A Level Biology B

H422/03 Practical skills in biology

Question Set 8

1. **(a)** **(i)** Fig. 3.1 shows a light photomicrograph of a cross-section of a healthy artery.

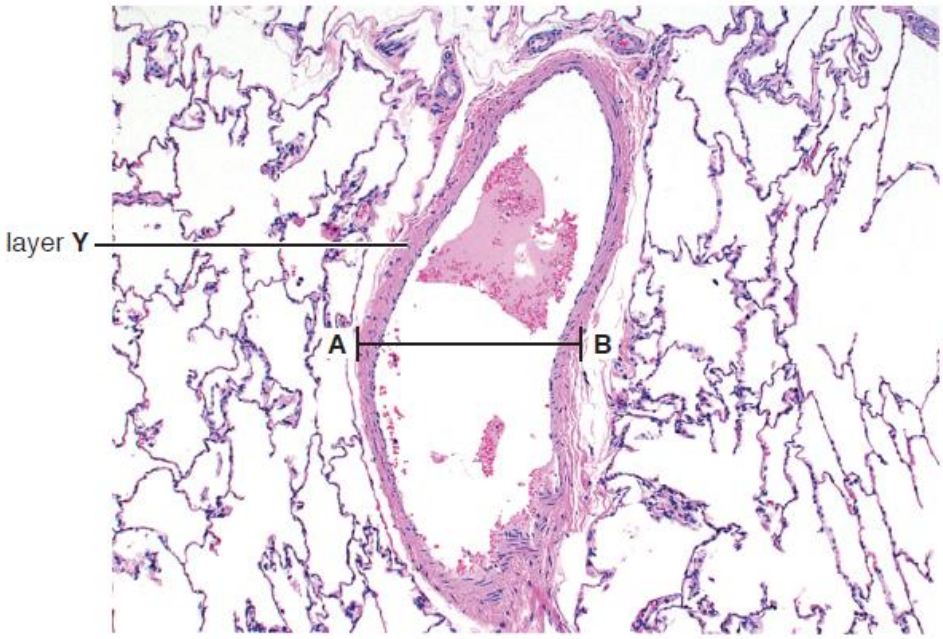

Fig 3.1

Identify layer **Y**. **[1]**

(a) **(ii)** Describe the importance of layer **Y** in the normal functioning of an artery.

[1]

(b) **(i)** The artery in Fig. 3.1 has a diameter of 0.40 mm measured between **A** and **B**.

Calculate the magnification of this image.

Show your working.

[2]

(b) **(ii)** Fig. 3.2 shows a light photomicrograph of a cross-section of a diseased artery. The diseased artery has a diameter 14.3% greater than the healthy artery in Fig. 3.1. The diameter of the healthy artery is 0.40 mm.

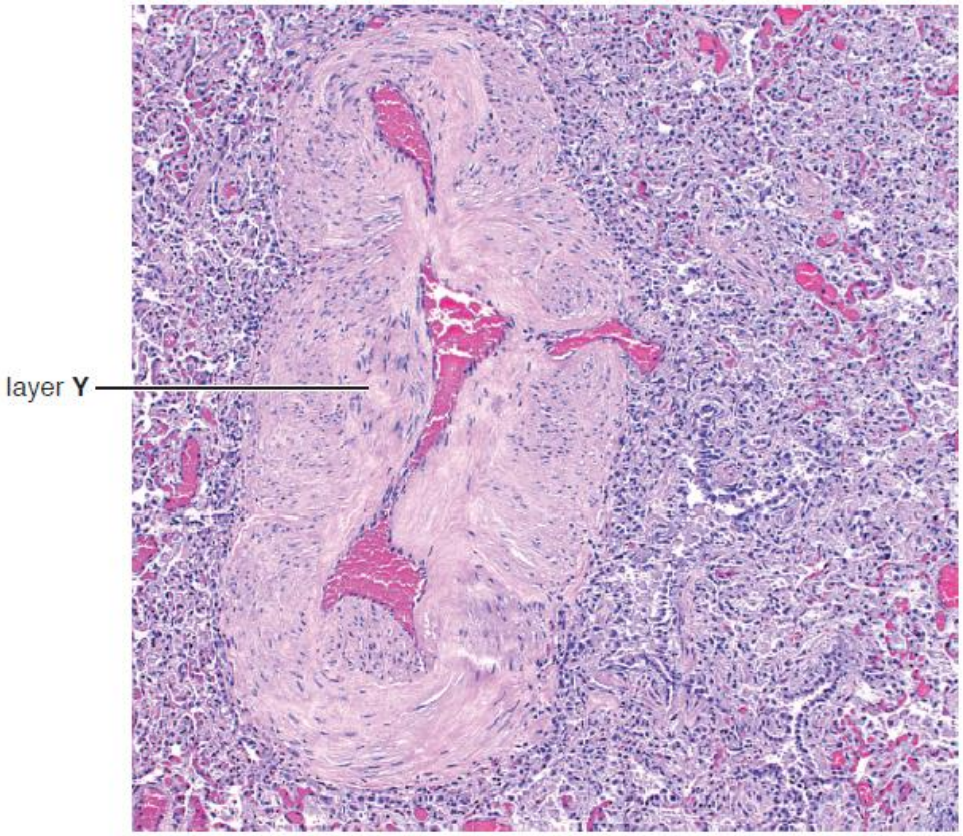

Fig. 3.2

Calculate the actual diameter in mm of the diseased artery. Give your answer to 2 significant figures.

Show your working.

[2]

(c) Suggest why layer **Y** is much thicker in this diseased artery than in the healthy artery shown in Fig. 3.1.

[2]

(d) **(i)** Capillaries do not have a layer **Y**.

Explain why the absence of layer **Y** is important in the formation of tissue fluid.

[1]

(d) **(ii)** Complete this passage about the formation of tissue fluid using the most appropriate words.

Tissue fluid is formed at the ..... end of capillaries due to the high ……pressure. The high ..... concentration in capillaries produces a high..... pressure. This enables fluid to diffuse back into the capillaries.

[4]

Total Marks for Question Set 8: 13