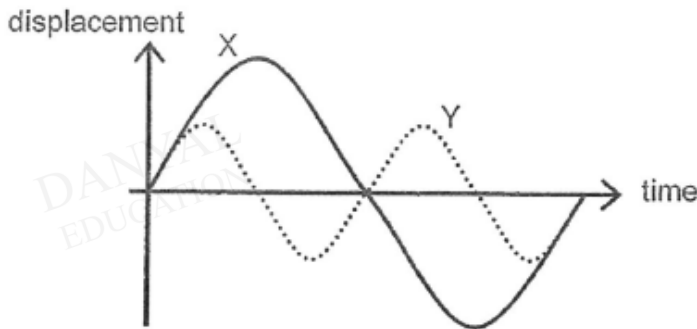


O Level Combined Physics MCQs

Sound Test 1.0

Q1

A tuning fork produces two pure notes, X and Y. The displacement-time graph of these two notes are shown below.



Which statement about the two notes is correct?

- A X is louder than Y and has a higher pitch than Y.
- B X is louder than Y and has a lower pitch than Y.
- C Y is louder than X and has a higher pitch than X.
- D Y is louder than X and has a lower pitch than X.

Q2

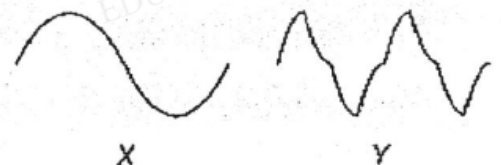
Which row correctly shows the increasing order of the speed of sound in different mediums?

	slowest	→	fastest
(A)	air		steel water
(B)	air		steel air
(C)	steel		air water
(D)	steel		air water

Q3

The figure shows the traces of two musical notes X and Y on a cathode ray oscilloscope (CRO).

- 1 Y has a higher pitch than X.
- 2 The loudness of Y is greater than that of X.
- 3 X and Y are transverse waves.



Which of the following is true?

- A 1 only
- B 2 only
- C 1 and 3 only
- D 1, 2 and 3

Q4

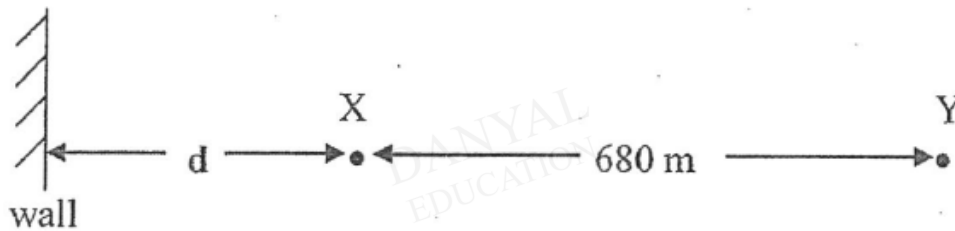
A flute is a musical instrument that creates a higher pitched sound than a drum. The two instruments are played at the same time, each making a single sound. The two sounds have the same amplitude.

Which statement below is correct?

- A The sound from the drum will travel faster through air.
- B The sound from the flute will travel faster through air.
- C The two sounds will travel at the same speed through air.
- D The two sounds will travel faster through air than through a liquid medium.

Q5

Two boys X and Y are standing in front of a vertical wall as shown in the diagram. Boy X fires a pistol and Y hears two sounds at time interval of 2 s.



If the speed of the sound is 340 m/s in air, what is the value of d?

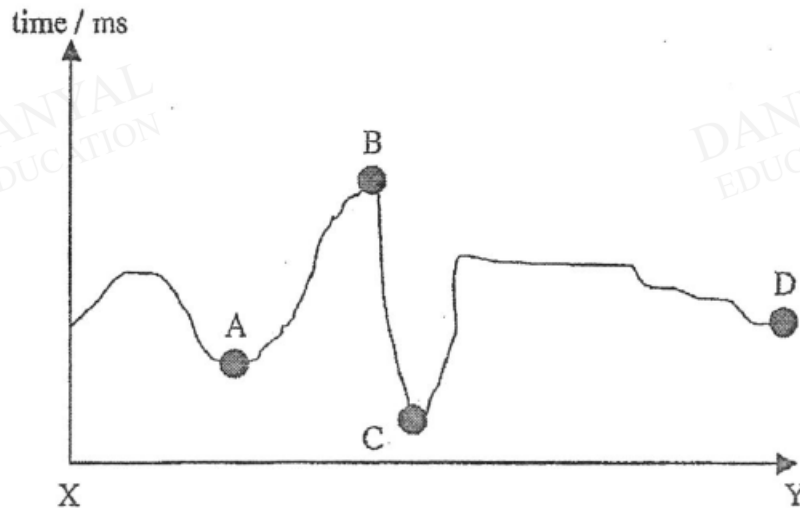
- A 170 m
- B 340 m
- C 680 m
- D 850 m

Q8

Ultrasound is sent from a ship directly downwards into the water.

The diagram below shows the duration for ultrasound to return back to the receiver on the ship as the ship travelled from point X to point Y along the surface of the water.

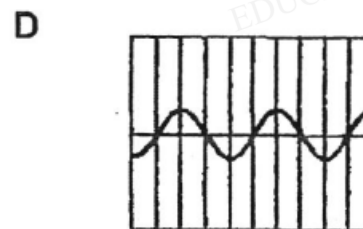
At which position is the water deepest?



Q9

The diagrams show oscilloscope traces of sounds picked up by microphones. The oscilloscope controls are set in the same positions for all the traces.

Which trace shows the loudest, lowest-pitched, sound?



Q10

Sound waves from a violin and a flute are compared.

The sound wave from the violin has a smaller amplitude and smaller period than that from the flute.

Which of the following shows the comparison of loudness and pitch for the flute and the violin?

	Louder Sound	Higher Pitch
A	Flute	Flute
B	Flute	Violin
C	Violin	Flute
D	Violin	Violin

Answers

Sound Test 1.0

Q1 B

Q2 B

Q3 A

Q4 C

Q5 B

Q6 B

Q7 B

Q8 B

Q9 A

Q10 B

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