3KNT FRATERNITY EXAMINATION – 2017 231 /1 BIOLOGY PAPER 1 MARKING SCHEME

1. a) Sweep net

b) Pooter

c) Fish net

2(a) The first name (genus) starts with h small letter instead of a capital letter.

* The second name (specias ) starts with a capital letter instead of a small letter.
* The two names were underlined jointly instead of separately

b) Ipomes batota

3. a) i) Package synthesized materials

Transport synthesized materials

Formation of hysosomer

ii) Provide site for synthesis of lipids and steroids/transport lipids in the cell.

b) Chloroplosts

cell wall

Tomoplast

4 a) Absorption of water from the soil by root hairs

* Opening and closing of stomata
* Distribution of water from cell to cell
* feeding in insectivorous plants
* provide support in herbaccous plants

b) Haemolysis is the process by which red blood cells take in water by osmosis till they burst is when placed in a hypotonic solution compared to their cytoplasm while plosmolysis is the process where plant cells lose water by osmosis become flaccid and the cell membrane detach from the cell wall when placed in hypertonic solution compared to the cell cytoplasm.

5(a) To investigate the gas produced during photosynthesis

b) Oxygen

c) 6C0 + 6H O light energy C H o = O

Carbon(iv) oxide + water = light energy \_\_\_\_\_\_\_\_glucose + oxygen

 chlorophyll

6. Age/sex/daily activity (occupation) basal melobolic rate body size

7(a) Process by which plants lose water in form of water vapour into the atmosphere

b) stomata

Cuticle

Lenticles

8) Thrombosis

ii) varicose veins

iii) Arteriousclerosis

9.Lenticles

Pneumatophores

-stomata

cubicle

10. Has a moist surface to allow gases to diffuse in solution form

Has a capillary network for transport of gases

Has a thin well to allow gases to diffuse across a short distance.

11. a) Anaerobic respiration

b) Brewing/beer making

Baking industry

processing of dairy products eg milk fermentation

Agriculture eg biogas production and sewage treatment

12. Some waters eg gases easily diffuse out of the plant tissues

Some waste products are mainly made from carbohydrates and hence are not as harmful proteinous materials

Waste products are formed showly thus little accumulation of waster.

Plants one less active

Some waste products eg oxygen are reused/recycled

Some waste products are stored in non-toxic forms in the leaves flowers, fruits and old barks then drop off.

13. a) Sporangism

b) Anchorage of the mould to the substratum

-Absorption of soluble substances

14. Population growth – Increase/decrease in number of individuals of a species

Population density – Number of individuals per unit area population dispassion – distribution of organism in a habitat

15 a) lack of variation/lack of hybrid vigor

Disadvantages traits are retained within the species

b) Ovary

Anthers

16. i) meiosis – 1

ii) mitosis – 4

b) testes and Ovary

17. Embryo not fully developed

Presence of chemical hibibitors that inhibit germination

low concentration of hormones and enzymes that promote germination

Lack of environmental factor eg water Co2 absence of light of certain wavelength

Hard and impliamble seed coat

18. Complete metamorphosis is where the change in body form during the life cycle of an organism is in radical phases incomplete metamporhosis is where the change in the body form during the life cycle of an organism occurs gradually the egg hatch into nymphis that resemble the adult

Complete metamorphosis – all the flies eg butterflies, houseflies mosquitoes

Incomplete – locust, cockroach

19.DNA RNA

Double stranded Single stranded

Has deoxyribe sugar Has ribote sugar

Has organic base – thymine Has organic base uracil

Has poor nitrogen base pouring pattern locks four nitrogen base pairing pattern

20. Homologous – have similar embryonic origin but modified to perform different functions while analogous

Structures – have different embryonic origin but modified to perform similar (some) function.

b) Fossil records/compative anatomy/comperative embryology/comparative/comparative anatomy/geographical distribution Biochemistry.

21. Exposes leaves to absorb maximum amount of light for photosynthesis.

Enable roots of plants to search for water

Enables plant stem to obtain mechanical support especially those that lock woody stems

Enables roots to grow deep in the soil for exchange

Enables pollen tube to grow towards the embryo sac to facilitate fertilization.

22 a i) sensory neurone

ii) cell body is off the axon/neurone is unpolor

Both axon and Dendron are long

b) Nxyalin sheath/neurillarra.

c) from the receptor towards the cell body

23. a) Xylem resols/xylem trachals

Sclerenchyma

24. Biceps Gut muscles

Striated unstriated

multimadeasted uninucleasted

lond fibres short fibres

cylindrical shaped spindle shaped