3 **(a)** Distinguish between transverse and longitudinal waves.

……

……

…….....[2]

(b) Particle A and particle B oscillate on the same wave.

Fig 3.1 shows the variation with time of the displacement for particle A and particle B.

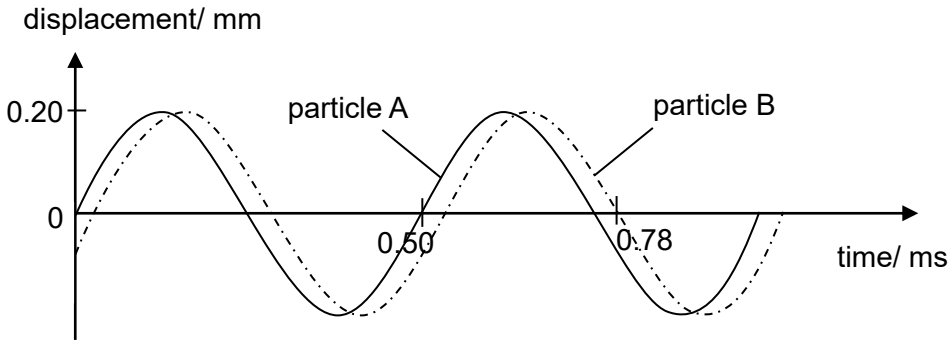

Fig. 3.1 (not drawn to scale)

(i) Calculate the phase angle between the two particles A and B.

phase angle = ……° [2]

(ii) The wave on which the particles oscillate travels to the right.

Sketch on the axes of Fig. 3.2 the variation with distance of displacement for the wave at time $t = 0$. The position of particle A is shown on the axes.

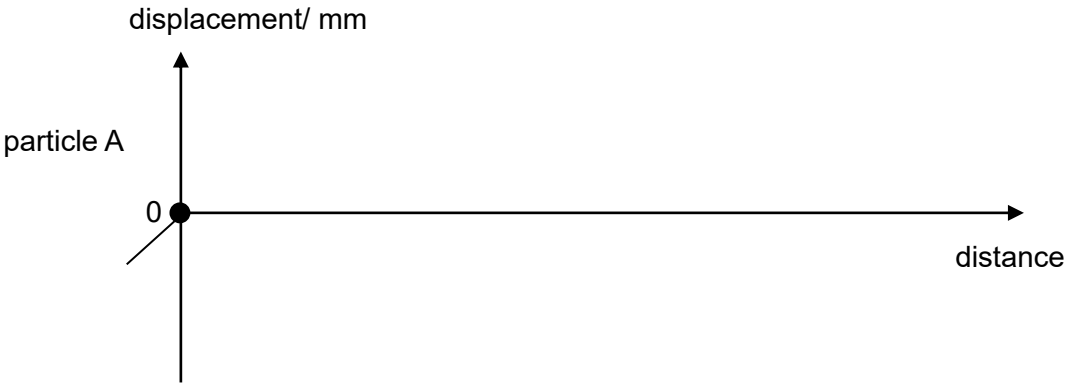

Fig. 3.2

[2]

[Total 6]