

BOMET DISTRICT JOINT M-CATS EXAMINATIONS
231/3 BIOLOGY MARKING SCHEME
JULY/AUGUST 2011

1. (a)

Food	Procedure	Observation	Conclusion
Starch	To 2ml of food sample add 2 drops of iodine ✓	Blue black colour observed/ blue ✓	Starch present ✓
Reducing sugars	To 2ml of food sample. Add Benedict's solution Heat the mixture to boil ✓	There is no observable change in colour ✓	Reducing sugars present ✓

(6 mrks)

(b) (i)

Food	Procedure	Observation	Conclusion
Starch	To 2ml of food sample add 2 drops of iodine ✓	No observable change in colour ✓	Starch absent ✓
Reducing sugars	To 2ml of food sample. Add Benedict's solution Heat the mixture to boil ✓	Brown colour is observed ✓	Reducing sugars present ✓

(4mrks)

N/B – award procedure only once in the two tables

(ii) The starch was digested ✓ / converted to sugars/ simple sugars ✓ by enzyme ✓ / solution P diastase/amylase ✓

(iii) Solution P being an enzyme will be denature at temperatures above 40°C and deactivated at a temperature below 35°C (1mk)

2. (a) 1b Wings absent ✓
 2b One pair of wings ✓
 7b Body laterally flattened ✓ (1x3 = 3mks)

(b)

	Identify	Steps followed
A	Lepidoptera	1a, 2a. 3a,4b, 5a
B	Hymenoptera	1a, 2a. 3a,4b, 5b
C	Odonata	1a, 2a. 3a,4a
D	Diptera	1a, 2b
E	Coleopteran	1a, 2a, 3b,6a
F	Orthoptera	1a, 2a. 3b,6b
G	Anoplura	1b, 7a
H	siphonoptera	1a, 7b

N/B – Award only on steps followed. The identity does not earn a mark but is tied to steps

Wrong identity – deny the steps

(c) Phylum – Arthropoda ✓

- Reasons* – Body segmented ✓
 - Jointed appendages ✓
 - Presence of exoskeleton ✓ (4mks)

3. (a) B₂ – Haptonasty ; C₂ – Nyctinasty; D – Thigmotropism; (3mks)(*Rej. Worrng spellings*)

(b) The part of the stem in contact with the hard object has a lower auxin ;concentration than the outer part. This contact causes lateral migration; of auxins to the outer side of the stem; causing faster growth on that part thus the coiling. (4mks)

- (c) - Regulation of temperature ✓
 - Reduction in transpiration ✓
 - Protection of the delicate parts ✓ (3mks)