**F0RM 1 BIOLOGY**

**END OF TERM 3-2022**

**MARKING SCHEME**

1. (i) Entomology ;

(ii) Taxonomy;

1. a) Glucose and fructose;

b) Oxidized (in the cells) to release energy;

Converted (by the liver cells) into glycogen;

1. (a) Photosynthesis to provide hydrogen atoms required in the dark stage of photosynthesis;

Synthesis of more/additional ATP required in the dark stage of photosynthesis;

(b) Starch is insoluble /osmotically inactive( hence does not affect the O.P of plant cells);

1. (a) Magnification = Length of drawing/image rj Mg =

 Corresponding length on specimen.

 (b) (i) Studying /viewing live specimen;

 (ii) Higher power of resolution;

 Higher power of magnification;

1. (a) Diffusion; rj osmosis

 (b) Visking is semi-permeable; allowing the smaller molecules of iodine to pass across ( to the starch suspension) while the larger starch molecules cannot across ( to the iodine solution);

1. osmosis is the movement of water molecules from a region of high water concentration to a region of low water concentration across a semi pemeable membrane.
2. (a) Homodonts posses the same type/kind of teeth while heterodonts posses different types/ kinds of teeth;

 (b) (i) I 0 , C 0, pm 3, m 3 ;

 3 1 3 3

 (ii) Herbivorous; rj herbivore.

1. (a) Catalase;

 b-Liver;

 c-Breakdown of hydrogen peroxide into harmless products/water and Oxygen

1. (a) Has numerous chloroplast;

 (b) Has long tail; acrosome; large nucleus. Full of DNA; a chromatin material/numerous mitochondria;

1. A) sites for protein synthesis

B) packaging and transportation of glycoproteins

1. Peptide bond
2. (a) Rate of photosynthesis increase as the CO2 concentration increases up to optimum level (and vice versa)

 (b) Rate of photosynthesis increases as light intensity increases up to optimum level;

 (and vice versa)

1. (a) A – ciliated epithelium

 (b) Nasal / trachea epithelium.

1. A) ileum

B) pancrease

1. Sweep net

(ii) Pair of forcep
(iii) pooter

1. (a) A Stroma

B Granular

 (b) A Photosythesis (accept balanced equation)

B Carbon iv oxide fixation (accept a balanced equation)

1. Diameter of cell = $\frac{diameter of field of view}{number of cells}$✓

 = $\frac{2.8}{4}$✓

 = 0.7mm x 1000✓

 = 700$μ$m

1. a) Villus

 b) S – Epithelium

 T – Lacteal

 L – Blood capillaries

 c) L – Amino acids, glucose

 T – Fatty acids and glycerol

 d) Supplied with blood capillaries – to transport absorbed products of digestion

 Presence of lacteals – To transport fatty acids and glycerol

 Lined with thin epithelium for faster absorption of products of digestion

1. (a) Photosynthesis;

 (b) Carbon (IV) oxide concentration; (the valency power correctly)

 Temperature;

 Amount of chlorophyll**; (b) is tired to (a)**

 (Any two correct 1x2 =2mks)

1. - (It facilitates the) reabsorption of useful substances in the kidney tubules into the blood stream;

 - (It facilitates the) absorption of digested food from the gut into the blood stream;

 - (It helps in the) movement of waste products from body into the blood stream/excretion of waste products from the body cells into the blood stream; **(Any first two correct 2x1 = 2mks)**

1. Reflect light from the source for the microscope specimen;

Regulate amount of light entering the microscope/reaching the specimen;

Move body up and down in order to obtain a rough focus of image/specimen; **(3mks)**

1. Plant cells have cell wall; cell wall is rigid/cellulose cell wall is strong and rigid to withstand turgor pressure; Or water is absorbed by osmosis; cells become turgid; cell wall create inward pressure that prevent cell from bursting;
2. Emulsification of fats, forms an alkaline medium for enzymes functions,
3. a) X-Chloroplasts;

 Y-Vacuole(s);

 b) Move to upper part of the cell in order to receive maximum light for photosynthesis ( in dimlight); **(3mks)**

1. a) Movement of molecule/ions/atoms (acc substances) from a region of high concentration to a region of low concentration; **(2mks)**

b) **Diffusion gradient** **(2mk)**

The higher the diffusion gradient the faster the higher the rate of diffusion; (Acc the converse