

**231/3 BIOLOGY (2017)**  
**PAPER 3(Practical)**

**MARKING SCHEME**

(a) (12marks)

Food substance	Procedure	Observation	Conclusion
starch	-add Iodine solution	Blue black	Starch present
Reducing sugar	-add Benedicts' solution -heat the mixture	Orange colour	Reducing sugar present
protein	-add NaOH solution -add CuSO <sub>4</sub> solution	Purple colour	Protein present

(b)carbohydrate; protein

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Plant	Steps	Identity
Q1	1b,5b,7b,8a	Flamboyant
Q2	1a,2b,3b,4a	Bougainvillea
Q3	1a,2a	Napier
Q4	1a,2b,3b,4b	Hibiscus
Q5	1b,5a,6b	Crotalaria
Q6	1b,5b,7a	Mexican marigold
Q7	1b,5b,7b,8b	Jacaranda
Q8	1b,5a,6a	Oxalis
Q9	1a,2b,3a	Castor oil

(b) (i) Nymph stage

(ii) Small sized features, absence of wings

(b) Classify organism **Q** according to its phylum and give a reason for each.

(i) Phylum.....Arthropoda

Reasons

Jointed appendages; segmented bodies; exoskeleton

(iii) Compound eye

3. (a) **X**.....Ulna bone

**Y**.....Scapula bone

**Z**.....Rib bone.

(b) **Q**.....Glenoid cavity; **R**.....Olecranon process; **Y**<sub>1</sub>.....Spine

(c)(i) Humerus bone;(ii) .....Ball and socket joint.

(d) **X**<sub>1</sub>.....fit condyles of humerus bone

**Y**<sub>1</sub>.....attachment of muscles

(e) (i) **S**.....Sternum bone

(ii) **T**.....Thoracic vertebra