough work in this booklet using the blank spaces in the question booklet.
- At the end of the examination, the invigilator shall collect the answer sheet first and then the question booklet. DO NOT ATTEMPT TO LEAVE THE EXAMINATION HALL WITH IT.**

Turn Over

SECTION I
Questions 1-7
(Seven questions)

Directions: Each of these questions or incomplete statements is followed by four suggested answers. Select the best answer in each case and mark the answer sheet appropriately.

- Which of the following organisms has all the following parts: Vacuole, cell membrane, chloroplast and pyrenoids?
 A Bacteria.
 B Amoeba.
 C Yeast.
 D Spirogyra

- If a lake is polluted by untreated sewage, it would turn to have:
 A More algae.
 B More oxygen.
 C More fish.
 D More plants.

- Which structure assists the amoeba both in food capture and movement?
 A Food vacuole.
 B Plasma membrane.
 C Pseudopodium.
 D Contractile vacuole.

- Is a pain receptor on the skin of man:
 A Pacinian corpuscle.
 B Hair plexus.
 C Meissner's corpuscle.
 D Free nerve ending.

- Where does implantation take place in the female reproductive system?
 A Cervix.
 B Uterus.
 C Oviduct.
 D Fallopian tube.

- The left side of the heart is thicker than the right side because it pumps blood:
 A To shorter distances.
 B To the lungs only.
 C At a lower pressure.
 D To longer distances.

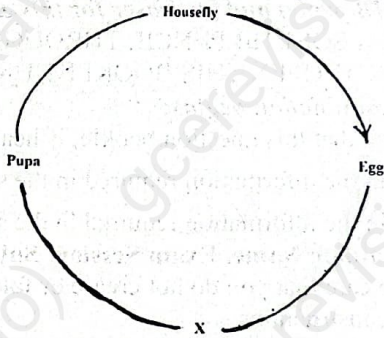
- During gaseous exchange in humans, oxygen is sent into the lungs as a result of:
 A Increase in thoracic pressure and decrease in thoracic volume.
 B Decrease in thoracic volume and decrease in thoracic pressure.
 C Increase in thoracic volume and decrease in thoracic pressure.
 D Decrease in thoracic pressure and no change in volume.

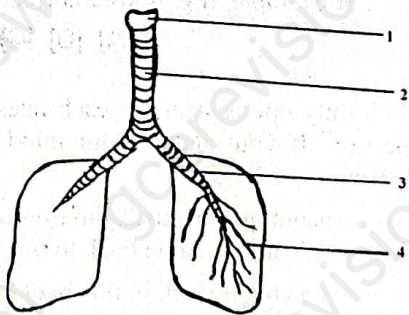
SECTION II
Questions 8-20
(Thirteen questions)

Directions: This group of questions relates to biological diagrams. Select the best answer for each question.



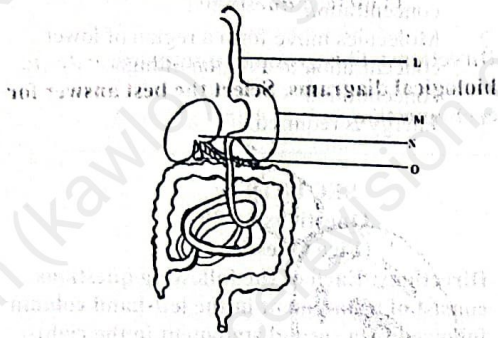
- The mode of reproduction in the yeast above is
 A Conjugation.
 B Fragmentation.
 C Sporulation.
 D Budding.

- The stage "X" on the life cycle below represents:

 A Imago
 B Nymph.
 C Adult.
 D Larva.

- The diagram below is a cross section of part of the respiratory system in man.


- The structure labelled 3 represents:
 A Bronchus.
 B Bronchioles.
 C Larynx.
 D Trachea.

11. The diagram below is that of the alimentary canal of man.



Identify the parts labeled L M N O

	L	M	N	O
A	Oesophagus	Stomach	Liver	Gall bladder
B	Oesophagus	Gall bladder	Stomach	Liver
C	Stomach	Liver	Gall bladder	Oesophagus
D	Liver	Gall bladder	Oesophagus	Stomach

12. The part of the leaf with numerous chloroplast is:

- A Palisade layer.
- B Spongy mesophyll.
- C Upper epidermis.
- D Stomata.

13. The part of the mammalian eye that refracts light first during image formation?

- A Pupil.
- B Vitreous humour.
- C Aqueous humour.
- D Cornea.

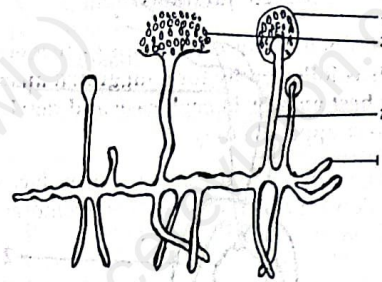
14. Where does meiosis occur in the male reproduction system?

- A Penis.
- B Epididymis.
- C Scrotum.
- D Testes.

15. A structure which carries water from the roots to the leaves:

- A Cuticle.
- B Phloem.
- C Xylem.
- D Epidermis.

16. Below is the structure of a mould fungus:



The structure numbered 4 functions in?

- A Absorption of food.
- B Enclosure of spores.
- C Secretion of enzymes.
- D Sexual reproduction.

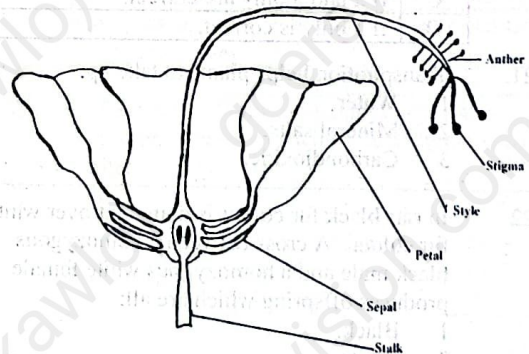
17. Which part of the mammalian brain is responsible for voluntary activities of the body?

- A Hypothalamus.
- B Cerebrum.
- C Cerebellum.
- D Medulla oblongata.

18. The sensory neuron plays a role in conducting impulses from the:

- A Receptor to the central nervous system.
- B Central nervous system to the sensory organ
- C Effector to the central nervous system.
- D Sensory receptor to the motor neuron.

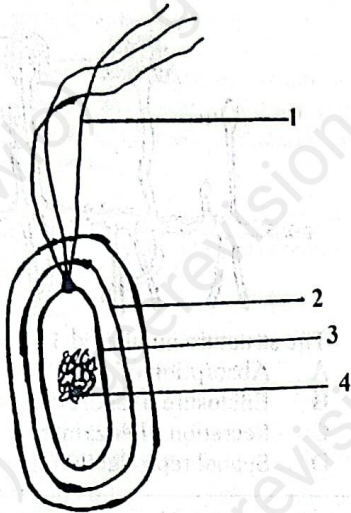
19. The diagram below is a cross-section of a hibiscus flower



Which part is responsible to attract insects for pollination?

- A Petal.
- B Stigma.
- C Anther.
- D Sepal.

20. Below is a diagram of a bacterial cell.



- Which structure is labelled 1?
 A Flagellum.
 B Mucus layer.
 C Cell wall.
 D Cell membrane.

SECTION III
Questions 21-25
(Five questions)

Directions: For each of the questions below, ONE or MORE of the responses is (are) correct. Decide which of the responses is (are) correct. Then choose:

DIRECTIONS:	
A	If 1,2 and 3 are all correct.
B	If 1 and 2 only are correct.
C	If 2 and 3 only are correct.
D	If 1 only is correct.

21. Transpiration helps plants to take up:
 1 Water.
 2 Mineral salts.
 3 Carbondioxide.
22. In rats black fur colour is dominant over white fur colour. A cross between a homozygous black male and a homozygous white female produces offspring which are all:
 1 Black.
 2 White.
 3 Black and white.
23. Reptiles:
 1 Are poikilothermic.
 2 Have moist scaly skin.
 3 Are all terrestrial.
24. When there is overheating in the body:
 1 More blood flows to the skin surface.
 2 Less blood flows to the skin surface.
 3 There is an increase in metabolic rate.

25. During active transport:

- 1 Molecules move from a region of high concentration to a region of low concentration.
- 2 Molecules move from a region of lower concentration to a region of high concentration.
- 3 Energy is required.

SECTION IV
Questions 26-30
(Five Questions)

Directions: Each of the following questions consist of a statement in the left-hand column followed by a second statement in the right-hand column.

	First statement	Second statement	
A	True	True	2 nd statement is a correct explanation of the first.
B	True	True	2 nd statement is NOT a correct explanation of the first.
C	True	False	
D	False	True	

	First statement	Second statement
26	Photosynthesis occurs only during the day.	Chlorophyll absorbs solar energy in sun light.
27	Yeast cells carry out fermentation.	Ethanol is a product of anaerobic respiration in breweries.
28	Nitrogen fixing bacteria converts soil nutrients to atmospheric nitrogen.	Nitrogen fixation is either done aerobically or anaerobically.
29	During very cold weather, the erector pilli muscles contract and cause the hair on the body to stand erect.	During cold weather there is increase in metabolic activities which causes more blood supply to the skin surface.
30	Plants are autotrophic.	Plants always occupy the first trophic level in an ecosystem.

SECTION V
Questions 31-40
(Ten questions)

Directions: Each question consists of four lettered headings A, B, C, D. Select the heading which is closely related to the description which follows.

31. A Hinge joint.
B Ball and socket joint.
C Fixed joint.
D Slightly moveable joint.
An example of a joint that rotate 360°.

32. A Commensalism.
B Parasitism.
C Mutualism.
D Symbiosis
A feeding relationship between two organisms in which one benefits but the other neither benefit nor loses.

33. A Cell membrane.
B Cell wall.
C Chloroplast.
D Nucleus.
Provides turgidity to plant cells.

34. A Carbondioxide.
B Smog.
C Fertilizer.
D Sulphurdioxide.
A water pollutant.

35. A Herbivore.
B Omnivore.
C Carnivore.
D Parasite.
A primary consumer

36. A Phenotype.
B Genotype.
C Complete dominance.
D Incomplete dominance.
A condition in which alleles blend to produce an intermediate trait.

37. A Bicuspid valve.
B Tricuspid valve.
C Semi lunar valve.
D Septum.
Separates the right auricle from the right ventricle.

38. A Carbondioxide.
B Water.
C Ethanol.
D Lactic acid.
A product of fermentation in plants

39. A Scales.
B Lateral line.
C Gills.
D Tail fin.
Detects vibrations in water.

40. A Low body temperature.
B Sharp beak.
C Streamline nature.
D Small flat muscles.
An adaptation of birds to flight.

SECTION VI
Questions 41-50
(Ten questions)

Directions: This group of questions deals with biological situations. Each situation is followed by a set of questions. Select the best answer for each question.

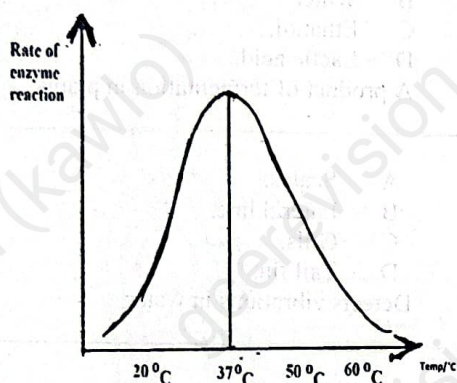
41. The bending of a plant shoot towards unidirectional light source is the result of:

A	Accumulation of auxins on the lighted side
B	A decrease in the amount of water in the cells of plant.
C	Accumulations of auxins on the darker side.
D	An increase in the rate of water loss from the leaves.

42. If a cell has 16 chromosomes, how many chromosomes will each of its daughter cells have after mitosis.
A 4.
B 8.
C 12.
D 16.

Turn Over

43. The graph below show the effect of temperature on an enzyme catalyzed reaction.



What will cause a fall in the curve at temperatures above 40°C.

- A Enzymes are deactivated.
 B Enzymes are denatured.
 C Enzymes are used up.
 D Enzymes are activated.
-
44. What is the use of pyrogallic acid in the experiment to demonstrate the importance of oxygen during seed germination?
- A To absorb all oxygen present.
 B To produce more oxygen.
 C To cause the seeds to germinate.
 D To provide more water for the seeds.
-
45. A seedling transplanted on a hot windy day withers because the:
- A Sun is too hot.
 B Air is too dry.
 C Seedling loses more water.
 D Roots were destroyed.

6

46. A solution from crushed germinating maize seeds was heated with an equal amount of Benedict's solution in a test tube and a brick red colour appeared. The brick red colour indicate the presence of:

A Starch.
 B Sugar.
 C Lipid.
 D Protein.

-
47. A food chain differs from a food web in that:
- A Each organism in a food web has more than one food source.
 B Little energy is lost in a food web
 C Each organism in a food chain has more than one food source.
 D Food chains are interconnected.

-
48. In an experiment to test for the presence of starch in a green leaf, the leaf is boiled in water, then in alcohol. Why must the leaf be boiled in alcohol?

A To burst starch grains.
 B To remove chlorophyll.
 C To destroy the protoplasm.
 D To make it soft.

-
49. In a farm land, it is noticed that maize plants found amongst leguminous plants, were seen to grow more vigorously than in areas where the leguminous plants were absent. How can this be explained?

A The leguminous plants make more water available to the maize plants.
 B The leguminous plants provide shade to the maize plants.
 C The leguminous plants increase the nitrogen content of the soil.
 D The leguminous plants conserve more soil water.

-
50. The planting of more trees in an environment will cause:

A Production of more CO₂
 B Soil erosion.
 C Production of more oxygen.
 D Soil leaching.

STOP

GO BACK AND CHECK YOUR WORK