



QUESTION WORKBOOK

Blood vessels and tissue fluid: what leaks out and what comes back

Animal transport and cardiovascular biology · Unit B09

AQA 3.3.4.2 · OCR A 3.1.2 (c)–(g) · Edexcel A Topic 1.3–1.5 · CAIE 8.1

6 questions · 20 marks

NAVY SCREEN EDITION

SECTION A · Short, 1 to 2 marks

- A1** A blood vessel has a thin wall, a very wide lumen and valves along its length. Identify the type of vessel, and give the pressure the blood in it typically carries.

[2]

SECTION B · Standard, 3 to 5 marks

- B1** At the arteriole end of a capillary the hydrostatic pressure is 4.6 kPa and the oncotic pressure is 3.3 kPa. At the venule end the hydrostatic pressure has fallen to 2.3 kPa. Calculate the net pressure at each end, and calculate by how much the outward net pressure exceeds the inward one.

[4]

- B2** Explain how tissue fluid is formed at the arteriole end of a capillary bed and how most of it is returned at the venule end.

[4]

B3 Explain how the elastic tissue in an artery wall keeps blood flowing between beats, and explain why it is the arterioles rather than the arteries that bring the mean blood pressure down. [4]

B4 Explain why blocking the lymph vessels that drain a limb makes that limb swell. [3]

B5 Standing still for an hour on a hot day often makes a person's ankles swell. Suggest why. [3]
