5 **(a)** Describe how a longitudinal wave differs from a transverse wave.

.....

.....

..... [2]

(b) Fig. 5.1 represents a seismic wave produced by an earthquake.

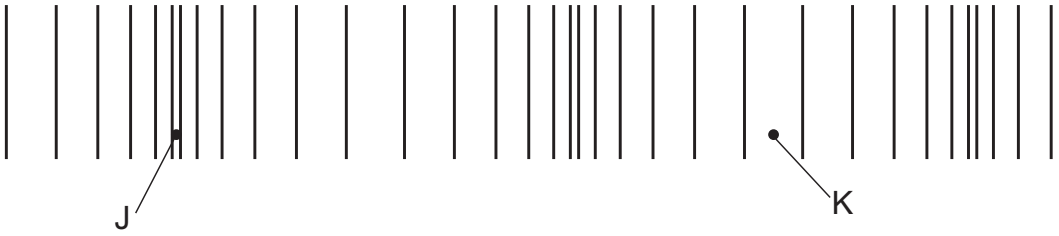

Fig. 5.1

(i) State whether this seismic wave is a P-wave (primary) or an S-wave (secondary). Justify your choice.

.....

..... [1]

(ii) The wave represented in Fig. 5.1 has a wavelength of 1.2×10^4 m.

Calculate the actual distance between point J and point K.

distance = ... [2]

(iii) The wave in **(ii)** travels through the ground at a speed of 4600 m / s.

As the wave passes a certain point, the ground completes 5 oscillations.

Calculate the time that it takes for the wave to pass. Show your working.

time = ... [3]

[Total: 8]