**FORM 1 BIOLOGY MARKING SCHEME**

1. Identifying, classifying, interpreting, evaluating, analyzing, observing, recording , measuring (any 2)
2. Medicine, food science and technology, agriculture, dentistry (any 2)
3. Pollution, misuse of natural resources, food shortage, extinction of certain species of plants and animals.
4. Disvision
5. i) W and Y

ii) They belong to the same genus

b) -Latin was the medium of communication when scientific naming was introduced.

-Latin language is static

6. Protoctista

ii) Fungi

7. Golgi apparatus /bodies

b) Processing /packing and transportation of packaged synthesized cell material/ glycoproteins.

-Production of lysosomes

-Secretion of packaged materials

c) X – Golgi

Y – Vesicle

8. i) M – Hypertonic/highly concentrated

N – Hypotonic /lowly concentrated

ii) A- Crenation

B – Haemolysis

9. Uptake of mineral ions

-Reabsorption of glucose

- Reabsorption of glucose and mineral salts in the kidney tubule

-Excretion of metabolic wastes from the gut.

10. Light trapped is used to split water molecules into hydrogen ions and oxygen;

Energy is formed and is stored in form of ATP/Adenosine Triphosphate;

11. Physical: Mastication/chewing/grinding;

Chemical: Hydrolysis/breakdown of starch to maltose;

b)i) Ptyalin/salivary amylase

ii) Pepsin;

iii) Pancreatic amylase; trypsin;

12.a)i) Root hair (cell)

ii) D – Cell wall

E – cell sap or sap vacuole

b) Controls the functioning of the cell or controls cell activities.

13. Ester bond

b) Q – Condensation

R – Hydrolysis Energy

14. Water + Carbon (IV) oxide Glucose + Oxygen

Plant pigment

b) Sun

c) Chlorophyll

15. a)i)Diameter of one cell = Diameter of field of view (um)

Number of cells in the field of view

= 4.2 x 1000

7

= 600 um

ii) Actual diameter = Diameter of one cell

Magnificvation

= 600 um

50

= 12 um

b) Magnified size = Actual size x Magnification size

= 4.5 x 40,000

1,000 x 10

= 18 cm

c) -Cells vary in size

-Cells vary in shape

16. Osmosis

b) It dropped

c) Sugar crystals dissolved to form a hypertonic solution; the cavity gained water by osmosis; became full and started overflowing;

d) No observable change; Osmosis does not occur in dead cells /tissue// Boiling denatures their cell membrane;

e) Use of an empty petridish without distilled water or leave the potato cavity empty without sugar crystals.

17. a) A:Nuclear pore

B: Rough endoplasmic reticulum

b) –Inner membrane folded into cristae

- Presence of enzymes for respiration

c)

i) Golgi apparatus /bodies

ii) Smooth endoplasmic reticulum

iii) Lysosomes

iv) Ribosomes

18.a)i) A and B

Rate of reaction increases with increase with substrate concentration; since more active sites are available for large number of substrate molecules.

ii) B and C

All active sites are occupied hence rate of reaction is constant/enzyme- substrate reaction is at equilibrium.

b) By increasing the concentration of enzymes.

c) PH

- Temperature

- Enzyme inhibitors

- Co-factors

- Co-enzymes

19.-The arm – supports the body tube and the stage.

-Base – firm support that bears the weight of the microscope.

- Mirror – Reflects and directs light to the specimen on stage.

- Diaphragm – Regulates the amount of light passing to the condenser.

-Condenser – Concentrates and directs light to the specimen on stage.

- Stage – A platform where the slide containing the specimen is placed.

- Clip – Holds the slide in position

-Revolving nose – Piece – Holds objective lens in position

-Objective lens – Magnification and resolution.

Eye Piece – further magnify the image formed by the objective lens.

-Body tube – Holds the objective lenses and the eye piece.

- Coarse adjustment knob – move body tube up and down to bring image to focus.

- Fine adjustment knob – move body tube short distances to bring image to sharp focus.

(Function of the part must be mentioned to award a mark)

**SECTION C**

20.

|  |  |
| --- | --- |
| Observations | Conclusion |
| i) Brown colour of iodine solution remain | Starch absent |
| ii) Purple colour is observed | Proteins present |
| iii) Green – Yellow – Orange colours observed  (Award if one colour is mentioned correctly) | Reducing sugars present |

21.a)i) P – Herbivorous

Reason – Has no canines

Has diastema

ii) R - Carnivorous

Reason- Has carnassial teeth

Has diastema

b)i) Carnassials teeth

ii) Slice the flesh

- Crushing bones

c)i) Vegetation /plants

ii) 2(i, c , pm , m )

d) Have broad surfaces for grinding and crushing.

- Have ridged surfaces with many cusps to increase the surface area for grinding and crushing.

- Have two or more roots for firm support into the jaw bone.