BUTULA SUB- COUNTY EXAM

BIOLOGY PAPER 3

MARKING SCHEME

1. ***a) Petri dish A-*** *strip curves towards the epidermis/epicarp with mesocarp outside/ curve outwards;* ***reject****: cortical cells*

   Petri dish B- *The strip curve inwards/ the strip curves towards the mesocarp (with the epicarp outside) .* ***reject****: cortical cells*

Accep*t: labelled diagram for explanation*

*b)****Petri dish A****-solution A is* ***hypotonic*** *to the cell sap of the banana; the mesocarp cells* ***gained water by osmosis;*** *become* ***turgid/ increased in length;*** *hence the curvature; epidermal cells/epicarp did not gain water because of water proof cuticle*

Mark first 3

Petri dish B- *solution B is hypertonic to the cell sap of the banana; the mesocarp cells lost water by osmosis; shrink and become flaccid/ decreased in length; hence the curvature; epidermal cells/epicarp did not gain water because of water proof cuticle* *Mark first 3*

c)

Outer surface	**Inner surface**
Waxy	Not waxy
Non- cellular	Cellular
Transparent	Not transparent
Thin	Thick

d) i) Cuticle;

ii) It is waterproof hence restricting gaining /losing of water

2.a)***U1****- Funicle*

WI*- Mesocarp.*

W2*- Seed. Reject seeds*

V3*- Placenta.*

b) i) Self- dispersal.

N/B: Reject wrong spelling.

ii) Presence of line of weakness/ sutures.

c) i) Animal dispersed

ii) Presence of hooks for attachment on the animal skin/ fur or cloth.

d) i) Organism Q- Lichen

ii) Blue green algae Acc Algae

Fungus

iii) Symbiosis

iv) Kingdom Fungi

Kingdom Protista/ Protoctista ***First letters should be capital***

2. a) Convergent evolution

b) Organisms with different embryonic origin modified to perform same functions because of occupying same ecological niche.

c) i) Analogous structures

ii) Homologous structures

d) Divergent evolution

e) i) Q- Insecta

R- Aves

S- Mammalia

N/B: First letter should be capital, reject small letter.

ii) Body covered with fur. **Reject hair**

Presence of external ear/ pinna.

F) i) B- Flesh

R- Nectar

ii) Short, strong and curved.