

24.4.3 Biology Paper 3 (231/3)

- 1 (a) Cervical region/neck region. *(1 mark)*
- (b) K - Atlas.
M - Axis.
N - Cervical vertebra. *(3 marks)*
- (c) Wide neural canal.
Absence of centrum.
Small neural spine. *(3 marks)*
- (d) Spinal cord.
Odontoid process. *(3 marks)*
- (e) S - Facets for articulation.
T - For passage of blood vessels. *(2 marks)*
- (f) Occipital condyle. *(1 mark)*
- (g) U - Post Zygapophysis.
Y - Odontoid process.
R - Centrum. *(3 marks)*
2. (a) (i) The stem from L₁ is firm/hard/stiff.
The stem from L₂ is soft. *(2 marks)*
- (ii) Solution L₁ is hypotonic to the cell sap;
Water moved into the stem cells by osmosis;
Cells of the stem become turgid;
Solution L₂ is hypertonic;
Water moves out of the cells by osmosis making the cells flaccid. *(5 marks)*
- (b) (i) Material in L₁ - The slit opens wider; and they bend backwards.
Material in L₂ - The strips remain close together. *(3 marks)*
- (ii) In L₁ cells in the inner surface/cut surface enlarged more because they took in more water; (by osmosis) than the outer cells which have cuticle. *(3 marks)*
3. (a) (i) Set A - Normal conditions/in light.
(ii) Set B - In the dark.
(iii) Set C - Subjected to unilateral light. *(3 marks)*
- (b)

SET A	SET B
(i) Green plants	Pale yellow plants.
(ii) Large leaves	Small leaves.
(iii) Short stems	Long stem;
(iv) Thick stems	Thin stems. <i>(4 marks)</i>
- (c) (i) Etiolation. *(1 mark)*
(ii) To reach light. *(1 mark)*
- (d) Positive phototropism. *(1 mark)*
- (e) (i) Auxins migrate to the dark side.
(ii) Causing faster growth of cells on the dark side.
(iii) Resulting in the curvature of the shoot towards the source of light. *(3 marks)*