BIOLOGY FORM TWO MARKING SCHEME

1. i pitfall trap; 1mk

ii.sweep net; 1mk

2.a.cytology; 1mk

b.taxonomy; 1mk

3.a .smallest unit of classification whose members naturally interbreed to produce offspring; 2mks

b.i. –species name started with capital letters; 2mks

-not written in italics or underlined separately;

ii.-they belong to different species; 1mk

4.magnification=eye piece lens objective lens 2mks

200/10=10/10;

Objective lens =20;

5. a-.osmosis; 1mk

b. X- the contents of the visking tubing increased because water molecules moved from hypotonic to hypertonic making it to swell;

y-visking tubing contents decreased in size water molecules moved from inside the tubing because the concentration is high;

Z-Visking tubing content remained the same no, change in concentration; 3mks

c.-absorption of materials;

-support;

-opening and closing of stomata;

-osmoregulation; 3mks

6.i..a.glucose;

b.glycogen;

c.starch; 3mks

ii.-acts as a solvent in which substances dissolves;

-medium for transportation of substances;

-facilitates hydrolysis;

-helps in osmoregulation; any two 2mks

-brings a cooling effect

7.a-pepsinogen;

-trypsinogen; 2mks

b.to protect the stomach walls from action of enzymes/ digest proteins into peptides; 1mk

8.a-cuticle;

- leaf size and shape;

-stomata;

-hairy leaves;

-glossy leaves surfaces;

State any two factors; 2mks

b.-temperature;

-humidity;

-wind;

-light intensity;

-atmospheric pressure;

Any two 2mks

9.a.-root; 1mk

b.-presence of root hairs;

-star-shaped xylem; 1mk

c. A-absorption of water and mineral salts;

-anchorage;

C-transport of water and mineral salts; 2mks

10.a.insects; acc. Any invertebrates 1mk

b-vertebrates; acc any vertebrates 1mk

11. b. B-semilunar valve;

C-tendon;

G-aorta;

c.thicker to generate high pressure required to pump blood to the rest of the body tissues through the aorta; 1mk

d.-have interconnected muscle fibres ;

-are myogenic/contract and relax without fatigue; 2mks

e.pumps blood at high pressure to the rest of the body tissues; 1mk

12.a.to investigate the rate of transpiration; 1mk

b.should be near a water reservoir; 1mk

c.i.therate of movement of air bubble increased because water vapour diffuses out at higher rate increasing rate of transpiration; 1mk

ii.rate of movement of air bubble decreased because the surface area over which transpiration takes place also decreased; 1mk

iii.rate of air bubbles increased because the fan carried water vapour on the leaf surface increasing saturation deficit; thus increasing rate of transpiration; 2mks

13.a. A-enamel; 4mks

-gum;

-dentine;

-pulp cavity;

b.A- hard white substance forms protective covering of the tooth that protects internal structures from injury; 1mk

D-contains nerves and blood vessels .Nerves for irritability; 1mk

Blood vessels for nutrition and excretion;

14.a. A-EPITHELIAL CELLS; 2mks

-B-LACTEAL;

C-ARTERY;

D-VEIN;

b.increase surface area for absorption; 1mk

c.blood capillary- absorption of substances (amino acids,sugars,vitamins e.t.c)against a concentration gradient ; 1mk

d.-long to provide surface area for absorption; 4mks

-highly coiled to slow down movement of food and allow more time for digestionand absorption to take place;

-large number of villi amd microvilli increasing the surface area for absorption;

-presence of thin epithelium in which digested food diffuses;

-dense network of blood capillaries;

-presence of lacteals;

e.-vitamins;

-mineral salts;

15.i.-nucleolus; 3mks

-ii.cell membrane;

-centrioles;

16.-biconcave shape-increases the surface area for diffusion of gases/ 3mks

Also make it flexible to squeeze though capillaries;

-Absence of nucleus-creates more room for packaging of hemoglobin;

-presence of hemoglobin that has high affinity for oxygen;

17. food is ingested into the mouth; teeth mechanically breaks down the food into smaller particles (mastication);salivary glands secrete saliva; into the mouth that comprises of mucus which lubricates the food; water acts as a solvent; enzyme salivary amylase; digests starch to maltose;the mixture is alkaline to provide suitable medium for functioning of the enzyme; tongue rolls the food into boluses; bolus passes down the oesophagus by muscular movement. Peristalsis; 10mks