

Three examples of fluids in the mammalian body are blood, tissue fluid and lymph.

Complete Table 3.1 below comparing different features of arterial blood, tissue fluid and lymph.

Table 3.1

feature	arterial blood	tissue fluid	lymph
hydrostatic pressure		low	
presence of large proteins	yes		
presence of neutrophils	yes		
presence of erythrocytes			no

feature	arterial blood	tissue fluid	lymph
hydrostatic pressure	high	low	low
presence of large proteins	yes	no OR yes	no yes
presence of neutrophils	yes	yes	(yes / no)
presence of erythrocytes	yes	no	no

In a closed circulatory system, blood is kept inside blood vessels.

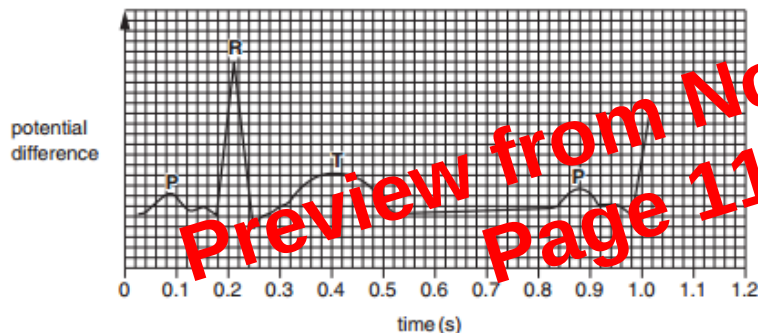
(i) Suggest **two** advantages of keeping the blood inside vessels.

- 1
maintain / high(er), (blood) pressure ;
.....
- 2 increase rate of, flow / delivery ;
flow can be, diverted / directed / AW ;
..... [2]

6 Fig. 6.1 shows two electrocardiogram (ECG) traces.

- Trace **A** is a normal trace.
- Trace **B** is a trace from a heart after treatment with the drug digitalis.

Trace **A** – an electrocardiogram from a normal heart



Trace **B** – an electrocardiogram from a heart after treatment with digitalis

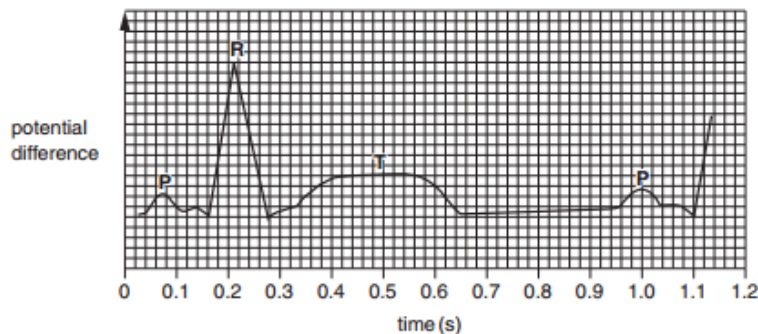


Fig. 6.1

(a) Calculate the heart rate using the information in Trace **A**.

Show your working.

a single value between 67 and 80 ; ;

max 2

two marks for correct answer

If answer incorrect, allow one mark for appropriate working i.e. 60 divided by time from trace selected by candidate

Answer = beats per minute [2]