**CATHOLIC DIOCESE OF KAKAMEGA EVALUATION TEST**

**AUG/SEPT EXAM 2022**

**231/1**

**BIOLOGY**

**PAPER 1**

**(Theory)**

**2 HOURS**

**MARKING SCHEME**

1. Antigen B; rej. Small b

Antigen Rhesus; (1mk)

2. (i) for support / to transmit weight of stationery animal to the rest of body; (1mk)

(ii) To increase surface area for attachment of large abdominal of muscles (to maintain posture and flex spine); (1mk)

3. (a) Situation where organisms have homologous structures / structures with common

embryonic origin but modified to perform different functions; to adapt organisms to different functions; to adapt organisms to different habitats / niches; (1mk)

(b) Standing upright / erect posture ; high intellectual capacity / thinking capacity hig;

communicate through speech / language; acc correct comparison (2mks)

4. - Body covered with dry scaly skin;

- Majority have four limbs with snakes having no limb

- Eggs have leathery shell (to reduce desiccation)

- Have lungs for gaseous exchange

- Heart is three chambered two atric and partially divided ventricle or four chambered;

(3mks)

5. (a) L – Glycogen granule; rej Plural

K – Vacuole; (2mks)

6. (i) Root; (1mk)

(ii) Shoot; (1mk)

7. (i) Moves the body through small distances to bring image / specimen / object into sharper

focus;

(ii) Concentrates light (from mirrow) into object on stage; (2mks)

8. (i) to keep it open / provide mechanical strength

(ii) to propel dust / bacteria / mucus out of trachea. (2mks)

9. (a) Trachaid?

(b) thickened with lignin;

Has tapered ends (tracheids); (3mks)

10. (a) (i) Primary consumer;

(ii) Secondary consumer; (2mks)

(b)

Ticks

Wild beak

Grass

(1mk)

11. (a) (i) Schistosoma mansoni;

(ii) Treponema pallidum; (2mks)

(b) (i) Swellings in veins due to weakened / defective valves resulting into accumulation

of blood;

(ii) Formation of (a blood) clot in the blood vessels; (2mks)

12. (a) (i) Sucrose ; (2mks)

(ii) Starch;

(b) Pollisade;

Spongy; (2mks)

13. (a) Burst / break drum to release lytic enzyme; to digest dead and worm out cell organelles;

(b) Form spindle during cell division/ formation of cilia and flagella; (1mk)

14. (a) Active transport / Diffusion; (1mk)

(b) Osmosis ;(1mk)

15. (i) 10 x 2 = 20 ;

11 x 2 = 22

= 42 teeth; (2mks)

(ii) Heterodont;

Reason – Has different types of teeth; OWTTE.

16. (a) (i) Dicotyledonae; rej wrong spelling Dicot, dicotyledonae

(ii) Vascular bundles arranged in (concentric) ring around the pith; presence of pith;

(1mk)

17. (a) Aerenchyma (tissue); (2mks)

Pneumatophores; rej breathing roots

(b) Have large air spaces for circulation of air / gaseous exchange; (1mk)

18. (a) spermatophyte

(b) brightly coloured petals scented nectar guides

19. (a) Structures from the same (embryonic) origin / ancestry but modified to perform different

functions; (1mk)

(b) Structures that have ceased to function over long period of time hence become reduced in

size; (1mk)

20. (a) Chemotropism

(b) (Negative) photo taxis;

(c) Haptonasty / Thigmonasty;

21. (a) Genetic engineering;

(b) Reproduce of very fast; hence producing more lormures;

22. (a) (i) Currents sound waves to sound vibrations; transmit sound vibrations to ear

obscicles;

(ii) Currents vibrations into impulses (for hearing)

(b) More sweat produced; but does not evaporate; due to humid conditions, hence more leaf

retained;

23. Pancreas secreted insulin hormone; hormone activates liver cells; to convert excess glucose to glycogen fats / increase in the rate of metabolism to break down glucose into energy; (3mks)

24. -Protogyny and protandry (3mks)

-Self sterility / incompatibility

-dioecious plant where distillate and staminate flower are born on different plants.

25.

|  |  |
| --- | --- |
| **Sensory neuron** | **Motor neuron** |
| Transmit impulses from receptors to *CNS* | Transmit impulses from *CNS* to effectors; (1mk) |

26. - Ability to fly;

- Can inhabit most types of habitats;

- Have varied mouth past for feeding

27. (a) Plasmolysis (1mk)

(b) (i) Strong salt solution; (1mk)

(ii) The salt solution passed through the cell wall because it is fully permeable; but

cannot pass through the cell membrane which is semi permeable; (2mks)

28. Protect the seeds; As a storage organ; Aids in seed dispersal; Max (2mks)

29. (i) Decomposition / recycling of nutrients;

(ii) requlate population of he prey / herbivores; (1mk)

30. - Reabsorption of salt and sugar in kidney nephrons;

- Absorption of digested food;

- Excretion of waste products from body cells

- Sodium pump in the nervous system