**FORM 4 BIOLOGY 231/1 MWAKICAN TERM 1 2015**

**MARKING SCHEME.**

1.[a]Ovule

 [b]Ovary

2. Aerenchyma tissue with large air spaces to store air.

 Large stomata found on the upper surface of the leaf

3.[a]-Prokaryotic

 -Cell not made of cellulose

 -Few organelles

 [b] Diplopoda

4.[a] –Homodont –teeth of the same size and shape

 – Heterodont –teeth of different size and shape

 [b]Special pre-molars with smooth sides and sharp edges to slice through flesh and crush bones

5 [a] -B

 -AB’

 [b] O –Universal donor since they have no antigens

 A – Same blood group hence agglutination

6.[a]-[i]Food web

 -[ii] Three

 [b] Sun

7. Guard cells

8.[a] Deamination

 [b] Enzyme orginaze

 [c] Removal of the excess amino acids which cannot be stored in the body

9.[a] Glycogen

 [b]Egestion

10.[a]-[i]Science of classification

 -[ii]Uses evolutionary relationship between specimen and their ancestor

11.[a]-[i]They have lobed nuclei

 -[ii] Lysosomes

12.[a]Ligin

 [b]Phloem

13. [i] –Packing and transport in venicles of material such as enzyme

 – Secretion of synthesized proteins, carbohydrates

* Process of cisternae
* Involved in lysosome formation

 [ii] A. Golgi bodies

 B. Golgi vesicles

14 – Guard cells have chloroplast hence photosynthesis

 –Have thicker inner walls and thin outer walls for differential expansion to facilitate opening and closing of the stomata.

 –Are bean shaped

15.[a]ATP-Adenosine triphosphate

 CO2-Carbon [IV] oxide

 H2O-Water

 [b] Catalyst [enzyme]

16.Food stored in the endosperm was oxidized to form energy for the process and also form new material for growth in the embryo.

17.

|  |  |
| --- | --- |
| STAGE OF LIFE CYCLE | LETTER |
| Male gametophyte | D |
| Tube nucleus | G |
| Female gamete | B |
| Male gamete | F |

18.[a] [i]Anaphase

 [ii]-Homologous chromosome separate at the equator

 [ii]-Chromosomes start migrating to opposite poles

 [b] Spindle fibres

19.-Plants are able to synthesize their own food.

 -Plants are able to use pollination rather than moving to seek mating partners.

 -Plants use seed and fruits dispersed to colonize new habitats.

20.-Diffusion

 -Osmosis

 -Active transport

21.[a]Insulin

 [b]Diabetes mellitus

22.[a] RQ = volume of carbon[iv] oxide produced

 Volume of oxygen consumed

 5/6 =0.83

 [b] Proteins

23.[a]Pitfall trap

 [b] For catching crawing animals

24.-Temperature

 -Light

25.[i] CGGATCTAGTG

 [ii]CGGAUCUAGUG

26.-Several missing links

 -Most organisms especially soft-bodied ones do not form fossils

 -Exposed fossils are usually destroyed by physical and chemical weathering

 -Most animals are preyed upon.

27.Plants make their own food from carbon[iv] oxide and water while animals depend on already manufactured food from plants directly or indirectly

28. [i]Holds the eyepiece and the revolving nosepiece

 [ii]An aperture that regulates the amount of light passing through the condenser to illuminate the specimen.

29.-Thin walled

 -Highly vascularized

 -Has a large surface area

30.-Mutation

 -Crossing over during prophase of meiosis

 -Sexual reproduction [fertilization]

 -Independent assortment of chromosomes during metaphase of meiosis 1