

231/3
BIOLOGY
PAPER 3

Form 4

Paper 3

Teacher.co.ke

MARKING SCHEME

1. A)
 - i) yellow
 - ii) red
 - iii) acid-base indicator

- B)
 - i) color change from red to yellow
 - ii) the gas is acidic

- C)
 - i) white precipitate formed
 - ii) carbon iv oxide

- D)
 - i) respiration(aerobic)
 - ii) $\text{Glucose} + \text{oxygen} \longrightarrow \text{carbon iv oxide} + \text{water} + \text{energy}$
 - iii) for provision of energy

2. A) class- Dichotyledonae

Reasons - presence of two cotyledons in specimen L

- Net venation on plumule/leaves of specimen L(reticulate)

- B) i) K- hypogeal; cotyledon remains in the ground
L- epigeal ; cotyledons brought above the ground
- ii) K- epicotyl elongates pulling the plumule leaves and the shoot tip out of the cotyledons and out of the ground leaving the cotyledons in the soil.
L- Hypocotyl elongates pulling the cotyledons enclosing the plumule above the ground

- C) H –Epicotyl
G- hypocotyls

- D) As the bent parts exposed to sunlight, more light on the upper side causes auxins to migrate to the lower side; the increased auxin concentration on the lower side , stimulates faster elongation of cells; on the lower side leading to straightening og the seedling

- E) Both will develop a taproot system

- F) the cotyledons will part and the leaves will expand and spread out

3. a) V- Atlas

W- Axis

b)

Bone V	Bone W
Has a wider neural canal	Narrower neural canal
Has a very small centrum	Prominent centrum
Has a greatly reduced neural spine	Has a broad neural spine
Lack odontoid process	Has an odontoid process

c) occipital condyles of the skull

d) passage of the spinal cord and fitting of odontoid process of the axis

e) name- odontoid process

role- it fits into the canal of the atlas and allows for rotational movements of the head

f) C,F and K (mark any one)

g) protection of the spinal cord

h) D and G (mark any one)

