

1. 0625/42/M/J/19/No.6

(a) Fig. 6.1 shows a water wave in a ripple tank.

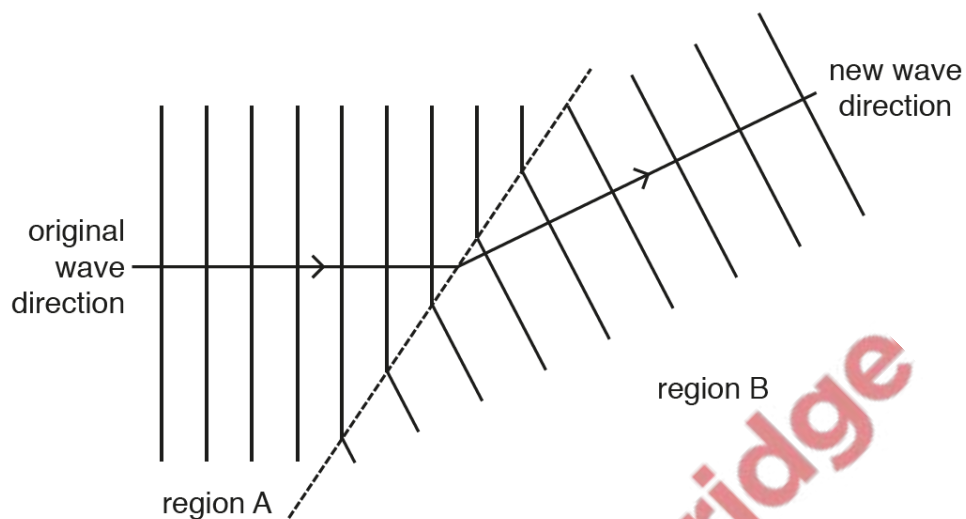


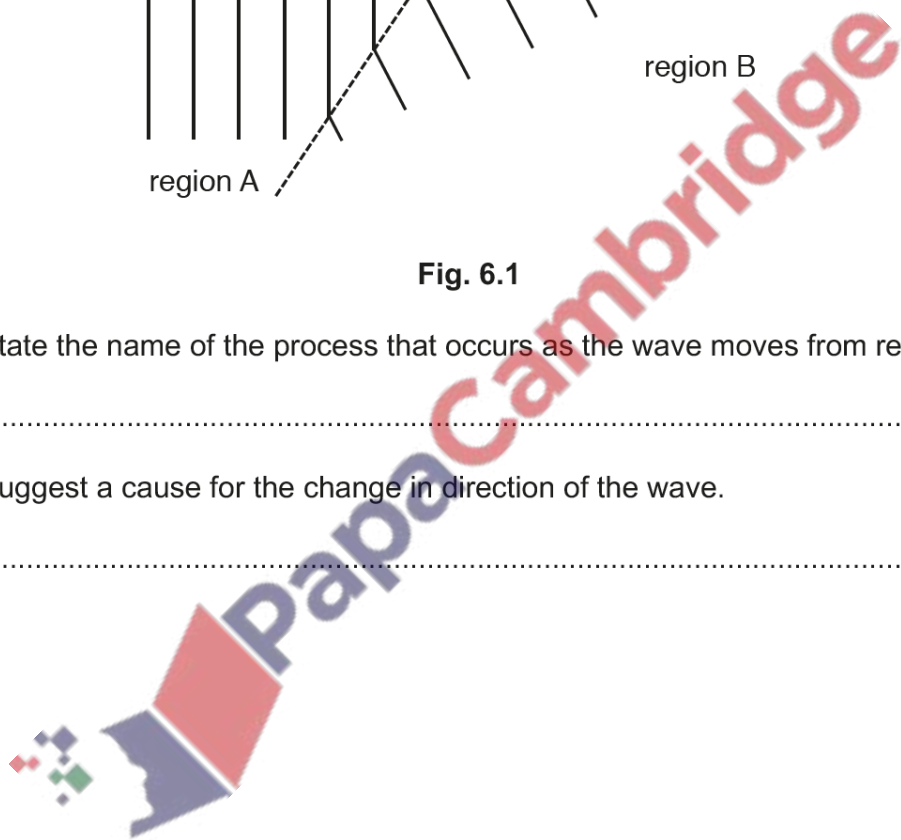
Fig. 6.1

(i) State the name of the process that occurs as the wave moves from region A to region B.

..... [1]

(ii) Suggest a cause for the change in direction of the wave.

..... [1]



(b) Fig. 6.2 shows a transverse wave.

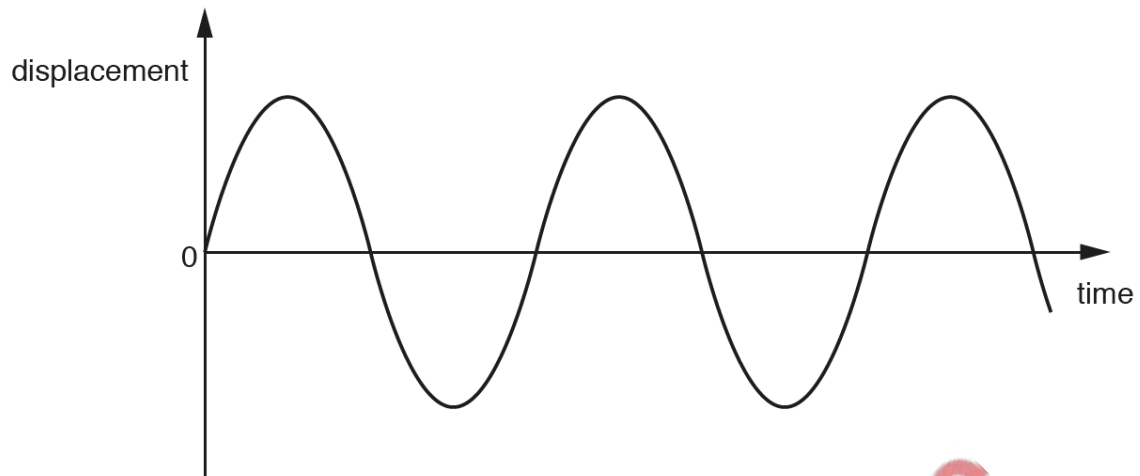


Fig. 6.2

On Fig. 6.2, draw a wave which has half the amplitude and a greater frequency than the wave shown. [2]

(c) A train travels along steel rails. A person waiting at a station hears the sound of the train through the rails before he hears the sound through the air.

(i) Explain why this happens.

.....
..... [1]

(ii) The speed of sound in the rails is 5800 m/s.

Calculate the wavelength of sound of frequency 1100 Hz travelling at this speed.

wavelength = [2]

[Total: 7]

Light and sound both travel as waves.

Draw a line from each statement to the correct term that describes it. One has been done for you.

| statement | term |
|---|--------------|
| change in direction of light when entering a medium | amplitude |
| very high frequency sounds | dispersion |
| a glass prism producing a spectrum | diffraction |
| light spreading after passing through a narrow gap | echo |
| sound reflecting from a wall | longitudinal |
| seven colours of light | refraction |
| | spectrum |
| | ultrasound |

[5]

[Total: 5]