Question 6

Diagram 6.1 and Diagram 6.2 show experiments on a sound wave.

Rajah 6.1 dan Rajah 6.2 menunjukkan eksperimen mengenai gelombang bunyi.

(a) Observe Diagram 6.1 and Diagram 6.2.
Perhatikan Rajah 6.1 dan Rajah 6.2.

(i) **Compare the distance, X, between two consecutive loud sounds in these two situations.**
Bandingkan jarak, X, di antara dua bunyi kuat yang berturutan dalam kedua-dua situasi ini.

.....

[1 mark]

(ii) Compare the distance, a, between the two loudspeakers. [1 mark]
Bandingkan jarak, a, di antara dua pembesar suara itu.

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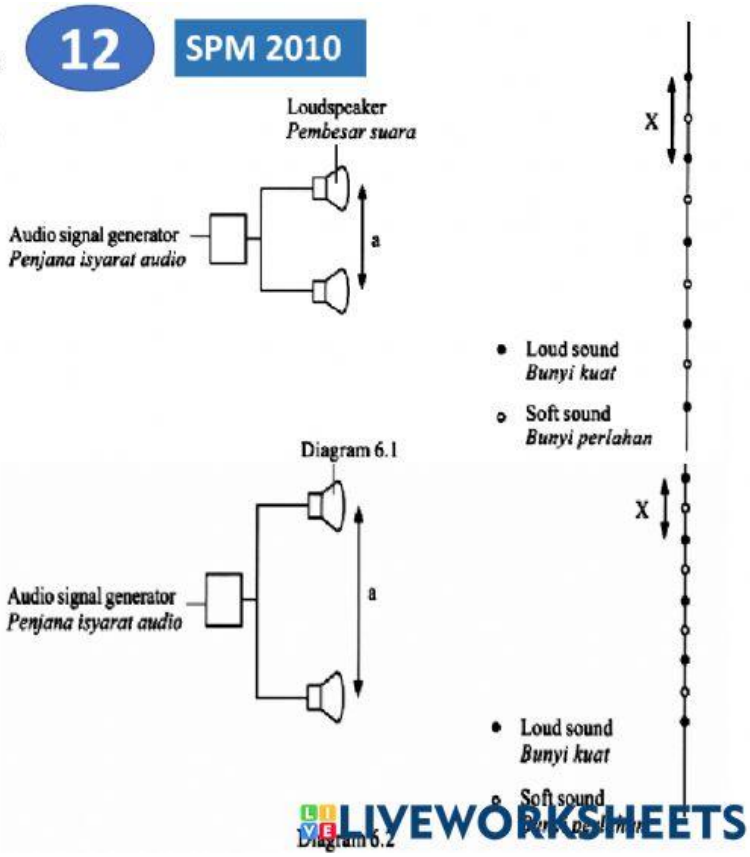

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(iii) **State the relationship between a and X.**
Nyatakan hubungan di antara a dan X.

.....

[1 mark]

(iv) **State one other physical quantity that needs to be fixed to ensure the relationship in 6(a)(iii) is correct.** **[1 mark]**
Nyatakan satu kuantiti fizik lain yang perlu ditetapkan untuk memastikan hubungan di (a)(iii) adalah betul.

.....

(v) **Name the physics phenomenon involved.**
Namakan fenomena fizik yang terlibat.

.....

[1 mark]

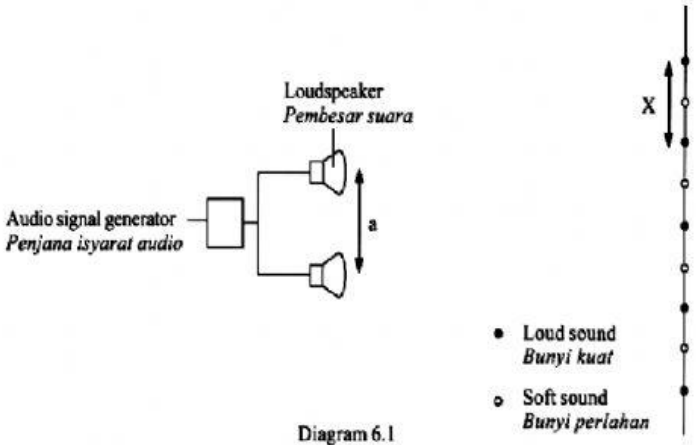

Diagram 6.1

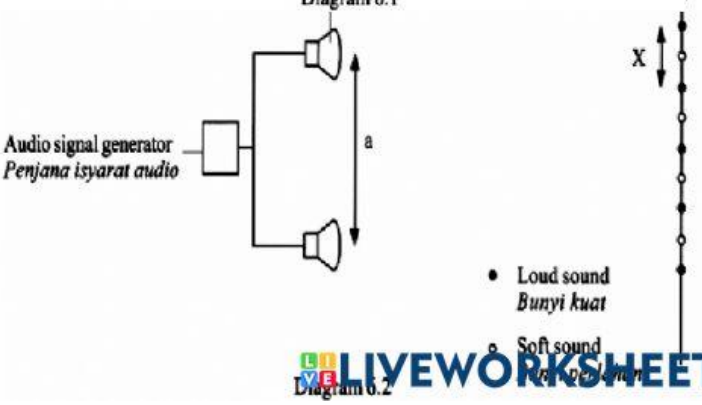

Diagram 6.2

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(b) The frequency of the audio signal generator is increased.
Frekuensi penjana isyarat audio ditinggikan.

(i) What is the meaning of frequency?
Apakah maksud frekuensi?

.....

.....
[1 mark]

(ii) What happens to the distance between two consecutive loud sounds?
Apakah yang berlaku kepada jarak di antara dua bunyi kuat yang bertututan?

.....
[1 mark]

(iii) Give one reasons for the answer in 6(b)(ii).
Beri satu sebab bagi jawapan di 6(b)(ii)

.....

.....
[1 mark]

LIVEWORKSHEETS

6. **SPM 2016**

Diagram 6.1 shows a boy walking along PQ in front of two loudspeakers connected to an audio frequency generator. The two loudspeakers are coherent sources. The boy will hear loud sound and soft sound alternately.

Rajah 6.1 menunjukkan seorang budak lelaki berjalan sepanjang PQ di hadapan dua pembesar suara yang disambungkan kepada sebuah penjana frekuensi audio. Kedua-dua pembesar suara adalah sumber koheren. Budak lelaki itu akan mendengar bunyi yang kuat dan bunyi yang perlahan berselang seli.

SPM 2016

15

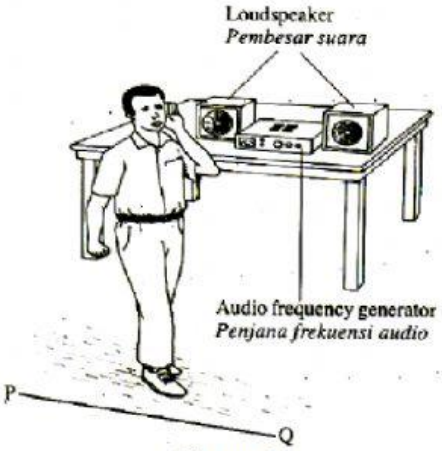

Diagram 6.1

(a) **What is the meaning of two coherent sources?**
Apakah maksud dua sumber koheren?

.....

.....

[1 mark]

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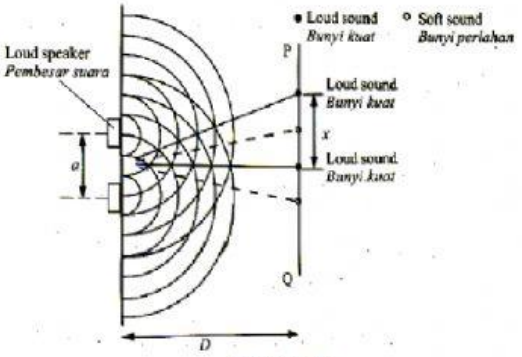

Diagram 6.2

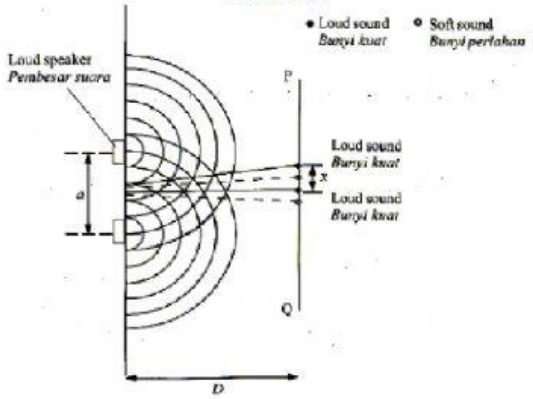

Diagram 6.3

Observe Diagram 6.2 and Diagram 6.3.
Perhatikan Rajah 6.2 dan Rajah 6.3 .

(i) **Compare the distance between the two loudspeakers, a.**
Bandingkan jarak antara kedua-dua pembesar suara, a.

.....

[1 mark]

(ii) **Compare the distance between two consecutive loud sounds, x.**
Bandingkan jarak antara dua bunyi kuat yang berturutan, x.

.....

[1 mark]

(iii) **Compare the distance between the line PQ and the two loudspeakers, D.**
Bandingkan jarak antara garis PQ dan dua pembesar suara, D.

.....

[1 mark]

(iv) **Relate the distance between the two loudspeakers, a, and the distance between two consecutive loud sounds, x.**
Hubungkait jarak antara kedua-dua pembesar suara, a, dengan jarak antara dua bunyi kuat berturutan, x.

.....

[1 mark]

(v) **Name the wave phenomenon.**
Namakan fenomenon gelombang itu.

.....

[1 mark]

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