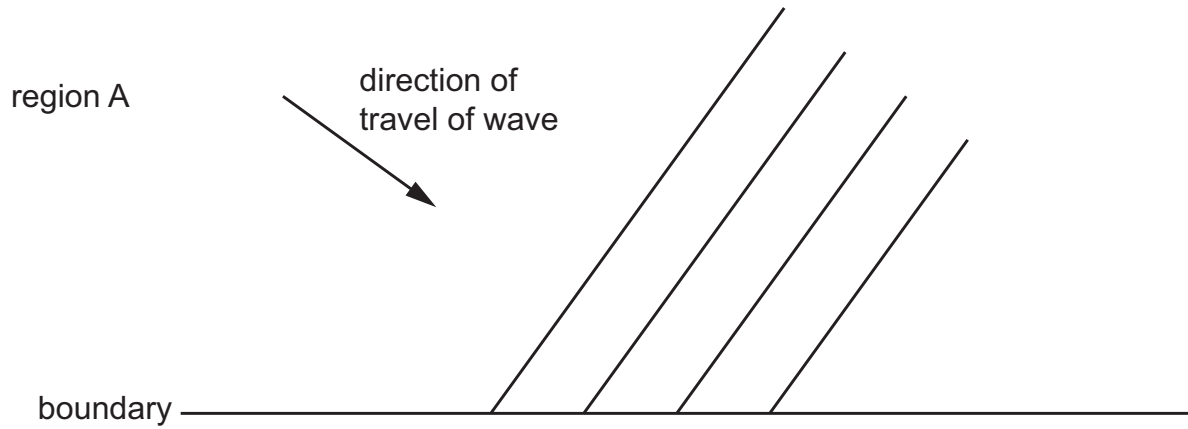


6 (a) Fig. 6.1 shows successive crests of a water wave approaching a boundary.



region B

Fig. 6.1

(i) The speed of the waves in region B is lower than the speed of the waves in region A.

On Fig. 6.1, draw the crests of the waves in region B. [3]

(ii) State the wave effect that occurs as the wave crosses the boundary between region A and region B.

..... [1]

(b) (i) Light can be totally internally reflected when striking the boundary between two different regions.

State **two** conditions that are necessary for total internal reflection to occur.

1

.....

2

.....

[2]

(ii) State **two** advantages of using optical fibres for transmitting high speed broadband.

1

2

[2]

[Total: 8]