

## FORM FOUR CLUSTER KCSE MODEL5

### BIOLOGY PAPER 3 ANSWERS

1. a)
- i) Less foam in J than in K;
  - ii) Boiling denatures catalase; In J less enzyme available to break down Hydrogen peroxide.
- b)
- i) More foam in K than in L;
  - ii) Grinding increases the surface area; for action of catalase; c)
- i) More foam in tube M than K;
- ii) Specimen N has a higher concentration; of catalase enzyme;
- d)  $\text{Hydrogen peroxide} \xrightarrow{\text{catalase enzyme}} \text{water} + \text{Oxygen}$

2. a)
- Division- spermatophyta; rej; wrong spelling
- Reason; they are flowers from flower bearing plants; b)
- Agent – Animals/insects
- Reasons- stigma above anthers/anthers enclosed by corolla
- c)

| A <sub>1</sub>                                                                           | A <sub>2</sub>                         |
|------------------------------------------------------------------------------------------|----------------------------------------|
| Stigma single lobed                                                                      | Stigma with many lobes                 |
| Placentation marginal                                                                    | Placentation free central              |
| Androecium and Gynaecium enclose in keel (modified petal)/Ace pistil and stamen enclosed | Androecium and Gynaecium exposed(OWTTE |

d)

J -

Petal(s) K

- Ovule(s)

R - Receptacle/corns/thalamus

M - Anther(s)

e) -Multi-lobed stigma (5 lobes)

-Partly fused anthers (acc. Number is counted)

-Poly sepalous (free petals) -Poly pettalous (free petals) Superior ovary

1 f)

-Has flexible filament.

-Has long filament.

-Has large anthers.

3. a)

i) A - Renal

vein B - Ureter

C -

Pelvis D

- Cortex

ii) V - Glomerulus;

W - Proximal convoluted

tubule; X - Distal convoluted

tubule;

Y - Blood capillaries

b)

i) The tubule is supplied with blood capillaries to transport reabsorbed substances;

ii) Coiled to slow down the speed of the filtrate to give more time for re-absorption; c)

i) Loop of Henle

ii) Collecting duct/Distal convoluted tubule;

d) Kidney tubule becomes less permeable to water; less water reabsorbed into blood stream; production of large amounts of dilute urine; (thus diuresis)