

2024 WASSCE SUPER MOCK BIOLOGY 1

BIOLOGY

PAPER 1

[50 marks]

50 minutes

Answer **all** the questions.

Each question is followed by **four** options lettered A to D. Find out the correct option for **each** question and shade **in pencil** on your answer sheet, the answer space which bears the same letter as the option you have chosen. Give only **one** answer to **each** question.

Think carefully before you shade the answer spaces; erase completely any answers you which to change. Do all rough work on this question paper. Now answer the following questions.

1. The cell as the basic unit of life consists of

- A. Cytoplasm and vacuole
- B. Cytoplasm and nucleus
- C. Nucleus and cell wall
- D. Cell wall and vacuole

2. The organism with spiral chloroplasts and nucleus suspended by Cytoplasmic strands is

- A. Euglena
- B. Paramecium
- C. Spirogyra
- D. Volvox

3. Which of the following tissues does **not** provide support in flowering plants?

- A. Phloem
- B. Xylem
- C. Parenchyma
- D. Collenchyma

4. Which of the following materials is **not** a living semi-permeable membrane?

- A. Sheet of cellophane
- B. Yam tuber
- C. Unripe pawpaw fruit
- D. Pigs' bladder

5. Which part of the gills of fish is involved in gaseous exchange?

- A. Gill slits
- B. Gill bars
- C. Gill covers
- D. Gill filaments

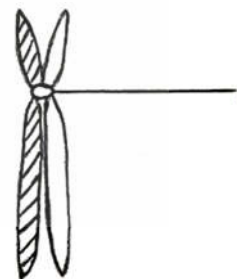
6. The excretory product of some reptiles, birds and insects?

- A. Uric acid
- B. Ammonia
- C. Urine
- D. Urea

7. Oxygen comes out of the stomata during photosynthesis through the process known as

- A. Active transport
- B. Osmosis
- C. Transpiration pull
- D. Diffusion

The diagram below represents a chromosome yet to divide. Use it to answer questions 8 and 9.



8. The part labelled I represents

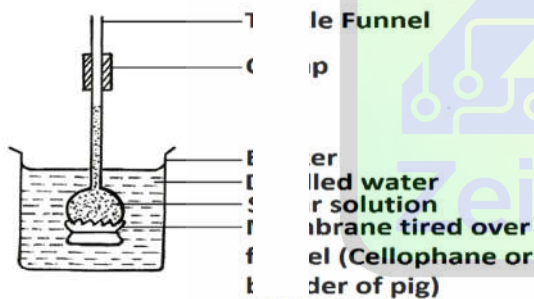
- A. Single chromatid
- B. Chromosome
- C. Gene locus
- D. Centromere

9. What does the shaded portion represent?

- A. Allele
- B. Chiasma
- C. Chromatid
- D. Centriole

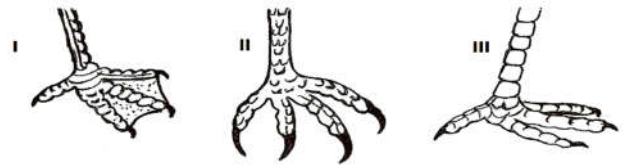
10. Amoeba reproduces asexually by a process known as
- Conjugation
 - Longitudinal fission
 - Binary fission
 - Gametangial fission
11. Lizards bask in the sun in the morning to
- Avoid water loss
 - Gain heat
 - Trap insects
 - Get the scales dry
12. RNA formation is associated with
- Ribosomes
 - Mitochondria
 - Golgi bodies
 - Lysosomes

Use the diagram below to answer questions 13 and 14



13. After an hour, the level of water in the thistle funnel will
- Rise
 - Fall
 - Double
 - Remain the same
14. The experiment above is used to demonstrate the process of
- Transpiration
 - Water culture
 - Diffusion
 - Osmosis

Diagram I, II and III below illustrate the feet of birds adapted to various modes of feeding and movement. Use them to answer questions 15 and 16.



15. What is the foot labelled I adapted to?
- Feeding on flesh
 - Eating grains
 - Swimming in water
 - Perching on trees
16. The foot labelled III is strong and has blunt claws on its digits. This implies that the bird
- Is a scavenger
 - Is a bird of prey
 - Is a marine bird
 - Uses its foot to scratch the ground
17. The instrument used to determine relative humidity is
- Anemometer
 - Barometer
 - Hygrometer
 - Hydrometer
18. Different Which of the following organs is associated with deamination of proteins?
- lung
 - stomach
 - kidney
 - liver
 - heart
19. The process of maintaining a steady internal environment is known as
- plasmolysis
 - homeostasis
 - osmoregulation
 - equilibrium

20. Which of the following statements is not true of a dominant gene? It expresses itself

- A. In the phenotype
- B. Even in the presence of a recessive gene
- C. In the phenotype only in a homozygous form
- D. Even in a heterozygous form

21. The pair of genes expressed in a heterozygous individual is described as

- A. Alleles
- B. Chromatid
- C. Dominant gene
- D. Centrosome

22. Two Which of the following is **true** about enzymes? Enzymes are

- A. carbohydrate compounds
- B. inorganic trace elements
- C. found mainly in the alimentary canal
- D. protein compounds
- E. used up in metabolic reactions

23. A fungal cell **cannot** manufacture its own carbohydrate because it

- A. has abundant vacuole
- B. grows in dark
- C. does not possess true root
- D. does not possess chloroplast

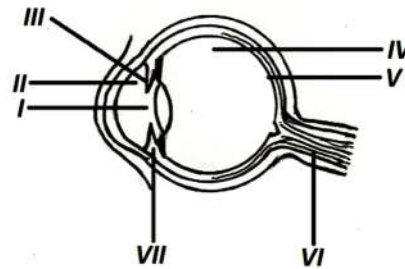
24. The heart can beat continuously without being fatigue because it is composed of

- A. Renal muscles
- B. Cardiac muscles
- C. Smooth muscles
- D. Skeletal muscles

25. In the alimentary canal of birds, food is stored in the,

- A. Gizzard
- B. Crop
- C. Stomach
- D. Proventriculus

Use the diagram below to answer questions 26 to 27.



26. The part labelled IV, V and VI respectively are the

- A. ciliary body, optic nerve and yellow spot
- B. blind spot, optic nerve and suspensory ligament
- C. vitreous humour, yellow spot and optic nerve
- D. blind spot, optic nerve and pupil

27. The light ray entering the eye goes through the following route

- A. II → III → I → IV → V
- B. II → I → VII → III → V
- C. II → I → III → IV → V
- D. V → IV → III → I → II

28. One of the similarities between reptiles and birds is their possession of

- A. Lungs
- B. Eyes
- C. Scales
- D. Gizzard

29. Radial symmetry is observed in each of the following except

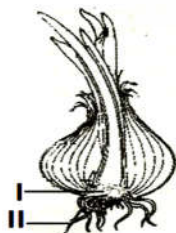
- A. Sea urchin
- B. Obelia
- C. Brittle star
- D. Octopus

30. A longitudinal section of a biological specimen is a section that

- A. Runs diagonally through the specimen
- B. Cuts the specimen into two halves
- C. Runs through the length of the specimen
- D. Passes crosswise through the specimen

31. Fresh milk is often kept in refrigerated vehicle, for distribution to customers in order to
- ensure proper share of fresh milk to all customers
 - ensure delivery of milk to customers in good time
 - improve the quality of milk
 - ensure that the milk is preserved for a long period
32. The clarity of an image produced by the microscope is determined by the
- Magnification
 - Resolution
 - Stain used
 - Light source
33. The main function of the amniotic fluid is for
- Nourishing the foetus
 - Lubricating the birth canal
 - Protection of the foetus from shock
 - Respiration in the foetus
34. Which Excessive bleeding from an injury may be due to lack of vitamin
- B
 - A
 - D
 - K

Use the diagram below illustrating a modified plant to answer questions 35 to 36.



35. The plant illustrated above is a
- Runner
 - Stolon
 - Bulb
 - Stem tuber

36. The part labelled I is the
- Leaf
 - Bud
 - Root
 - Stem
37. A network of double membrane that conveys materials through the cytoplasm is the
- Endoplasmic reticulum
 - Mitochondrion
 - Nuclear membrane
 - Plasma membrane
38. When a rain guage is in use it is usually
- Suspended on moving water
 - Suspended in air
 - Placed on a table
 - Placed slightly above soil level
39. Which of the following is not a conservable natural resource?
- Water
 - Soil
 - Air
 - Mineral
40. Depletion of the ozone layer will result in the earth surface receiving more
- X-rays
 - Ultraviolet rays
 - Infra-red rays
 - Gamma rays
41. During photosynthesis, energy obtained from sunlight is used for
- splitting water molecules into oxygen and hydrogen ions
 - opening and closure of stomata
 - the reduction of ATP to ADP
 - raising the temperature of water and carbon dioxide
 - uptake of water to the leaves
42. Which of the following pairs of tissues is responsible for strengthening a plant?
- Phloem and epidermis
 - parenchyma and cambium
 - collenchyma and sclerenchyma
 - collenchyma and cambium
 - xylem and cambium

43. Which of the following diseases can be inherited?

- A. Malaria
- B. Sickle cell anaemia
- C. Whooping cough
- D. Pneumonia

44. Which of the following pairs of tissues is responsible for strengthening a plant?

- A. Phloem and epidermis
- B. parenchyma and cambium
- C. collenchyma and sclerenchyma
- D. collenchyma and cambium
- E. xylem and cambium

45. When red blood cells are placed in water the water becomes deep red because

- A. The cells lose water
- B. The cells multiply
- C. Haemolysis takes place
- D. The water evaporates

46. In anaerobic respiration the net ATP molecules produced by a glucose molecule is

- A. One
- B. Two
- C. Three
- D. Four

Use the following equations to answer question 47.

I. Boiled saliva + starch \longrightarrow X

II. Fresh saliva + starch \longrightarrow Y

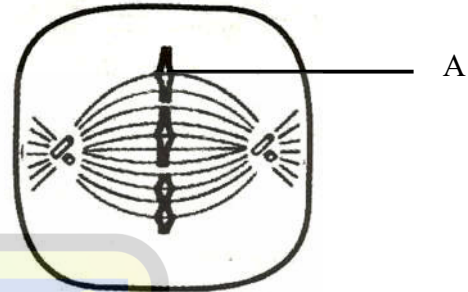
47. What substances do X and Y represent?

- A. X = Maltose and Y = Sugar
- B. X = Starch and Y = Maltose
- C. X = Sugar and Y = Starch
- D. X = Maltose and Y = Starch

48. Which of the following are characteristics of a swamp?

- A. mesophytes with broad leaves
- B. the ground is flooded most of the time
- C. predominance of climbing plants
- D. many plant with fire resistant structures

The diagram below illustrates a stage in mitosis. Use it to answer questions 49 and 50.



49. What stage is illustrated by the diagram?

- A. interphase
- B. prophase
- C. metaphase
- D. anaphase
- E. telophase

50. What is the name given to the structure labelled A at this stage of cell division?

- A. chromatin
- B. chromosome
- C. chromatid
- D. gene
- E. daughter

END OF PAPER