KITUI COUNTY MOCK
END OF TERM II FORM FOUR EXAMINATION, 2017
Kenya Certificate of Secondary Education (K.C.S.E)
231/3
BIOLOGY
PAPER 3
MARKING SCHEME

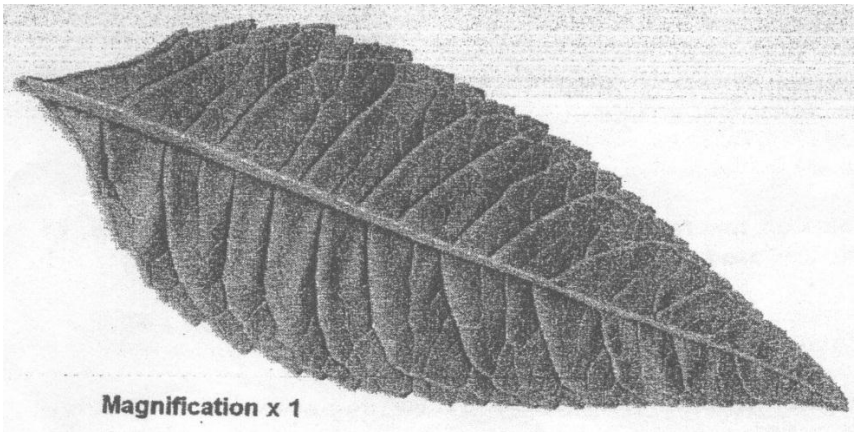
1. a) Effervescence occurs; (2 marks)
   b) No effervescence; (1 mark)
   c) Enzymes in living potatoes breakdown hydrogen peroxide; to water and oxygen; (4 marks)
   d) The gas produced relights a glowing splint; (1 mark)
   e) The gas produced is oxygen; (1 mark)
   f) Hydrogen peroxide $\xrightarrow[\text{enzyme}]{\text{Catalase}}$ water + oxygen (1 mark)
   g) Liver; (1 mark)
   h) Removes toxic substances from the body; (1 mark)
2. a)

Specimen	Steps followed	Identity
A	1a, 2a, 3a, 4a	Apis mellifera;
B	1a, 2a, 3b	Bedbug;
C	1b, 6b, 7a	Earthworm;
D	1a, 2b, 5b	Scorpion;
E	1b, 6a	Snail;
F	1a, 2a, 3a, 4a	Batesian butterfly;
G	1b, 6b, 7b	Leech

(7 marks)

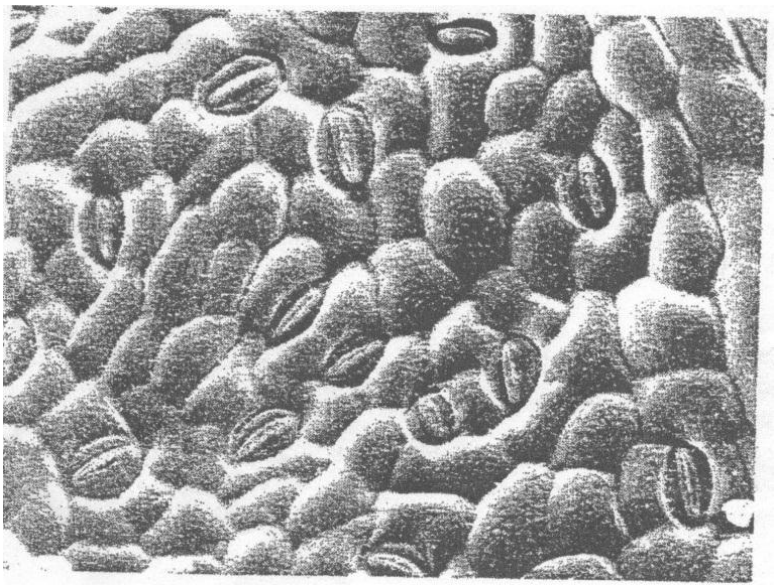
   b) i) Arachnida; (1 mark)
   ii) Pairs of legs;
   Number of body parts;
   Absence of antennae;
   Mark first two points
   c) i) Exoskeleton; (1 mark)
   ii) - Supports and protects inner delicate tissues from mechanical injury
   - Prevents excessive loss of water from body tissues
   - Prevents desiccation since it is water proof;
   - Provides a surface for muscle attachment;
   Mark first point
   d) Helps in pollination;
   Makes honey which is source of food;

3. a)



Drawing	-	Size and proportion (Same as in Fig 1.1);	1 mark
	-	Outline clear and serrate to include petiole;	1 mark
	-	Veins shown joined to midrib on either side;	1 mark
Labels	-	Midrib / main vein;	1 mark
	-	Petiole;	1 mark
	-	Leaf blade / lamina;	1 mark
		Total	6 marks

b)



i) - Epidermall cell;
- Guard cell; (Label line must touch only the cell and not stoma)

ii) 2 guard cells ringed; (Reject if more than two guard cells are ringed)

c) - Prepare a leaf epidermis on a microscope slide;
mount under a microscope;
count the number of stomata in the field of view;
determine the area of the field of view;
calculate the area of the leaf surface;
number of stomata = area of leaf surface / area of field of view multiplied by number of stomata in the field of view;
Maximum = 4 marks