**SET 8**

231/1 BIOLOGY PAPER 1 MARKING SCHEME

**1. i)** Centrioles.

* Formation of spindle fibres
* Formation of cilia and f lagella

**2.** **a)** Scapula/shoulder blade. **(1x1 = 1mark)**

**b)** Humerus. **(1x1 = 1mark)**

**c)** Ball and socket joint. **(1x1 = 1mark)**

**3.**

* Production of progestrone
* Foetal organ of excretion
* Foetal organ of gaseous exchange
* Foetal organ of obtaining nutrients.

**4.**

* Presence of fluids at the blind end
* Highly branched at the end.

**(2x1 = 2marks)**

**5.**

* Carry out thermoregulation.
* Carry out deamination.
* Regulation of glucose level.

**(Any 2x1 = 2marks)**

**6.**

* Presence of fluids at the blind end
* Highly branched at the end

**7. a**) dry fruit /dry indehiscent/cypsela.

**(1x1 = 1mark)**

**b)** By animals. **(1x1= 1mark)**

**8. a)** Regulates light entering into the microscope for proper focussing of the object.

**(1x1 = 1 mark)**

**b)** For further magnification of the image formed by the objective lens. **(1x1 =1 mark)**

**9.**

1. Enzymes are not used up in the reaction
2. Enzymes carry out reversible reactions

**(2x1=2marks)**

**10.**

* Minimise water loss/reduce transpiration
* Eliminate an excretory waste product that accumulates in the leaves.

**(2x1=2marks)**

**11.** 1 mm= 1000:m

Diameter of field of view 3mm

3 x 1000=3000:m

4- ii 3000 icn
Size of one cell = $\frac{3000}{20}$ =150 um

**12.**

• Anopheles mosquito

• Man **(2x1=2marks)**

**13. a)** Lysosomes **(1x1 = 1mark)**

**(1x1 = 1 mark (1x1 = 1 mark)**

 **b)** Rough endoplasmic reticulum **(1x1 = 1 mark)**

**14.** Diplopoda

**15.** **a)** reduce transpiration

 **b)** The upper surface get heated up more than the lower surface thus raising the temperature which increases the rate of transpiration. The fewer number of stormatal opening on the upper surface reduces the surface area of transpiration.

**(1x1= 1 mark)**

**16.** **a)** glucose **(1x1= 1mark)**

**b)** Glycogen **(1x1 = 1lmark)**

**c)** Starch (1x1 = 1 mark)

**17. a)** RBC take in water by osmosis

They swell and exert pressure on the fragile plasma membrane which then breaks/burst.

**b)** Fresh water protozoa take in water by osmosis

The excess water is then pumped into the contractile vacuole which discharges it to the outside. Large number of contractile vacuoles are formed to get rid of excess water. **(2x1 = 2marks)**

**18. (a) i)** Respiratory quotient = $\frac{VolumeofO2giveout}{volumeofO2used}$
RQ = $\frac{57}{80}$= 0.7125

**ii)** Lipids

**b)** The amount of 02 required to get rid of lactic acid that accumulates in the body tissues when supply of 02, is less than the demand. **(1x1 = 1 mark)**

**19.** It’s the inhibition of the growth of the lateral buds by terminal bud. The terminal bud contains high cone of Auxins which have inhibiting effects to the growth of lateral buds. **(1x1 = 1mark)**

**20.** • They are striated.

• They are Voluntary.

• They Contract and fatigue rapidly.

**(3x 1=3 marks)**

**21.i)** Diabetes inspidus. ii) Anti-diuretic hormone. A.D.H /Vasopressin.

**(1x1 = 1 mark)**

**22.** **a)** Fungi

b) A-spores B - Sporangium c) - Absorption of water and nutrients

- For Anchorage. **(1x1 = 1mark**)

**23. a)** Attachment of zygote at blastocyst stage to

| the lining of the uterus

**b)** The period between conceptions to birth **(1x1=1 mark)**

**24.** Genotype — genetic constitution of an organism while phenotype is the physical appearance of an organism.

**25.** - They can remain active throughout the day.They can occupy any climate region of the

 world **(2x1=2marks)**

**26**. Hypogeal is a type of germination whereby epicotyl grows rapidly leaving the cotyledons underground while epigeal is a type of germination whereby hypocotyl grows rapidly resulting to cotyledons thrushing out of the soil. **(2x1=2marks)**

27. Acquired characteristics are not inheritable as suggested by lamarck and only those

characteristics in an individual genetic make-up that are inheritable. **(1x1 = 1mark)**

**28. a)** Sensory neurone **(1x1 = 1mark)**

**b)** P - Myelin sheath — insulation/protection of axon /speeds up transmission of an impulse**.(2x1=2marks)**

R — Schwann cell — secretion of myelin sheath c) From sense organs to the central nervous system (**CNS) (2x1=2marks)**

**29.** • Lenticels

• Cuticle

• Stomata (**any 2x1=2marks)**

**30.** • Act as solvent during chemical reaction e.g. hydrolysis.

• For transportation of food material.

• For activation of enzymes. **(Any 2x1=2marks)**

**31. (3x1=3marks)**

|  |  |
| --- | --- |
| Arteries  | Veins  |
| Narrowlumen | Wide lumen. |
| Thick elastic layer | Thin layer of elastic fibres. |
| Absence of valves except at base of aorta Veins | Presence of valves. |

**32. a)** Phototropism. **(1x1= 1 mark)**

**b)** Light causes lateral migration of auxins to the dark side of the seedling. The high concentration of auxins on the dark side promotes faster growththan the lighted side, hence the bending of the seedling towards the source of light.

**(Maximum 3marks)**

**33. a)** Process by which plants manufacture their own food by combining water and carbon dioxide in presence, of light energy from the sun and chlorophyll molecules to give carbohydrates such as glucose**. (2x1=2marks)**

 **b)** Hydrogen ions.

Oxygen **(2x1 = 2marks)**

**34.**

* From infected mother to baby during child birth /breast feeding.
* Through blood transfusion with contaminated blood.
* Sexual intercourse with infected person
* Use of contaminated instruments e.g. surgical equipment’s.

**(any 3x1=3marks)**