

2024 SHS2 END OF SEMESTER EXAMS – BIOLOGY 1

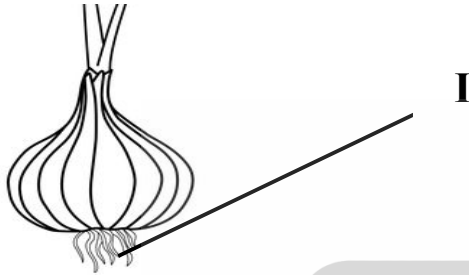
BIOLOGY

PAPER 1

1. In a typical biological drawing, the length of the actual object is **three-quarter** of the drawing. Calculate the magnification

- A. X4 B. X1.3 C. X0.75 D. X12

Use the organism below to answer questions 2 and 3



2. The level of organisation of the organism above is a
A. organ B. tissue C. system D. cell
3. The part labelled **I** represents the
A. Taproot B. Root hair
C. Adventitious root D. Lateral root
4. Aristotle's classification of living organisms was based on
A. Appearance and movement of organisms
B. Structural similarities and differences in the organism
C. Historical and anatomical differences in the organism
D. Evolutional trend in the organisms
5. The *royal jelly* in honeybees is used to feed
A. The queen only
B. The drones only
C. Both the queen and the larvae
D. The workers and drones
6. Which of the following is not caste in the termite colony?
A. King B. Queen C. Soldier D. Drone
7. The unit of inheritance amongst the following is
A. Chromosome B. Nucleoplasm
C. Gene D. Nucleic acid
8. Which of the following activities is related to mature organisms only?
A. Respiration
B. Reproduction
C. Respond to external stimuli
D. Ability to move from place to place
9. Which of the following structures allows movement of fluid in secondary cell wall of plants?
A. Plasmodesmata B. Pit
C. Pith D. Middle lamella

Use the following structures to answer questions 10 and 11

- I. Neurons II. Gap junction
III. Cell wall IV. Cytoskeleton

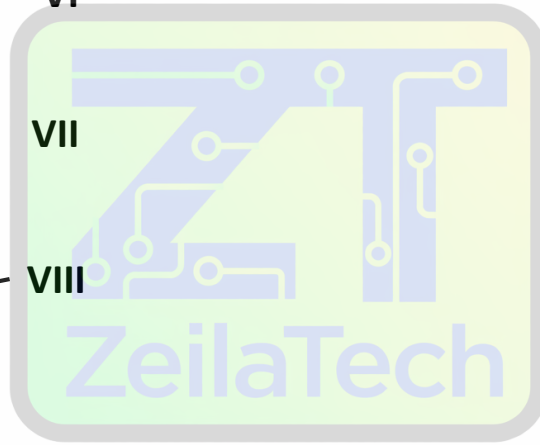
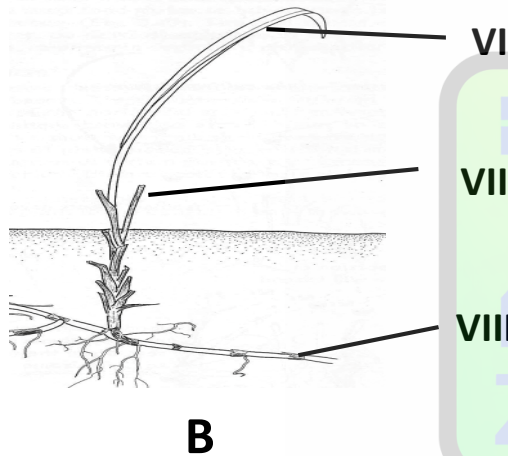
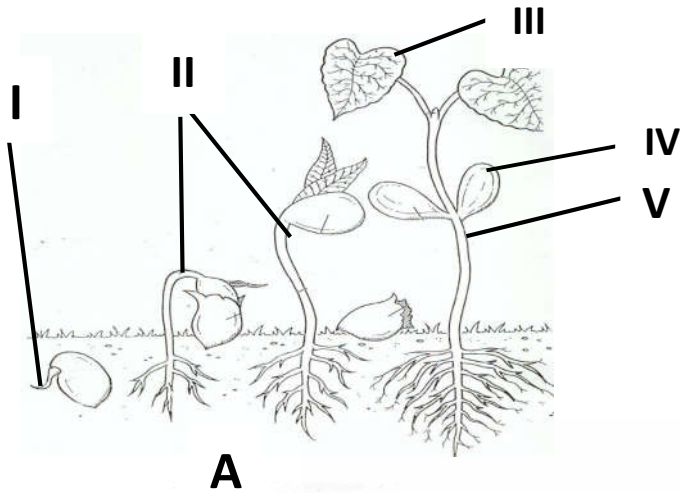
10. The structure responsible for cytoplasmic connection between animal cells
A. I B. II C. III D. IV
11. The structure that maintains cell shape in animals is the
A. I B. II C. III D. IV
12. Which of the following organelles converts cellular monomers to polymers?
A. Chloroplast B. Golgi body
C. Mitochondrion D. Vacuole
13. Which of these has the largest surface area to volume ratio?
A. Euglena B. Amoeba
C. Paramecium D. Earth worm
14. Paramecium is more advanced than amoeba because of possession of
A. Flagellum B. Cilia
C. Contractile vacuole D. Nucleus
15. The commonest structure found among *mitochondrion*, *nucleus* and *chloroplast* is the
A. Ribosome B. DNA
C. Leucoplast D. Histone

Use the following information to answer questions 13 and 14

- I. Anisogamy
II. Isogamy
III. Heterogamy
IV. Cleistogamy

16. Which of the information refers to as fusion of morphologically identical gametes?
A. I B. II C. III D. IV
17. Fusion of a larger gamete by a smaller gamete in sexual reproduction employs the term labelled
A. I B. II C. III D. IV
18. Which of the following is not found in the nucleus of a cell?
A. DNA B. lysosome
C. centriole D. nucleolus
19. Which of the following is more specialized among the rest?
A. Sperm B. Amoeba
C. Euglena D. Schistosoma
20. Which of the following organisms is more advanced?
A. Euglena B. Plasmodium
C. Paramecium D. Schistosoma
21. The cytoplasm of Amoeba is made of
A. Plasmasol and nucleus
B. Plasmasol and contractile vacuole
C. Plasmasol and plasmagel
D. Contratile vacuole and nucleus
22. The habit of feeding in Amoeba is referred to as
A. Phagocytosis B. Pinocytosis
C. Active transport D. Endosmosis

The diagrams below represent types of germination of seeds. Study them carefully and answer the rest of the questions 23 and 24.



23. Which of the is true about the diagrams?
- I is the radicle and II is the stem
 - Both II and V are called **hypocotyl**
 - III is called second true leaf
 - IV and V are called **cotyledons**
24. An example of crop that germinates by the germination type **B** is
- Beans
 - Groundnut
 - Maize
 - Garden egg
25. **Bones** are connected together in the skeletal system by
- Cartilage
 - Tendon
 - Ligament
 - Muscle

Use the following pigments to answer questions 26 and 27

- I. Chromoplast
- II. Leucoplast
- III. Chloroplast
- IV. Tonoplast

26. Which pigment is responsible for colour formation in plants or flowers?

- A. I B. II C. III D. IV

27. The pigment that is responsible for storage of food in plants is the

- A. I B. II C. III D. IV

28. The pigment that absorbs light for synthesis of carbohydrates is

- A. I B. II C. III D. IV

29. Hydra, Jelly fish and sea Anemone all are the phylum called

- A. Platyhelminthes B. Cnidaria
C. Annelida D. Animalia

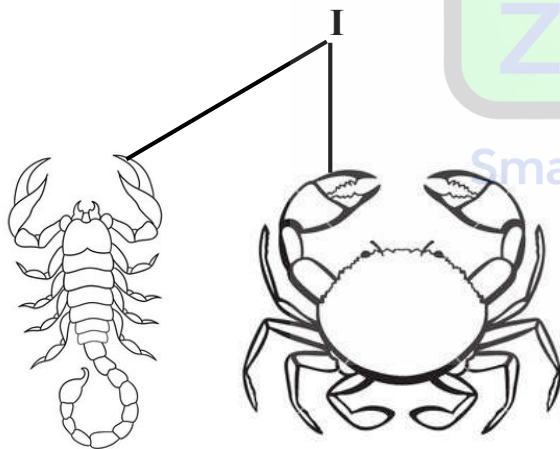
30. The class of *hydra* is called

- A. Anthozoa B. Hydrozoa
C. Scyphozoa D. Cestoda

31. Which of the following substances will have the slowest rate of diffusion?

- A. Carbon dioxide at 30°C
B. Oxygen at 60°C
C. Nitrogen at 80°C
D. Hydrogen at 90°C

Use the organisms below to answer questions 32 to 34



A

B

32. The organisms labeled **A** and **B** belong to the phylum called Arthropoda.

This is because they,

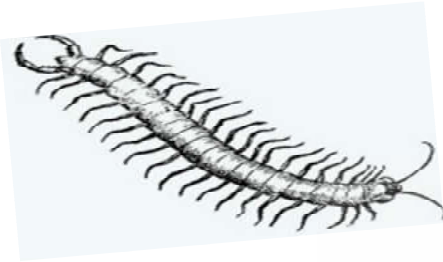
- A. Have **five** pairs of walking legs
B. Have **two** body segments
C. Have exoskeleton
D. Have **two** stalked eyes

33. The part labeled **I** is referred to as

- A. Chela B. Mouth
C. Uropod D. Carapace

34. Which of the following is true about both **A** and **B**
- Both are crustaceans
 - Both are arachnids
 - A** is an arachnid and **B** is a crustacean
 - Both have ten (**10**) walking legs
35. Release of insulin by the cells of pancreas is an example of
- Exosmosis
 - Exocytosis
 - Osmoregulation
 - Active transport

use the organism below to answer questions 36 and 37



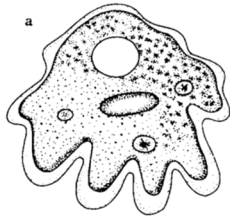
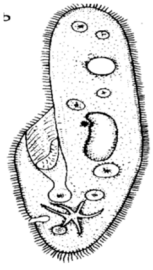
36. The organism belongs to the class of animals called
- Diplopoda
 - Chilopoda
 - Crustacea
 - Insecta
37. The mode of nutrition is
- Detritivorous
 - Carnivorous
 - Parasitic
 - Omnivorous
38. All the following are *connective tissues* in animals except
- Blood
 - Adipose
 - Muscle
 - Ligament
39. Which of these tissues provides strength to young plants?
- Sclerenchyma
 - Parenchyma
 - Collenchyma
 - Chlorenchyma
40. Water from the soil reaches all parts of plants through the
- Phloem
 - Xylem
 - Meristem
 - Stomata

Use the organism below to answer question 41



41. The organism is an insect because
- It has long antennae
 - Long powerful hind legs
 - It has three pairs of walking legs
 - It has compound eyes

Use the organisms below to answer questions 53 and 54



I

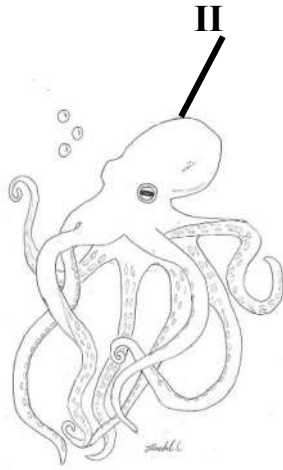
II

42. The organism labeled **I** belongs to the phylum called
- A. Ciliophora B. Rhizopoda
B. C. Chlorophyta D. Apicomplexa
43. All the following are habitats for both **I** and **II** except
- A. Ditches and oceans B. Ponds and ditches
C. Ponds and oceans D. Rivers and lagoons
44. If the concentration of solutes in the blood rises above a certain level, then
- A. Less glucose is reabsorbed in the kidney tubules
B. More salt is reabsorbed in the kidney tubules
C. More water is reabsorbed in the kidney tubules
D. Less water is reabsorbed in the kidney tubules
45. A farmer applied fertilizer very close to his plants in the farm and after two days the plants withered. What must have happened to the plants?
- A. The water around the plants was absorbed by the fertilizer thereby depriving the plants of water.
B. The fertilizer must have made the soil solution hypertonic to the plants cells thereby causing plasmolysis in the plant cells.
C. The fertilizer must have covered the soil around the plants thereby causing water to percolate into the soil far from the root hairs
D. The plants preferred to absorb the fertilizer rather than water thereby causing them to wither
46. A plant absorbed chemical from the soil which destroyed its xylem tissue. Apart from the transport, what other basic need of the plant will be affected?
- A. Diffusion of gasses
B. Ability of chlorophyll in the leaves to absorb light
C. Rigidity of the plant
D. Translocation of manufactured food.
47. Which of the following is nonliving semi permeable membrane?
- A. Cellophane paper B. Pig's bladder
C. Peeled yam D. Card board

Use the organisms below to answer questions 48 to 50



A



B

48. The type of reproduction shown by organism labeled **A** is referred to as
A. Oviparity B. Viviparity
C. Ovoviviparity D. Parthenogenesis
49. The feature labeled **I** in the organism is known as
A. Wattle B. Comb C. Beak D. Head
50. The feature labeled **II** in organism **B** is described as
A. Head B. Cephalothorax
C. Abdomen D. Cephalocaudal

