**231/1**

**BIOLOGY**

**PAPER 1**

**THEORY**

Form 4

Paper 1

**MARKING SCHEME**

1 a) lysosomes

b) chloroplast

c) mitochondria( answer must be in plural)

2. a) intermittent growth curve

 b) Arthropoda( correct spelling)

 c) moulting

3. a) mirror

 Diaphragm

 b) total magnification =eyes piece lens magnification × objective lens magnification

 1000 = 10 × y

 100/10= y

 y= ×100

4. a) A- Hydrogen ions

 B- carbon iv oxide

 C- carbohydrates ( accept glucose)

b) 6CO2 + 6H2O chlorophyll C6H12O6 + 6O2

 sunlight

 (accept word equation)

5. i) skull; pelvic bone

 ii) ankle; wrist

 iii) knee ; elbow

6. a) condensation

 b) ribosome

 c) i) Q- Polypeptide

 X- peptide bond

7. a) nitrogen

 b) form the structure of animal fossils/ keratin in hair/ collagen in tendons and ligaments/ form myosis in

 muscles/ form enzymes and hormones/ form casein in milk/ source of enerhy during starvation

8. i) centriole- produce spindle fibres

 ii) centromere- holds chromatids together/ provide point of attachment to spindle fibres

9. AB and B

10. i) sori- Pteridophyta

 ii) sporangium- Bryophyta (for all spelling must be correct)

11. a) i) the rubbber balloon- lungs

 ii) syringe case – thoracic vertebrae

 iii) the plunger – diaphragm

 b) the balloon become inflated

12 a) Alleles- contrasting pair of genes

 b) Heat from the body is not lost to the surrounding through sweating because evaporation of sweat will

 below; as air is already saturated

 c) hypothalamus

13. a) *Entamoeba Histolytica*

 b) *Caudidaalbicans*

14. a) ability of the body to recognize foreign antigens and develop mechanisms of destroying them/ ability

 to resist infections

 b) natural immunity is inborn/ inherited/ passed from parents to off springs while acquired immunity is

 obtained in life( can only score 2 mks or zero)

 c) Tuberculosis/ Poliomyelitis/ Diptheria (mark the first to apper)

15. a) green plants grass hopper lizard domestic cat

 Green plants mice snakes hawks

 Green plants mice snakes domestic cat

 b) most plants will die/ dry ; some animals may starve to death

16. Acts as valves that close and/or open various parts of the canal/ controls food movements in alimentary

 canal by acting as valves

17. a) A- condensation

 B- Hydrolysis

 b) sucrose

 c) glycosidic

18. a) tannins – tanning hides and skin

 b) colchicines – cause polyploidy

 c) quinunine- used as an anti-malaria drug

19. thin cell wall; has large air spaces

20. a) 4.0 – 0.04/ 0.04 × 100 = 90%

 b) oxygen concentration reduces because it is used in respiration to produce energy ; carbon iv oxide increases greatly because it is produced during respiration as a by-product ; nitrogen gas concentration remained constant because it is neither used or produced by the body

21. a) change in body form during the life cycle of an organism

 b) in larvae stage there is a vigorous feeding; hence the insects obtain enough nutrients/ food

22. a) cohesion- water molecules cling to each other maintaining continuous column of water/ preventing the

 break of water column

 b) adhesion- water molecules cling to the sides of xylem walls

23. a) to breakdown the sucrose solution to simple sugars

 b) non- reducing sugar/ disaccharide

 c) i) starch

 ii) glycogen

24. Cells are loosely arranged; to facilitate air circulation

 Cells have moist surfaces; to dissolve respiratory gases

25. a) ultrafiltration- to remove urea/ nitrogenous wastes/ toxic / harmful substances from the blood stream

 b) selective re- absorption- to return useful substances/ glucose and amino acids into the blood stream

26. identity- ribonucleic acid

 Reason- presence of organic base uracil