**MARKING SCHEME BIOLOGY FORM 3 PAPER 2 TERM TWO**

1. a) (i) Yeast (1x1 = 1mk)

 (ii) Budding (1x1 = 1mk)

 (iii)

* Causes plant and animal diseases e.g. athletes foot
* Causes food spoilage
* Source of food e.g. mushroom
* Used for manufacture of antibodies (1x2 = 2mks)

 b) (i) A group of organisms that can freely, naturally interbreed and produce a fertile/viable offspring

 (1x2 = 2mks)

 (ii)

* First name (generic) should start with a capital letter. The specific name is written in small letters
* If hand written the names should be underlined separately
* If typed they should be printed in italics (1x2 = 2mks)

7

Praying mantis

14

Predatory birds

2.

15

Lizards

 a)

18

Herbivorous bugs

 Correct drawing - 1 mk

20

Moths

 Labeling - 1 mk

30

Grasshoppers

 (1x2 = 2mks)

95

Green plants

 b) (i) Green plants Herbivorous Predatory Lizards

 Bugs Birds

 Green plants Grasshoppers Predatory Lizards

 Birds (1x2 = 2mks)

 (ii)

* Not all green plants materials are digested
* Heat lost in feaces
* Indigestible materials
* Transpiration/sweating (1x2 = 2mks)

 (iii)

* Herbivorous bugs and grasshoppers both feed on / compete for green plants
* Praying mantis and predatory birds compete for herbivorous bugs (1x2 = 2mks)

3.

 a)

 S- Deamination; Liver;

 T – Excretion; Kidney; (2 x2 = 4mks)

b) Liver → Hepatic veins → vena cava; →Heart→ Lungs → Heart → Aorta→ Renal artery

 Correct identity 1mk

 Sequence 1 mk

 (2x1 = 2mks)

 c) Aerobic respiration; since water is released; (1x2 = 2mks)

4.

 a) Transpiration (1x1 = 1mk)

 b) Prevent evaporation of water from the surface (1x1 = 1mk)

 c) (i)The level of water drops (1x1 = 1mk)

 (ii) Due to loss of water to the atmosphere by transpiration (1x1 = 1mk)

 d) (i) Faster drop in water level (1x1 = 1mk)

 (ii) No change in water level; (1x1 = 1mk)

 (iii) Slower/very slow drop in water level; (1x1 = 1mk)

 e) Another set up using a leafless twig; (1x1 = 1mk)

5. a) (i) Fungi/mycophyta: (1x1 = 1mk)

 (ii) Non— green/ lacks chlorophyll;

* Body made up of hyphae/ mycelia;

 (Asexual) reproduction: OWWTE (1x3 = 3mks)

 b)

* Body is covered by fur or hair;
* Have mammary glands (for milk production);
* Have external earlobes;
* Have highly developed brain;
* Have muscular diaphragm that have sweat glands;
* Have muscular diaphragm (that thoracic cavity from abdominal cavity);

Mark first three

 (1x4 =4mks)

6.

 a)

* For exchanged axis award
* Scale must be correct
* For graphs on separate axis, mark both and award the highest

 A = 2

 S = 1

 P = 1

 ℓ = 2

 C = 2

 b) X = 120 ± 3

 Y = 140 ± 3 (1x2 = 2mks)

 c) Person X is able to regulate glucose, while Y is likely to be diabetic (1x2 = 2mks)

 d) X – Insulin; is released excess glucose is converted to glycogen

 Y – Insulin is not released; the decrease is due to glucose being lost in urine (1x4 = 4mks)

 e) A.T.P / Adenozine triphosphate (1x1 = 1mk)

 f) Deaminated; the ammonia combines with CO2 to form urea (and H2O); (carbohydrate group

 is oxidized / stored as glycogen) (1x2 = 2mks)

 g) Oxidized to produce energy / converted to neutral fats and stored around some organs (1x1 = 1mk)

7.

* Water dispersed fruit/seeds

Mesocarp / seed have air spaces thus light/ buoyant to float; therefore carried away by water;

The fruits/seeds are protected from soaking by waterproof pericarp

* Animal dispersed fruits/seeds

Presence of hooks; for attachment to animals; thus carried to other places; fruits are brightly coloured; succulent; aromatic to attract animals; which feed on them.

The seed coats are resistant to digestive enzymes; thus taken to other places with the animal droppings; (away from parent plant)

* Self dispersed fruits/seeds/explosive mechanism;

The dry pods /fruits split (along lines of weakness/ saturates); scattering seeds away from mother plant

* Wind dispersed fruits/seeds

They are light; to be carried away by wind

Presence of hairs /wing-like structures; to increase surface area for buoyancy to enhance the fruits/seeds to be blown away by wind;

Censer mechanisms; perforated capsule is usually loosely attached; to the stalk/ the long stalk is swayed by wind scattering seeds (2 x 10 = 20mks)

8.

**Mouth**

Chewed using teeth;to increase surface area for enzyme action;

Ptyalin/salivary amylase digest starch; into maltose;

Saliva has water; to moisten/soften food;

Saliva has mucus; for lubrication;

Saliva has slightly alkaline – suitable pH for ptyalin/amylase;

**Stomach**

pepsin digests protein; into peptides;

No starch digestion due to unsuitable pH/ presence of HCl/Acidic media;

HCL activate pepsinogen into pepsin;

HCL provide suitable pH for action of pepsin;

**Duodenum**

Trypsin digests proteins; into peptides;

Pancreatic amylase digest starch into maltose;

Sodium bicarbonate : provides suitable pH/neutralize acidic chyle;

Bile juice: provided suitable pH /neutralise acidic chyle;

**Ileum**

Peptidase digests peptides into amino acids;

Maltase digest maltose into glucose;

 (20 mks)