

**BIOLOGY**  
**PAPER 3**  
**231/3**

**MARKING SCHEME**

1. a) i) Pisces 1mk  
 ii) Presence of fins  
 Presence of overlapping scales  
 Presence of operculum  
 Presence of a lateral line (Accept only observable reasons)  
 Any two 2mks
- b) i) Tall/ caudal fin 1mk  
 ii) Pectral fins/ pelvic fins any 1  
 iii) Dorsal fin/ Arial fin/ Ventral fin any 1  
 iv) Streamlined body/ backward facind scaled  
 Slimy/ mucoid surface/ presence of mucus 1mk
- c) i) Fish gill ( Reject gil/ gills)  
 ii) G6- Gill rakers  
 G7- Gill filaments  
 iii) - Gaseous exchange  
 - Excretion of CO<sub>2</sub> (Any 1)1mk

2. a)

Specimen	Mode of Dispersal	Adaptive feature
K(Black jack)	Animals	Hooks/ hook- like structures
L(Orange)	Animals	Fleshy/ juicy succulent/ fleshy pericarp
M(milky weed)	Wind	Parachute hairs/ pappus and hair- like projections
N(sycamose)	Wind	Winged/ winged- pericarp/ wing- like projections
P(Avocado)	Animals	Freshy/succulent
Q(Dry bean pod)	Self/ explosive	Lines of weakness/safuses

- b) Axile (rej free central placentation) 1mk  
 c) Seed/ endocarp 1mk  
 d) Berry 1mk
3. a) Stem  
 Has internodes 1mk  
 Presence of auxiliary bud 1mk
- b)  
 c) Class; monocotyledonae  
 Parallel leaf venation  
 d)

Food tested	Procedure	Observation	Conclusion
Starch	To 2 cm <sup>3</sup> juice extract add 2 drops of iodine solution.	Juice colour changes blue black	Starch present.
Reducing sugar	To 2 cm <sup>3</sup> of the juice, Add 2 cm <sup>3</sup> of Benedicts solution heat to boiling.	Colour changes to green/ yellow/ orange red or brown.	Reducing sugars present.
Protein	To 2 cm <sup>3</sup> of the juice add 2 drops of NaOH. Shake Add CuSO <sub>4</sub> dropwise	Juice retains colour( purple/ violet)	Proteins absent.

