AS Level Biology A

H020/01 Breadth in Biology

Question Set 13

1. Fig. 23 shows a microscope image of a cross section taken from the stem of a sunflower, *Helianthus annuus*.

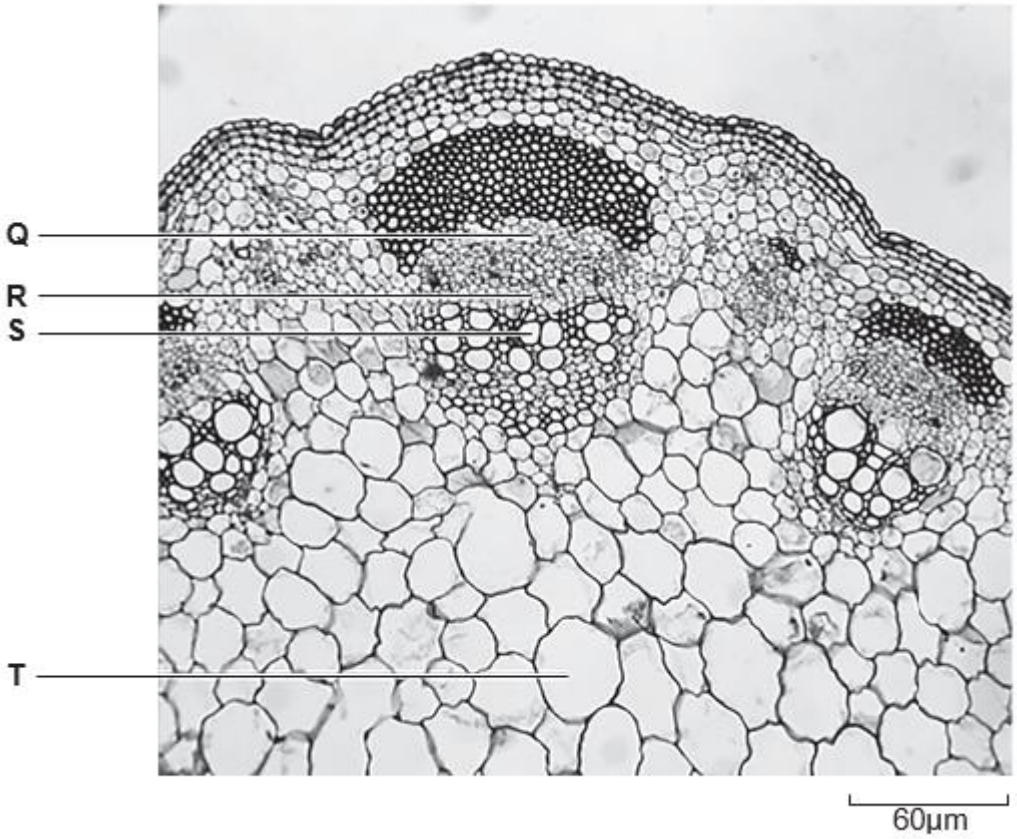

Fig. 23

(a) Calculate the magnification of this image.

Scale bar = 21mm

60µm = 0·06mm

I / A M

$\frac{21}{0·06} = 350$

350 x

[2]

(b) **(i)** The cell labelled **T** on Fig. 23 is a parenchyma cell which carries out photosynthesisand stores starch. Suggest why cell **T** and the cells surrounding it, can be classified as parenchyma **tissue**.

[1]

The cell labelled T and the cells surrounding it have a similar structure and work together to carry out common functions e.g. photosynthesis, nutrient and food storage etc.

(ii) **Name** the two tissues labelled **Q** and **S** on Fig. 23.

Q Phloem

S Xylem

[2]

(c) The tissues labelled **Q** and **S** in Fig. 23 are produced by mitosis from the tissue labelled **R** onFig. 23. Identify the tissue labelled **R**.

R Cambium

[1]

Total Marks for Question Set 13: 5

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