

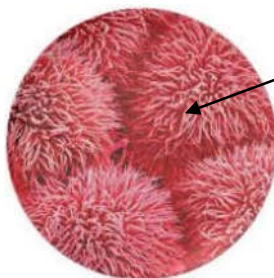
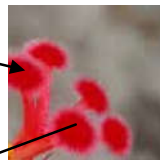
**GATUNDU FORM 4 EVALUATION EXAM**  
**BIOLOGY PRACTIACL 231/3**  
**CONFIDENTIAL.**

1. The photographs must be coloured.
2. Each student to be provided with a ripe tomato labeled as specimen K.
  - a small beaker
  - a scapel
  - a dropper
  - at least 3 test tubes
  - access to; Iodine solution
  - Benedict's solution
  - DCPIP
  - Source of heat and a test tube holder.
  - Source of heat.

**GATUNDU FORM 4 EVALUATION EXAM**  
**BIOLOGY**  
**PRACTICAL**  
**231/3**  
**JULY/AUG 2015**

1.

**A**



**B**

- a) Name the sub-division of the plant from which the photo was taken. (1 mark)
- b) Using observable features on the photograph give reasons for your answer in (a) above. (2 marks)
- c) Name the agent of pollination for the flower in the photograph (1 mark)
- d) State three observations on the photograph that supports your answer in (c) above. (3 marks)
- e) Name the class of the plant from which the photo was taken. (1 mark)
- f) Using observable features on the photograph, give three reasons for your answer in (e) above. (3 marks)
- g) Give two adaptations of the part labeled B to its pollination function. (2 marks)

2.



- (i) To which phylum does organisms x,y and z belong to. (1 mark)
  - (ii) Name the classes to which X, Y and Z belongs to. (3 marks)
  - (iii) Give two important economic roles of specimen Y. (2 marks)
  - (iv) Give three harmful effects of specimen X to animals. (3 marks)
  - (v) With reasons identify two modes of locomotion of specimen Y . (4 marks)
- 3.
- (i) What part of plant is specimen K? (1mark)
  - (ii) Give a reason for your answer in 3 (i) above. (1mark)
  - (iii) Make a cross section of specimen K. Draw and label the parts. (3marks)
  - (iv) State the type of placentation in specimen K. (1mark)
  - (v) Name the agent of dispersal of specimen K and give a reason for your answer. (2marks)
  - (vi) Squeeze the juice from specimen K. Using the reagents provided, carry out food tests. (6marks)

FOOD/TEST	PROCEDURE	OBSERVATIONS	CONCLUSION

**GATUNDU FORM 4 EVALUATION EXAM**

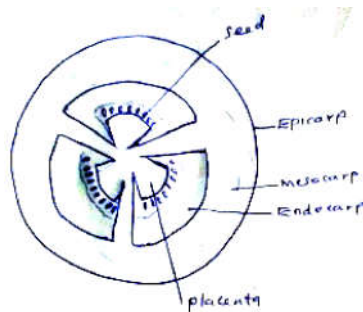
231/3

**BIOLOGY**

**PRACTICAL**

**MARKING SCHEME**

1. A) Angiospermae/angiospermaphyta/angiospermatophyta;  
 B) Presence of the flower; presence of veins;  
 C) Insect;  
 D) -conspicuous/brightly coloured /coloured petals,sepals;  
 -Tubular corolla/stamen and pistil enclosed in a tube;  
 -Landing stage/corolla platform;  
 E) -Dicotyledonae; rej dicotyledon,dicotylendon  
 F) - Net/ reticulate /net venation;  
 -5 petals/5 sepals  
 -floral parts arranged in fives/multiples of five;  
 G) -Sticky in order to hold the pollen grains;  
 -located inside the flower to ensure good contact with the insect ;
2. (i) Arthropoda;  
 (ii) X- Arachnida;  
 Y- Insecta;  
 Z- Crustacea;  
 (iii) - Useful in plant pollination;  
 -Produce edible food eg. Honey and royal jelly;  
 (iv) -Transmits disease causing organisms/disease vector;  
 -Sucks blood hence can cause anemia; (any three)  
 -Bites on animals destroy the quality of hides and skins;  
 -Wounds created become avenues for secondary bacterial infection;  
 (v) a) Flight;.....presence of wings;  
 b) Walking;.....presence of legs;
- 3 (i) Fruit;  
 (ii) Presence of two scars;  
 (iii) Award one mark for a well drawn unaided diagram; and two marks for labels.



- (iv) Axile;  
 (iv) Agent....animal / animals      rej specific animal.  
 Reason.....brightly coloured to attract animals  
 Fleshy/juicy/succulent to attract animals

Food/test	Procedure	observations	Conclusion
Starch;	To food add iodine;	No colour change/colour of iodine remains;. Rej no change.	Starch absent;
Reducing sugars;	To food add benedicts solution and heat;	Colour changes to green-yellow-orange-brown; rej. Red.	Reducing sugars present;
Vitamin c/ascorbic acid;	To DCPIP add food;	DCPIP is decolourised;	Vitamin c/ascorbic acid present;

NB .Award half mark for test, procedure , observations and conclusion.