BIO FORM 3 PP1

1. (a) scientific system naming of organisms using two names, the generic name and specific/species name;/Double naming system

b) Identification /placing or grouping of living organisms into correct groups

-arrange information about living organisms into orderly and sequential manner.

-Easy to study organisms according to groups.

- Helps in the understanding of evolutionary relationship between organisms any 2

-monitoring the disappearance and appearance of organisms

-Predict characteristics of organism.

1. (a) Magnification = $\frac{length of objects}{length of actual specimen}$

(b) To make parts of the specimen distinct /clear

1. Presence of cell wall; which is rigid /does not sketch /tough
2. -Secretion of substances /materials synthesized by the cell;
* Packaging of carbohydrates and proteins /glycoprotein; any 3
* Production of lysosomes
* Transport of carbohydrates /proteins /glycoproteins
* Transport of synthesized materials.
1. Osmosis –movement of water molecules /solvent molecules from a dilute /hypotonic solution to a more concentrated /hypertonic solution across a semi-permeable membrane.While
* Diffusion-movement of substance/molecules /particles/ions from region of high concentration to a region of low concentration until evenly distributed .
1. -light energy is absorbed by chlorophyll

-the light splits /photolysis, water molecule to form hydrogen ions (H+) and oxygen gas(O2)

-formation of adenosine triplusphate(ATP)

1. (a)(i) Premolar

(ii-) Premolar-has two or three roots

* Cusped /ridged /broad surface

(b) Blood vessels /capillaries –supply oxygen /nutrients and removes carbon(iv) oxide and other waste products.

- Nerve endings-for sentivity

1. (a) Vitamin D/calciferous - maintain osmotic/ionic balance in the cell

b)-Nerve impulse conduction

-Muscle contraction any 2

-Necessary for protein synthesis

-Assist in active transporter

Assist in active transport

1. – root hairs are long /slender/narrow /numerous to increases S.A for absorption of water and minerals salts.
* Many mitochondria in the cytoplasm to supply energy for active transport of mineral ions
* Thin walled to reduce the diffusion distance /to increase rate of diffusion of water and mineral salts.
1. a) Phloem

b) K-companion cell

 L- Sieve tube

c) Supply nutrients and energy to the sieves tubes.

1. (a) Valves

b) Biconcave shape- to increase SA for absorption of gases

- Thin epithelium to reduce diffusion distance of gases

- Lack of nucleus- Increase volume for the package of hemoglobin

-Presence of hemoglobin –has high affinity for oxygen.

1. (a) – Aerial roots – Pneumatophores

-Aerenchyma tissues

- Cuticle

b) The diaphragm flattens

-Volume of thoracic cavity increases, pressure decreases

-Air forced into lungs via nostrils to the trachea, bronchus and lungs

1. a) Lactic acid; energy /heat

b) Amount of oxygen required to convert accumulated lactic acid, to water and carbon(IV) oxide and energy.

1. a)(i)Maintenance of a constant internal environment

(ii) Mechanisms which regulate osmotic pressure of internal environment of an organism

Regulation of salt /solute-water balance of internal environment

b) Insulin

-Glucagon

1. a)Population number /group of organisms of a species occupying a given habitat.

Community: Populations of different species of plants and animals in a given area/habitat coexisting and interacting with each other.

b)(i) Capture-recapture

 (ii) Line transect /belt transect/Quadrat

1. The eggs have a hook like structure which raptures walls of intestines or bladder

-Lay large number of eggs to ensure survival

-The larva has a sucker for attachment on human skin

-The larva has a tail for swimming in search of a host in water any 2

-Two hosts to increase chances of survival.

-Adult can tolerate low oxygen conc in animal tissues.

-Adult warms secrets chemicals against the host antibodies

-Larva eggs have glands that secret lytic enzymes to soften tissues to ease penetrating

-Larva form cysts to survive adverse condions.

1. (a)(i) Anaphase I /1st anaphase

(ii)- Centromere of bivalent pair is not splits

-homologous chromosomes separate and are moving towards opposite poles of the cell

b)Spindle fibres

1. (a)–forcing of the fluid part of blood out of capillaries due to high pressure

(b) Blood reaching the nephron from afferent arteriole which is a branch of renal artery is already at high pressure.

Afferent arteriole branches into capillaries ,creating more resistance and increasing pressure –efferent arteriole is narrower than afferent arteriole.

1. a) Pyramid of numbers-diagrammatic representation of numbers of organism each trophic level in a food chain while,

Pyramid biomass- diagram tic representation of weight /mass of organisms to each tropic level in a blood chain (rej: if connector is not there)

b) Insufficient utilization of food resources /wastage any 2

-respiration; excretion; urination

1. a)Dicotyledonous root

b) Presence of root hairs

-Star shaped xylem

1. a)This is due to hydrochloric acid in the stomach .Ptyalin cannot function under acidic conditions

b) High temperatures beyond 40˚c

-Extreme acidity or alkalinity

c) Highly coiled

-Presence of villi/mirovilli

1. Through breast milk
2. i) leads to growth and development

ii) repair worn out tissues

iii) basis of asexual reproduction

1. a) Grass Grasshoppers Lizard

b)(i)Chicken

(ii) Grass

1. – Some wastes e.g gases easily diffuse out of the plant tissues
* Some waste products are mainly made from carbohydrate and hence are not as harmful as proteinous materials
* Some waste products are formed slowly thus little accumulation of wastes
* Plants are less active
* Some waste products such as oxygen are re-used or recycled
* Some waste products are stored in non-toxic forms in leaves flowers, fruits and old bark then drop off.
1. Ethanol /Alcohol

Carbon (IV) oxide

Energy/Adenosine triphosphate.