

**SCHIOOL BASED FORM FOUR EXAMINATION JULY/AUG 2017**

**Biology 231/3  
Marking Scheme**

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- 1.a) **K – 2 drops;**  
**L – 3 drops; about**  
**M – 5 drops;**
- (b) K, L, M;
- c) Vitamins are denatured by high temperatures
- d) Kale  
Broccoli                      any other vegetable from brassica family  
Cabbage
- e) - Bleeding of the gum  
- Anaemia;  
- Swelling on the skin;  
- Poor healing of wounds  
- Reduced resistance to infections;
- f) Procedure  
Rub the food substance on the filter paper;dry it; (mark as a whole)

Observation

A translucent spot is left on the filter paper.

Conclusion

Presence of lipids;

2a)i) X – Kidney rej Kidneys

Y – Liver

ii) Presence of ureter;

Presence of medulla/ cortex/ and pelvis;

b) A – medulla;

B – cortex;

C – Pelvis;

d) i) Bile juice;

ii) Emulsification of fats;

- Neutralises the acidic chyme from the stomach;

- Provide an alkaline medium;

- e) – Blood sugar/ glucose regulation;
  - Deamination;
  - Generation of heat;
- f) X – kidney stone;
  - Nephritis;Y – Liver cirrhosis;
  - Hepatitis;
  - Jaudice;
- 3a) A – plumule;
  - C – Hypocotyl;
  - D – Cotyledon/ seed leaf;
- b)i) Dicotyledonae;
- ii) Presence of two cotyledons;
  - Network venation;
- c) - Storage of food;
  - Formation of the first seed leaf;
- d) Auxins diffuse on the lower side of the root (due to gravity) in the root high concentration of auxin inhibits growth of the root, while low concentration promotes growth the root;
  - Less auxins concentration on the upper side causes faster cell elongation than on lower side hence the formation of the curvature;(Max. 3)
- e) Type – Epigeal germination;
  - Reason – cotyledons emerges above the ground;