231/1

Biology Paper 1

July/August 2018

LANY ACHIEVERS FORM 4 EXAMINATION 2018

MARKING SCHEME

1. Reaction of the body as a result of introduction of antigens; (1mk)

2. Cell membrane; (1mk)

3. A) Rough endoplasmic reticulum; (1mk)

b) –Surface covered with ribosomes ; for protein synthesis

-It has interconnected channels; for transport of proteins. (2mks)

4. A) Emergence of present organisms from pre-existing forms gradually over a long period of time / millions of years;

b)-It gives evidence of tge types of organisms that existed long ago/at certain geological age;

-It gives evidence of morphological/anatomical/structural changes that have taken place over a long period of time/millions of years.

5. a) Male nuclei; Rej nucleus.

b) It controlls the growth of pollen tube;

6. a) E-Tympanic membrane/ Tympanum; Rej. Eardrum.

F-Ear Ossicles;

b) G-Equalizes the air pressure in the middle ear to that in the outer year / on both sides of the tympanum;

H- Convert sound vibrations into nerve impulses;

7. Radiation/Convection/Conduction/Evaporation;

8. a) Entomology;

b) Catching crawling animals that fall and get trapped;

9. a) Condensation;

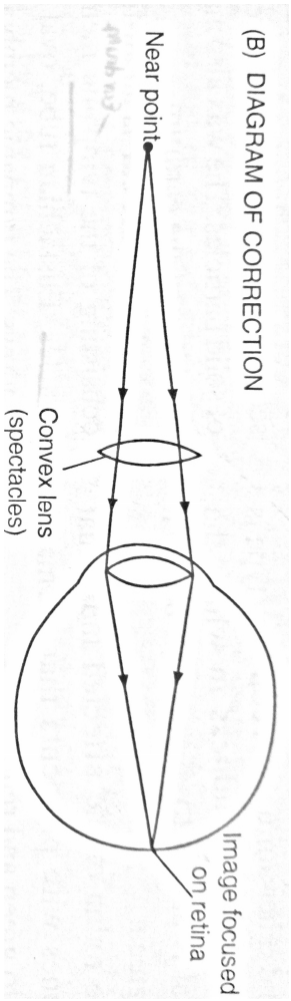
b) Water;

10. a) Haemolysis;

b) Solution X is hypertonic cell sap; plant cell loses water by osmosis; shrink and become flaccid/cell membrane separates / detaches from cell wall;

11. Ticks develop gene for resistance / acquire gene for resistance through mutation; the gene for resistance is passsed to offsprings establishing a population of resistance forms;

12. A) Long sight/ Hypermetropia;



13. Community refers to all organisms living together in a habitat and interacting with each other / co-existing while population refers to all members of a given species in a particular habitat;;
14. a) i) platelets/ thrombocytes;

ii)Vitamin K/ phylloquinone

iii) thrombin

b) – contains antibodies /white blood cells that produce antibodiers that defend the body from foreign antigens

- contains blood cells/phagocytes engulf antigens;

15. Budding

16. –able to manufacture their own food;

-Plants have developed mechanism for pollination and dispersal of seeds and fruits

17. –long;

-coiled;

18. a) i) mitochondrion; rej. Mitochondria.

ii) Acetylcholine;

b)

19. a) K- plumule;

L- cotyledon/seed leaf

b) Hypocotyl;

20.

21. a) A – Biceps;

C – scapula;

b) muscle A/Biceps relax while muscle B/Triceps contract;

22. species;

23. a) A leaf that has some patches that lack chlorophyll;

b) Increase in light intensity upto a certain optimum point increases the rate of photosynthesis;

c) -They contain chlorophyll which traps/absorb light energy;

-they have grana which increases surface area for accommodation of large number of chlorophyll molecules.

-the stroma has enzymes for photosynthesis;

24. –large neural canal allowing joint between skull and neck to allow nodding movement of head.

- wing-like /flat / broad transverse process for muscle attachment;

- has a small / no centrum to support weight of vertebra ;

- large facets for articulating with condyles/ knibs on skull;

-Has very small neural spine for muscle attachment;

-has vertebraterial canals for passage of vertebral arteries;

25. a) i) Bryophyta; B – capital letter

ii) capsule;

b) Arachnida/Crustaceae; capital A and C

26. a) Chemotropism;

b) Phototaxis;

27. –moist/ water film to dissolve respiratory gases;

- highly vascularised to create a steep diffusion gradient for maximum gaseous exchange;

28. a) Anaerobic respiration/ Anaerobiosid/ Fermentation;

b) –Bread baking;

-beer brewing

-Production of dairy products;

-production of organic acids.

c) extra amount of oxygen required to breakdown accumulated lactic acids;

29. a) i) intestinal juice/ Succus entericus;

ii)- sucrose/ maltose/Lactose/peptidase/lipase;

b) so as not to digest the glands that produce it;

30. a) i) pith;

ii) root

b) Transport water/ mineral salts;

31.

32. a) Ultrafiltration/ pressure filtration;

b) i) water;

ii) Antiduretic hormone/ vasopressin;

33. Excess amino acids are deaminated; forming ammonia; ammonia is combined with carbon (IV) oxide to form urea;

34. a) Body tube;

b) Objective lens;

35. Analogous structures with different embryonic origin but modified to perform similar functions while homologous structures are those with similar embryonic origin but evolved/modified to perform different functions;;