MARKING SCHEME BIO FORM ONE

1.i) Light stage : **Photolysis** (1mk)
Dark stage: **Carbon (IV) Oxide fixation** (1mk)

ii) - Hydrogen ions
- Adenosine triphosphate /energy rej; ATP
- Oxygen

c) guard cells, palisade cells,spongy mesophyll cells

2. In plants- Guard cells; root hair cells; palisade cells
In animals- sperm cell; white blood cells; Red blood cells; nerve cells.

3. (i) pair of forceps';
(ii) picking up small stinging crawling animals;

4. Mag. = image size ; 1mm = 1000μm
Actual size

$$= \frac{1mm \times 1000\mu m}{\text{Actual size}}$$

$$\text{Actual size} = \frac{1000}{40{,}000}\ \mu m\ ; = \frac{1}{40} = 0.025\mu m$$

5. (i) Hypertonic solution; *acc*. Highly concentrated solution (1mk)
(ii) Hypotonic solution; *acc*. More dilute solution;

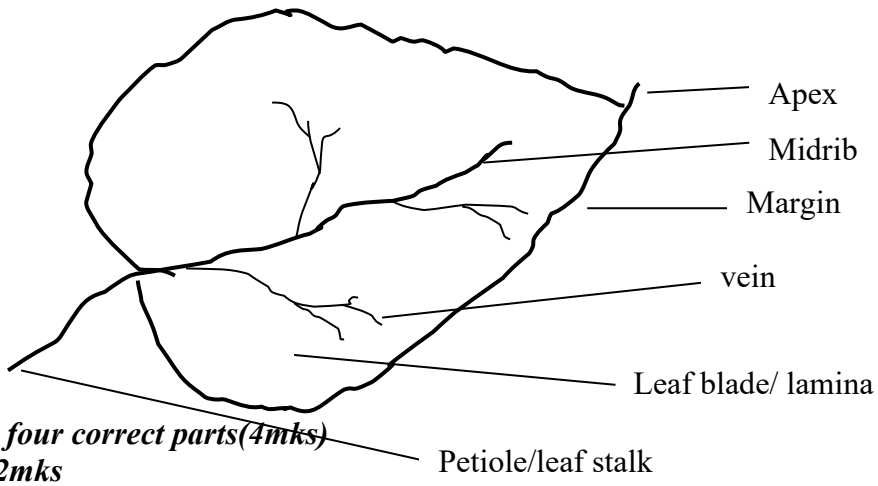
6. - (i) Cellulose; (ii) Glycogen;

7. Glucose and fructose;
Glucose and galactose;
Glucose and glucose;

8 (a) Nutrition; Growth and development;
Respiration; Reproduction;
Gaseous exchange; Irritability;
Excretion; Movement;

(b) Monera;Protoctista/protista;Fungi;

9.



Mark any four correct parts(4mks)
Drawing 2mks

10. (Two names used) -first name – generic, second name species;
-Two names italicized /underlined separately /
-First names capital, second; name small letter;

11. (a) Structuraldifferentiation / modification of cells to perform specific function;

(b) Epithelial tissue;
Skeletal;
Blood;
Connective tissue; Mark the 1st 3

c) - Objective lenses
- Eye piece lens
-Condenser lens

12.a) K - Liver
L -Oesophagus/gullet
M -Sublingual salivary glands
P -parotid salivary gland

b) - gastrin
- Secretin
- Cholecystokinin

Light Microscope	Electron Microscope
Low magnification power	High magnification power
Low resolving/resolution power	High resolving/resolution power
Uses light rays to illuminate specimens	Uses a beam of electrons to illuminate specimens
Can be used to view both live and dead specimen	Used to view only dead specimen

14.- Basal Metabolic Rate(BMR) - sex
- Age - occupation/everyday activity
- SurfaceArea to volume ratio/ body size- lactation & pregnancy

15. Define the following branches of Biology. (2 marks)
i) Genetics-*Study of inheritance and variation*
ii) Entomology-*Study of insects*

16. a) Production of ribosomes.
b) Packaging and transport of glycoprotein's
Secretion of synthesized proteins and carbohydrates.
Production of lysosomes.

17. (a) Molar; accept pre-molar.
(b) Presence of two roots; presence of cusps; accept any one.
(c) chewing/crushing/grinding food;
(d) Detect stimuli;(pain,heat,cold)
(e). P enamel

Onerve fibre

R blood capillaries

S pulp cavity

18.An experiment was set-up in a laboratory as shown below.

i. What will happen to visking tubing in M and N after two hours. (2mks)

M – will swell / increase in size

N – Will shrink / decrease in size

ii. Explain the observations made in M. (2mks)

Sodium chloride solution is a hypertonic solution while distilled water is a hypotonic solution therefore distilled water molecules will move from the beaker to the visking tubing by osmosis making it to swell.

iii. What does visking tubing represent in a living organism?**Semi permeable membrane**

19.a) Name the mode of nutrition of the animal whose jaw is shown above. (1mk)

Heterotrophism

b.Mode of feeding. (1mk)

Herbivorous /herbivory

c.Give a reason for your answer in (b) above. (1mk)

Presence of a diastema

d. Diet of the animal. (1mk)

Vegetation/ grass/green leaves.

e. Name the toothless gap labeled K. (1mk)

Diastema

f. Name the substance that is responsible for hardening of teeth. (1mk)

Calcium phosphate&carbonates