MARKING SCHEME BIOLOGY FORM3 PAPER 1 TERM TWO

1. Growth is the irreversible increase in size and mass while development is the irreversible change in complexity of a living organism. (1x2 = 2mks)

    Award as a whole

2.
    a) Nucleolus (1x1 = 1mk)
    b) Nucleus (1x1 = 1mk)

3.

Plants	**Animals**
• Have chlorophyll	No chlorophyll
• Have cellulose cell wall	Lack cellulose cell wall
• Respond slowly to changes in their environment	Respond quickly
• Plants do not move about	Do move about
• Lack specialized excretory organs	Have complex excretory organs

(1x4 = 4mks)

4.
    a) Concentrates light on the object on the stage (1x1 = 1mk)
    b) Brings image into focus and magnifies it (1x1 = 1mk)
    c) Holds the eye-piece and revolving nose-piece (1x1 = 1mk)
    d) An aperture that regulates the amount of light passing through the condenser to illuminate the specimen (1x1 = 1mk)

    a)

    A - Condensation

    B –Hydrolysis (1x2 = 2mks)

    b) Sucrose (1x1 = 1mk)
    c) Covalent bond (1x1 = 1mk)

6.   a) To investigate the effect of boiled saliva on starch/to show the effect boiled/denature enzyme amylase has on starch; (1x1 = 1mk)

    b) A-brown colour/colourof iodine persists;

B- blue black/blue/dark colouration;

    A-starch has been digested/starch has been broken down/amylase hydrolyses starch hence no

    colour changes;

B-enzymes/amylase denatured hence no starch digested;   (1x4 = 4mks)

7.Oxygen-releases to the atmosphere or   used by plants for respiration;

- Hydrogen-enter dark stage, where it combines with CO_2 to form simple sugar;
- ATP- provide energy during the combination of hydrogen a toms with CO_2in dark stage;

8.Biconcave disc shaped to increase surface area for gaseous exchange;

- Have no nucleus to increase room for the package of red blood cells;
- Numerous in number to increase surface area for the transportation of oxygen
- Have haemoglobin which has a high affinity of oxygen;
- Cytoplasmic filaments/strands along which food streams;
- Companion cells have mitochondria that provide energy for translocation;
- Sieve plates with sieve pores through which cytoplasmic filaments pass.
- Photoplasmic material pushed on the sides to create lumen space for translocation;

)

9.   a) Sunken stomata form pits; in which water vapour accumulates reducing rate of transpiration

x= 2mks)

b) Water proof; to reduce the rate of transpiration;   (1x2 = 2mks)

10.

a) Lignin;   (1x1 = 1mk)

b) Phloem;   (1x1 = 1mk)

   c) Xylem;   (1x1 = 1mk)

11.

   a) A – Gill rakers act as a screen preventing entry of food and other particles that might damage the delicate gill lamella;   (1x1 = 1mk)

B – Gill bar for attachment of gill rakers and gill filament   (1x1 = 1mk)

   C – Gill filaments – the surface on which gaseous exchange take place   (1x1 = 1mk)

   Filaments are supplied with a dense network of blood capillaries for the efficient transportof gases;
()

 12. Lungs   (1x1 = 1mk)

13.

a) Glycolysis

- Krebs cycle   (1x2 = 2mks)

b) Carbon IV Oxide

- Ethanol
- Energy   (1x2 = 2mks)

14.Cocaine

- Cannabis
- Khat   (1x3 = 3mks)

15.

a) Glucose;   (1x1 = 1mk)

b) The person was a sufferer of diabetes mellitus;   (1x1 = 1mk)

c) Pancreas;   (1x1 = 1mk)

16.   Nephritis

- Kidney stone
- Albuminuria
- Kidney failure   (1x3 = 3mks)

17.

a) taxonomy is the classification of living organisms on their similarities and difference observed

   = 1mk)

b) (i) Rottusnorvegicus(1mk) (Genus name MUST begin with capital letter and be underlined

separately)   (1x1 = 1mk)

(ii) Genus – Rattus;

        Species – norvegicus;   (1x2 = 2mks)

18.   a) Fungi;   (1x1 = 1mk)

b) Sporulation;   (1x1 = 1mk)

c)Whorled

- Opposite
- Alternate   (1x3 = 3mks)

19.

a) Help to breakdown dead organic matter hence reducing bulk; in the recycling of Nutrients;

)

b) Regulate the predator – prey population;   (1x2 = 2mks)

20.

   a) Grass_____ Grasshoppers _____Birds;   (1x2 = 2mks)

b) Not all the energy is transferred from one trophic level to another; some is lost as heat, some is used up
       during metabolism and some is lost when organisms die and decay;   (1x2 = 2mks)

21.*Vibriocholerae*   (1x1 = 1mk)

   a) *Salmonelatyphe*   (1x1 = 1mk)

22.

   a) Quadrat
   b) Capture Recapture method
   c) Line transect
   d) Belt transect   (1x3 = 3mks)

23.Integuments   ;   (1x1 = 1mk)

   a) Primary endosperm nucleus;   (1x1 = 1mk)