**Biology marking Scheme paper1 231/1**

1. Virology

Bacteriology

2. The fruit protects and nourishes the seed and embryo;

It also brings about dispersal of seeds;

3. Orange tree/plant fruit fly small bird large bird;

N/B The producer must be an organism, not an organ.

4. (a) The genus name started with a small letter,

The specific name started with a capital letter

The names are not underlined separately.

(b) Adansonia digitata  **the name must be underlined separately.**

5. (a) Light microscope uses light for illumination while electron microscope uses a beam of electrons;;

(b) Light microscope uses light from the sun/artificial bulb while electron microscope uses electrons from an electron gun;;

(c) The degree of detail needed

The nature of the specimen

Size of the specimen

6. In parasitism, the organism must not necessarily killed before the parasite obtains nutrients from it while in predation, the prey must be killed;

In parasitism, there is an association between the parasite and the host unlike in predation.

7. (a) It contains proteolytic enzyme; that breaks down long chains of proteins to soften the meat;

(b) Quinine;

8. Ileum is the lower part of the small intestine while ilium is one the fused bones (forming innominate bone with ischium and pubis) of the pelvic girdle;

9. They are artificially preserved yet fossil formation must accidental/natural;

10. Digestion was impaired and blood sugar regulation remained normal; digestion was impaired because the pancreatic juice containing digestive enzymes **released** did not reach the duodenum; blood sugar hormones, insulin and glucagon were released directly into the bloodstream;

11. (a) osmosis;

(b) X- X is hypotonic and therefore lost water to the liquid in the beaker by osmosis, hence reduction in the size of the visking tubing;

Y- Remained the same, the liquid Y was of the same concentration with the liquid in the beaker, hence no net movement of water by osmosis;

Z- Z is hypertonic and therefore drew water from the liquid in the beaker by osmosis, hence increased in the size of the visking tubing;

12. (a) allergy is a hypersensitive reaction to an antigen by the body;

(b) Allograft- this is a graft obtained from persons that are not genetically identical;

Isograft- this is a graft obtained from a genetically identical twin.

13. It is glandular and secretes hormone progesterone and traces of oestrogen;

It is semipermeable/has a sinus to selectively allow substances into and out of the foetal circulatory system;

It is highly vascularized to create a steep concentration gradient for faster transport of dissolved food substances into the foetal circulatory system;

It has a countercurrent flow system, to maintain a steep gradient for maximum exchange of materials;

14. (i) disaccharides

(ii) Condensation

Enzyme Maltase

15. (a) X- oxygen gas

A- energy/adenosine triphosphate

B- Pyruvic acid

(b) Glycolysis

16. Inheritance of ABO blood groups;

17. My scientific view is that is partly valid and partly false; valid in the sense the environment influences the phenotypic expressions of the genes; false, because phenotypically acquired characteristics in the course of the lifetime of an organism cannot be inherited because they do not affect the gene make up of an organism;

18. Suitable warm temperature, moisture, thinning down/softening of the testa by microorganisms;

19. Thick adipose tissues store a lot of fat; which insulate the body against heat loss;

20. (a) A- Neural spine

B- Metapophysis reject Metapophyses

(b) It is long to increase the surface area for attachment of (abdominal) muscles;

21. Parthenocarpy is the development of fruits without fertilization while parthenogenesis is the spontaneous development of an embryo from unfertilized egg cell;

22. Night sweats,

Random hot flashes during the day

Changes in mood that shows depression, fatigue.

Vaginal dryness

Loss of minerals such as calcium

Osteoporosis/softening of bones

23. (i) Divergent evolution

(ii) Bird E evolved such feet which are used to scratch the ground to obtain food materials like worms and other soil organisms; It evolved to that to ensure the bird is better adapted to its environment; and therefore with that feet it can compete favourably for the limited food resources and this increases its survival;

24. Diaphragm flattens; volume of the thoracic cavity increases; pressure of the thoracic cavity reduces; lungs are inflated/ air rushes into the lungs;

25. The oxides of nitrogen are poisonous to humans affecting their respiratory systems when inhaled;

Nitrogen (IV) oxide is carcinogenic/causes cancer;

High concentration of Sulphur (IV) oxide causes bronchitis, pneumonia and heart failure;

They slow down ciliary activities in the respiratory tract;

26. Their cell walls are made of murein/ proteins and sugars;

They lack membrane bound organelles/ few organelles/ lack mitochondria

Are prokaryotic;

27. Xylem has lignified walls while phloem lacks;

Xylem is made of dead cells while phloem is made of living cells;

28. This is because of limited oxygen; required for respiration to provide energy required for germination;

29. Starch is first hydrolyzed to simple sugars; which are then oxidized to provide energy;

30. (a) vestibular apparatus/vestibule;

(b) Maintain body posture in **relation to gravity;**

(c) 1- cochlea

5- Semi-circular canals

31. (i) stimulates milk production

(ii) Stimulates milk let down/stimulates the contractions of lobule containing alveoli to release milk into the lactiferous ducts;

(iii) It stimulates the contractions of the myometrium **during giving birth/parturition;**