**BIOLOGY – PAPER 1**

 **231/1**

**ARISE AND SHINE TRIAL 1 EXAMS**

**AUGUST - 2022**

**MARKING SCHEME**

1. (a). (i). Science is the knowledge of natural world based on facts that can be proved by experiment;

 (ii). Biology is a branch of science that deals with the study of living things;

 (b). (i). Zoology is the study of animals;

 (ii). Entomology – is the study of insects;

 (iii). Morphology is the study of external structure of organisms; (Rej of plants or of animals)

1. (a). - Buding;rej asexual reproduction

- Baking bread;

- Brewing of alcohol; (first 2)

- Source of vitamin B;

1. (a). Prolongs the life of the victim by reducing the viral load;

(b). -Avoid excessive intake of alcohol

- Avoid indiscriminate sex

- Avoid narcotic drugs

- Avoid wife inheritance

- Avoid female genital mutilation

- Avoid sharing tooth bruises, razers and other implements

- Screen blood before transfusion (1st 2)

4. Pelvic giddle;

Femur;

5. (i). M-skeletal/striated muscle;

N – Smooth muscle;

 (ii). M – has single nucleus while N is multinucleated;

M lacks cross striations while N has cross striations;

 (iii). M;

6. They have perforated cross walls; that hinder continuous flow of water;

7. Insects blood is not used for transportation of respiratory gases; as the gasses are transported through tracheal system;

8. - Crowing points;

 - Storage sites;

9. (a). Ribosomes;

(b). Golgs bodies;

(c). Lysosomes;

10. Diameter of field of view = 4mm-5mm

 Number of cells = 20cells

 1mm = 100um

 mm = (4x1000)um; or (5x1000)um

 = 4000um or (5000)um

Size of one cell = $\frac{4000}{20}$, 200um; $\frac{5000}{20}$ – 250um

11. (a). Goblet ells;

 (b). Activates pepsinogen to pepsin;

Provides an acidic medium for the working of pepsin and rennin/Enzymes in stomach;

12. (a). - Vitamin A/Retinol;

 (b) - Vitamin C/Ascorbic acids;

 (c). - Vitamin k/quinone;

13. - Number of legs;

- Number of antennae;

- Body segmentation/- Body parts;

- Types of eyes

14. Arachnida;

Crustacean;

15.(a). Bacteria;

 (b). Transmit diseases;

- Used in fermentation of milk;

- Add nitrogen to the soil through nitrogen fixation/make soil fertile e.g. rhizobium;

- Help in decay hence circulate nutrients;

 (15a tied to b)

16.(a)(i). Osmosis

 (ii). Glucose is hypertonic to distilled water; hence water from the trough move to the potato tuber by osmosis

(iii) - No observable change inside the cylinder;

- Level of distilled water will remain constant;

(b). – Salt exert osmotic pressure on the cells of grass; water is drawn from the cells; by osmosis, the cells loose turgidity/become flaccid; further water loss dehydrates cells; (hence kills the plant) (Max 3mks)

17.(a)(i). Hairy pinna;

- premature baldness;

(ii). Haemophilia,colour blindness

18. Identify –Ribonucleic acids; rejRNA

Reason – Presence of organic base uracil;

19.(i). Crossing over

(ii). Allow exchange of genetic; materials leading to variation;

20. (a). Some of the oxygen diffuse from the alveolus into the blood; where they are transported to the body tissues and used for respiration;

(b). Some of the carbon (IV) oxide from the body tissues; diffuse from the blood capillaries into the alveoli;

21. (a). Oxyhaemoglobin;

 (b). (Weak) carbonic acid/carbamino-haemoglobin/hydrocarbonate acc bicarbonate ions

HcO-3

 (c). carboxyhaemoglobin

22. (a). Intermittent growth curve;

(b). Arthropoda; (rej if wrong spelling)

(c). Moulting;

23. (a). Curves/bend towards the light source;

(b). Positive phototropism; (rej phototropism alone)

(c). Enable the plant to obtain light; for photosynthesis;

24.(a). Glomerular filtrate;

 (b). ultrafiltrations

 (c). - Antidiuretic hormone/vasopressin;

 -Aldosterone hormone;

25.(i). Desert/semi-desert/Arid areas/Semi-arid areas;

 (ii). Salty water/marine;