

GHS

**S2 BIOLOGY**

**HOLIDAY EXERCISE 4.1 27<sup>th</sup> JULY 2020**

**Attempt all the questions.**

1. Malaria can be prevented by
  - A. Eating balanced diet
  - B. Eating plenty of fruits
  - C. Drinking boiled water
  - D. Sleeping under mosquito nets.
  
2. The smallest unit of classification is
  - A. Kingdom
  - B. Species
  - C. Family
  - D. Phylum.
  
3. Most monocots have
  - A. Taproot system
  - B. Two cotyledons
  - C. Parallel leaf venation
  - D. Pointed leaf apex
  
4. Which type of living animal has a **rough, dry, scaly skin**?
  - A. Amphibian
  - B. Fish
  - C. Mammal
  - D. Reptile
  
5. Pollination is best defined as
  - A. Transfer of pollen from anther to stigma
  - B. Germination of pollen grains
  - C. Growth of pollen tube into ovule
  - D. Visiting flowers by insects
  
6. Unlike other animals, sponges:
  - A. are unicellular.
  - B. possess cell walls.
  - C. show radial symmetry.
  - D. are prokaryotic.
  
7. Insects have all of the following EXCEPT:
  - A. Three pairs of legs
  - B. Wings
  - C. A head, thorax, and abdomen
  - D. Four pairs of legs
  
8. Which phylum of animals is also called flatworms?
  - A. Porifera
  - B. Coelenterata
  - C. Platyhelminthes
  - D. Nematoda
  
9. What is the correct order of arthropod groups, from those with most legs to those with fewest legs?
  - A. arachnids → crustaceans → insects → myriapods
  - B. crustaceans → myriapods → insects → arachnids
  - C. insects → arachnids → myriapods → crustaceans
  - D. myriapods → crustaceans → arachnids → insects
  
10. What is the total magnification got from the eye piece marked x10 and objective lens x4?
  - A. x14
  - B. x6
  - C. x40
  - D. x400

11. What does **Arthropod** mean?  
A. bony legs    B. cartilaginous legs    C. largest legs    D. jointed legs
12. Which sub-group in the plant kingdom produces flowers?  
A. Angiosperms    B. fungi    C. mosses    D. ferns
13. Which of the following have filamentous body?  
A. Spirogyra    B. Euglena    C. Chlamydomonas    D. Amoeba
14. The science of classification is called  
A. Demography    B. Taxonomy    C. Biology    D. Toxicology
15. An example of phylum Echinodermata is  
A. Prawn    B. Starfish    C. Octopus    D. Honey bees
16. A group of freely inter-breeding organisms forms a  
A. Species    B. Genera    C. Family    D. Class
17. The root of a flowering plant absorbs water and mineral ions mainly through  
A. Epidermis    B. Root hairs    C. Phloem    D. Xylem
18. Spiders and scorpions are  
A. Insects    B. Millipedes    C. Arachnids    D. Crustaceans
19. Birds differ from bats in having  
A. Feathers    B. Four-chambered heart    C. Trachea    D. Teeth
20. The 5 kingdoms are:  
A. Protoctista, Fungi, Plantae, Porifera, Annelida.  
B. Monera, Protoctista, Fungi, Plantae, Animalia.  
C. Monera, Protoctista, Fungi, Plantae, Nematoda.  
D. Annelida, Nematoda, Porifera, Monera, Protoctista.
21. Identify a member from phylum Porifera  
A. Sponges    B. Euglena    C. Penicillium    D. Hydra
22. Cholera is caused by  
A. Bacterium    B. Contaminated water    C. Mosquitoes    D. Houseflies
23. Which of the following statements is true? All cells  
A. Have fixed shapes    B. Contain chloroplasts    C. Have a cell wall    D. Have a cell membrane.
24. In plants, water and mineral salts are transported in

A. Xylem      B. Phloem      C. Root hairs      D. Cortex

25. The main difference between Diplopods and Chilopods is.....

- A. Number of legs per segment
- B. Body shape
- C. Colour of the body
- D. Number of thoracic segments

26. Specialized cells which surround the stomatal opening are called?

- A. palisade cells
- B. Guard cells
- C. epidermal cells
- D. lower epidermal cells

27. The type of leaf shown in figure below can be termed as



- A. Compound pinnate
- B. compound bipinnate
- C. Simple pinnate
- D. simple leaf

28. Bryophyllum leaves are modified for?

- A. vegetative propagation
- B. protection of the plant
- C. support
- D. Attaching the plant onto objects

29. Which one of the following fruits is classified as a drupe

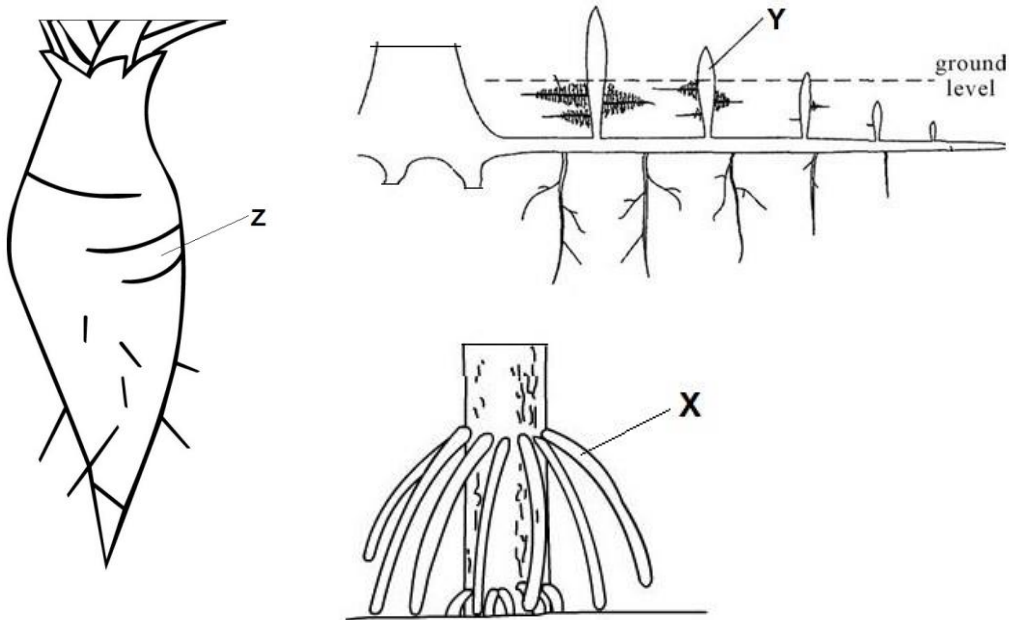
- A. Mango
- B. Guava
- C. passion fruit
- D. tomato

30. The part of the plant stem between two nodes is called?

- A. Node
- B. Internode
- C. Axil
- D. Terminal

**SECTION B (30 MARKS)**

31. (a) The figure below shows three different forms of modified roots labelled as **X**, **Y**, **Z**.



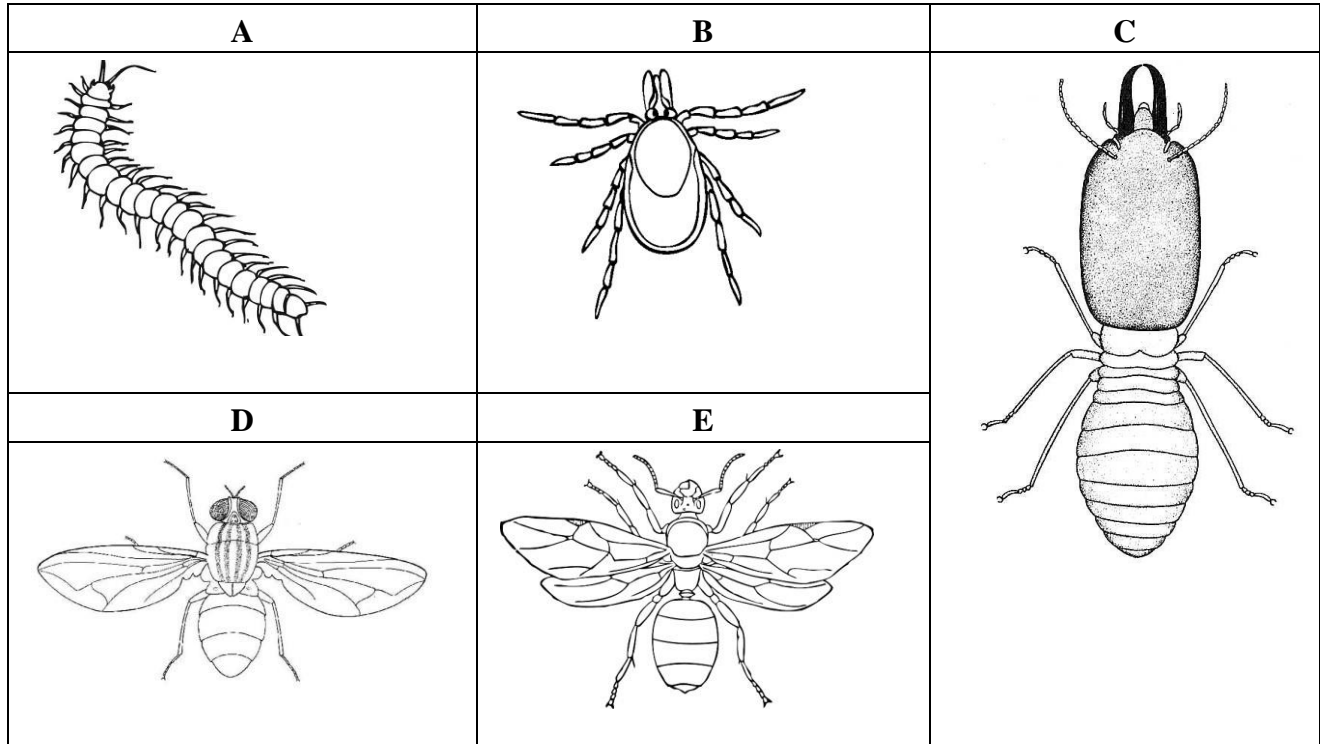
(a) Identify each type of root modification and state the function it performs. (06 marks)

	Name of root	Function
<b>X</b>		
<b>Y</b>		
<b>Z</b>		

(b) Give any other two root modifications and functions of each (4 marks)

Modified root	Function

32. The figure below shows five arthropods which are common in our environment.



(a) Which phylum do these organisms belong to? (1 mark)

.....

(b) Give two reasons for your answer (2 marks)

.....  
 .....  
 .....

(c) Name the classes of organisms (3 marks)

A.....

B.....

C.....

(d) Use the following features to construct a dichotomous key of organisms A, B, C, D and E; presence of wings, body divisions, number of legs and number of wings (4 marks)