This is a Class 1 exam

Lebanon Evangelical School
for Boys and Girls
Loueizeh - Baabda

Stage Exam 06

19, 20, 21JUN2023

Do NOT write in this box. Your MARK will be placed here.

Subject :	Science
Class :	6A, 6B, 6C and 6E
Teacher :	Mrs. Aya Al-Mawla
Duration :	1 hour
Answer on a SEPARATE sheet	

Your name :		*Time taken to complete exam*
Your Class :		
Exam Room :		
How many sheets, including cover sheet :		

- Do not open this paper until the teacher in charge instructs you to do so.
- The most important thing to remember in taking an exam is NEVER PANIC.
- If you are caught cheating in this exam, you will be awarded zero for ALL exams that are taken on this day.

I- ***Choose*** *the correct answer for each of the following questions.* *(15marks)*

1- The electromagnetic spectrum includes a range of waves arranged in order of:
   - A- Increasing wavelength
   - B- Increasing frequency
   - C- Decreasing frequency
   - D- Increasing period

2- Which electromagnetic wave has the shortest wavelength?
   - A- Radio waves
   - B- Light waves
   - C- Gamma rays
   - D- Ultraviolet waves

3- Which of the following has frequencies lower than Infrared waves?
   - A- X-rays
   - B- Visible light
   - C- Ultraviolet waves
   - D- Microwaves

4- Which one of the following 4 electromagnetic waves has the highest energy?
   - A- X-rays
   - B- Visible light
   - C- Radio waves
   - D- Infrared waves

5- What type of electromagnetic waves can be used in mobile phones communications?
   - A- Microwaves
   - B- Sound waves
   - C- Ultraviolet waves
   - D- Gamma rays

6- Which electromagnetic wave is given off as heat?
   - A- Gamma rays
   - B- X-rays
   - C- Ultraviolet waves
   - D- Infrared waves

7- Airport security scanning is an example of using:
   - A- Infrared waves
   - B- X-rays
   - C- Radio waves
   - D- Gamma rays

8- The wave property that shows the number of wavelengths covered in one second is:
   - A- Period
   - B- Wavelength
   - C- Frequency
   - D- Amplitude

9- In vacuum, all electromagnetic waves have a constant common property, which is the:
   - A- Frequency
   - B- Wavelength
   - C- Speed
   - D- All of the above

10- A wave with a long wavelength will have a high frequency

A- True
B- False

11- The color of light that has the shortest wavelength:

A- Red
B- Blue
C- Violet
D- Pink

12- The color that represents the combination of all colors:

A- White
B- Black
C- Grey
D- None of the above

13- The highest point of a wave:

A- Crest
B- Trough
C- Amplitude
D- Wavelength

14- The factors that affect the speed of propagation of sound are:

A- Temperature and the volume of the sound
B- Weather and climate
C- The type of the medium and the temperature
D- None of the above

15- An object that allows part of the light to pass through leading to a blurry appearance:

A- Transparent
B- Translucent
C- Opaque
D- All of the above

II- ***Complete*** *the following paragraph with the appropriate scientific terms.* *(15marks)*

Waves are __(1)__ that occur __(2)__ up and down or __(3)__ and __(4)__ to transfer __(5)__ without transferring __(6)__. All waves begin from an energy source, but not all waves are the same. Waves produced by vibrations of charged particles are called __(7)__, such waves do not need a __(8)__ to propagate in, and the motion of the particles is perpendicular to the direction of propagation so these waves are always said to be __(9)__. On the other hand, there is another type of waves called __(10)__ that needs a certain medium to travel. These waves can be transverse, __(11)__ or a __(12)__. However, this classification of waves doesn't mean that all waves of the same kind are similar in their properties, where in fact each wave is defined by a set of properties such as its __(13)__, __(14)__, period, wavelength and __(15)__.

III- ***Label** the parts **A, B, C, D and E** of the wave diagrams in figures 1 and 2* *(5marks)*

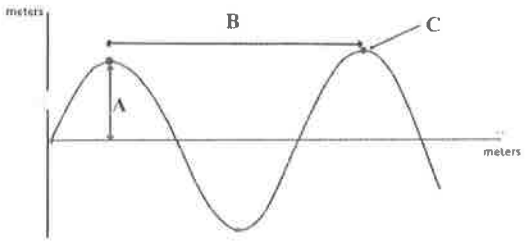


Figure 1

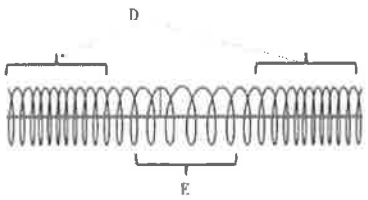


Figure 2

IV- ***Give** the term corresponding to each of the following definitions and functions.* *(12marks)*

1- Waves that transfer energy perceived by hearing.
2- How high or low the sound is.
3- A spiral shaped structure in the ear filled with fluid.
4- A substance produced in the ear canal to provide protection against germs.
5- The colored part of the eye.
6- A part of the eye that gets wider when the light gets dimmer.
7- Parts of the eye that are responsible for color vision
8- Muscles in the eye responsible for changing the shape of the lens.
9- An object that doesn't allow light to pass through.
10- An object through which we can clearly see.
11- The bounce of a wave back to where it started.
12- When part of the energy transferred by the wave through matter is changed into thermal energy.

V- ***Use** figures 3 and 4 to answer the questions that follow.* *(6marks)*

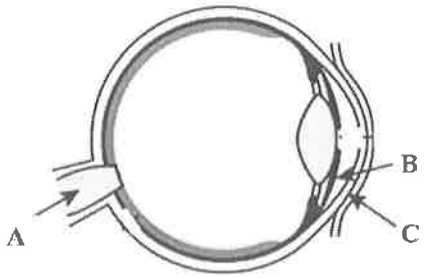


Figure 3



Figure 4

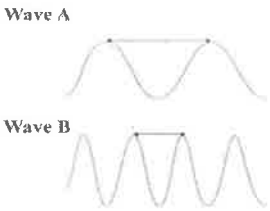
1- What part of the human body does figure 3 represent?
2- Label the parts A, B, and C indicated on figure 3.
3- Name the part of figure 4 that is called the pinna.
4- Name the part of figure 4 to which the ear drum belongs to.

VI- ***Answer** the following questions shortly by relying on your knowledge* *(6marks)*

1- Define visible light.
2- List the names of the three ossicle bones.
3- The human ear is connected to the brain through the cochlear (auditory) nerve which carries signals to the brain to be perceived as sound. What is another function of this nerve?

VII- ***Answer** the following questions by relying on your analysis skills.* *(6marks)*

1- Based on the given diagram, Class 6 students concluded that wave A has higher frequency than wave B since the wavelength of wave A is longer than that of wave B.



Do you agree with the students? **Justify** your answer.

2- What will be observed when a white light is directed towards a yellow transparent object?

3- Jana attended a party wearing a *red dress*. The party theme was aquatic, so everything was *blue* even the *light*. Jana's friends thought that her dress was black. None of her friends knew that her dress was red until they left the party. *Explain why.*

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I- 1- B 8- C
2- C 9- C
3- D 10- B
4- A 11- C
5- A 12- A
6- D 13- A
7- B 14- C
15- B
(15 marks - 1 each)

II - 1- vibrations / oscillations / disturbances.
2- periodically
3- back
4- forth
5- energy
6- matter
7- electromagnetic waves
8- medium of matter
9- transverse
10- mechanical
11- longitudinal
12- Combination
13- Frequency } Any order.
14- Amplitude }
15- Speed
(15 marks - 1 each)

III -
A- Amplitude
B- wavelength
C- Crest
D- Compression
E- Rarefaction
(5 marks - 1 each)

IV - 1- Sound waves
2- Pitch
3- Cochlea
4- earwax
5- Iris
6- pupil
7- cones
8- Ciliary muscle
9- opague
10- transparent
11- Reflection
12- Absorption
(12 marks - 1 each)

V - 1- Human eye (1 mark)
2- A: optic nerve
B: Iris
C: Cornea
(3 marks - 1 each)
3- Outer ear (1 mark)
4- Middle ear (1 mark)

VI - 1- Visible light is the electromagnetic (1) waves of frequencies that can be detected by the human (1) eye.

(2 marks)

2- Anvil - Hammer - Stirrup (3 marks - 1 each)

3- Balance (1 mark)

VII - 1- No, (1) I disagree.
As the (1) wavelength increases the frequency decreases.

(2 marks)

2- All colors of frequencies different than that of yellow will be (1) absorbed by the object, and yellow light will be (1) transmitted.

(2 marks)

3- Jana's dress is red, so it (1) will absorb all frequencies different from red, & reflect its own color. Blue light has a different frequency than red, so it will all be absorbed, and no (1) colors will be reflected. So the dress would appear to be black.

(2 marks)