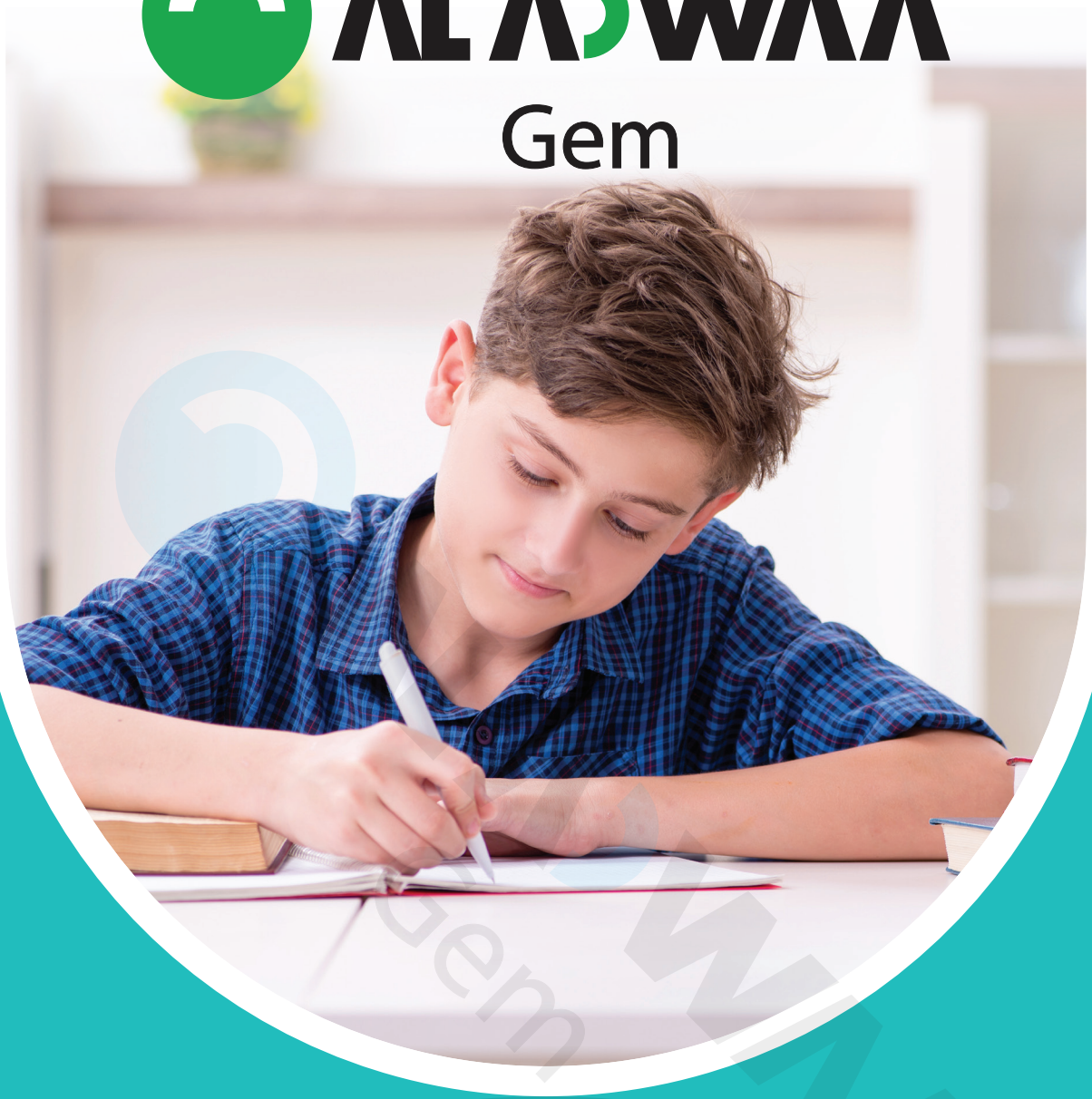
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Gem



Science

الصف 2 الإعدادى

نماذج اختبارات الأضواء لشهر إبريل

الفصل الدراسى الثانى

2024 - 2025

Model (1)

15 Marks

1 A) Complete the following sentences:

1. The noise intensity is measured in ....., while the sound intensity is measured in .....
2. Energy of a photon = ...

B) Give a reason for:

1. A partially immersed pencil in water appears broken.

.....

2. Sound intensity in the case of the presence of carbon dioxide gas as a medium is higher than that in case of air.

.....

.....

C) What is meant by ...?

- The absolute refractive index of glass = 1.5.

.....

.....

2 A) Cross out the odd word:

1. Amplitude – Frequency – Density of the medium – Wind direction. (.....)
2. Skin – Leaves – Wood – Glass. (.....)

B) Define each of the following:

1. Light reflection: .....
2. Light intensity: .....

C) Calculate the frequency of a musical tone similar to the frequency of a produced tone using savart's wheel rotated with a velocity of 960 cycles in two minutes, given that the number of teeth of the gear is 30 teeth.

.....

.....

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Model (2)

15 Marks

1 A) Choose the correct answer:

1 A sound wave with a frequency of 200 Hz ..... than a sound wave with a frequency of 100 Hz.

(a) is high-pitched (b) is more rough

(c) has more quality (d) has less intensity

2 Light is refracted as its ..... changes when it passes through different transparent media.

(a) frequency (b) velocity

(c) quantity (d) All the previous answers

B) What happens if...?

1 The distance between a light source and a surface is doubled. (In terms of light intensity)

.....

2 A light ray travels from air to water.

.....

C) Mention the use of:

- Glass prism: .....

2 A) Put (✓) or (×):

1 The light rays refract far from the normal when it passes from glass to water. ( )

2 By increasing the thickness of a transparent medium, the quantity of light passing through it increases. ( )

B) Compare between each of the following:

1

P.O.C	Noise	Musical tones
Frequency	.....	.....

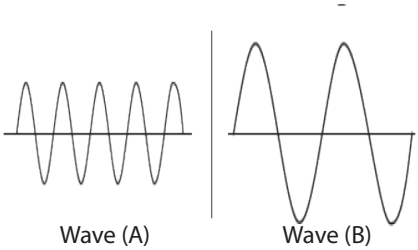
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P.O.C	Fundamental tones	Harmonic tones
Sound intensity	.....	.....

C) Look at the opposite figure, then answer:

- Which wave has the highest pitch, and which one has the highest intensity?

.....



Wave (A) Wave (B)

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Model (3)

15 Marks

1 A) Write the scientific term:

1. The tones that accompany the fundamental tone, but they are higher in pitch and lower in intensity. (.....)
2. It is the ability of the transparent medium to refract light. (.....)

B) Give a reason for:

1. The absolute refractive index of any transparent medium is always greater than one.

.....

.....

2. The voice of women is sharper than the voice of men.

.....

C) Calculate the velocity of light through glass, if the velocity of light through air is 3×10^8 m/s and the absolute refractive index of glass is 1.5.

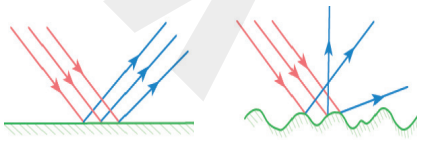
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2 A) Choose the correct answer:

1. Light ..... is responsible for the formation of inverted images when rain falls.
   (a) reflection (b) velocity (c) refraction (d) quality
2. The resonance box ..... the intensity of sound.
   (a) decreases (b) increases (c) reduces (d) doesn't change

B) Look at the opposite figure, then answer:

1. Identify the type of reflection in each figure.



(1) (2)

.....

.....

2. State the type of surface responsible for each type of reflection.

.....

C) What is meant by ...?

- The angle of emergence in a prism is 40°.

.....

.....

Model (4)

15 Marks

1 A) Complete the following sentences:

1. A vibrating tuning fork produces ..... tone.
2. The ..... color has the longest wavelength, while the ..... color has the shortest wavelength.

B) What happens when ...?

1. The length of the vibrating string decreases. (In terms of sound pitch)

.....

2. A light ray falls perpendicular to the interface between two different media.

.....

C) Compare between ...:

P.O.C	Transparent medium	Translucent medium
Permission of light	.....	.....

2 A) Correct the underlined words:

1. The light rays that falls perpendicular to the interface reflects at **90 degrees**. (.....)
2. The light intensity is inversely proportional to **half** of the distance between the light source and the surface. (.....)

B) What is meant by ...?

1. The distance traveled by light in a time of 5 seconds equals 15×10^8 meters.

.....

2. The angle of refraction of a light ray is 50°.

.....

C) Savart's wheel rotates with a rate of 300 cycle per minute. A sound of frequency 600 Hz is produced when an elastic plate touches the teeth of one gear. Calculate the number of the teeth of the gear.

.....

.....

Model (5)

15 Marks

1 A) Put (✓) or (×):

1. When a light ray falls on a rough surface, it reflects in one direction. ( )
2. The velocity of light increases by increasing the density of medium. ( )

B) Give a reason for:

1. The piano sound differs from that of the violin even if they have the same intensity and pitch.

.....

.....

2. The energy of green photon is larger than the that of yellow photon.

.....

C) Explain how mirage phenomenon occurs.

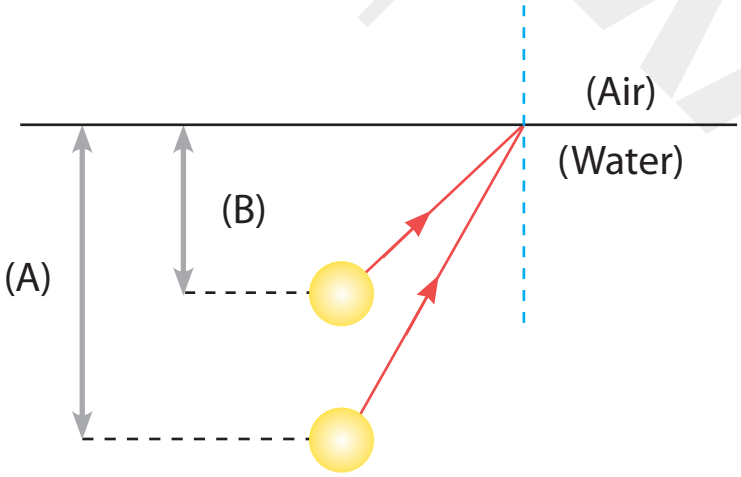
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2 A) Complete the following sentences

1. The sound of a lion is ..... , so it is said that it has a ..... -pitched sound.
2. Light travels through ..... media in ..... lines.

B) Look at the following figure, then answer:



1 Complete the path of the light rays through which the eye can see the coin inside the water.

2 What are positions (A) and (B) called?

C- Mention one use for:

- Ultrasonic waves in the medical field:

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