

Last Look

Second term

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1) Choose the correct answer:-

- 1- The production of mango occurs by: (cutting – grafting – tissue culture)
- 2- The sound waves that accompany the blowing of storms are waves
(Sonic – ultrasonic – infrasonic)
- 3- The conversion of sound at a point due to its reflection on a concave surface is called
(Echo – concentration of sound – sound velocity)
- 4- The measuring unit of sound intensity is: (Watt/m^2 – Hertz – Decibel)
- 5- The human skin is considered a/an Medium:
(Transparent – opaque – translucent)
- 6- The right ovary in the human female produces a mature ovum every days:
(28 – 34 – 56)
- 7- The human ear can distinguish between sounds of frequency
(50 KHz – 300 Hz – 25 KHz)
- 8- Light waves are Waves:
(Mechanical transverse – electromagnetic longitudinal – electromagnetic transverse)
- 9- The typical flower consists of floral whorls: (4 – 3 – 5)
- 10- The quantum of energy of green light is the quantum of energy of yellow light.
(Greater than – equal to – less than)
- 11- The complete oscillation includes displacement/s (One – two – three – four)
- 12- The electric bell produces pluses of
(Compressions and rarefactions – crests and compressions – troughs and rarefactions – crests and troughs)
- 13- The bones of embryo start to develop in the stage of human embryo development
(First – second – third – fourth)
- 14- If the angle of incidence of a light ray is 60, so the angle of reflection equals
(30 – 60 – 120 – 15)
- 15- When the distance between the sound source and the ear is doubled, the sound intensity ...
(Decreases to its half – increases twice – increases four times – decreases to its quarter)

2) Writ the scientific term :

- 1- It is the repetition of sound produced due to its reflection
- 2- Short stem where the leaves developed and modified into reproductive organs
- 3- The process of fusion of pollen grains with the ovum to form the zygote
- 4- The maximum displacement done by the oscillating body away from its original position
- 5- Sound waves of frequencies less than 20 Hz
- 6- It is an external factor which affects the eye causing the sense of vision
- 7- The time needed by an oscillating body to make a complete oscillation
- 8- A fundamental tone associated by other tones higher in the pitch and less in intensity
- 9- The amount of the light incident normally into a unit area of a surface in one second
- 10- A disturbance that propagates and transfers energy along the direction of propagation.
- 11- The return (recoil) of a light ray when it is incident in a medium of larger optical density by an angle larger than critical angle for this medium.
- 12- Two glands that produce the female cells in human females
- 13- The distance between two successive crests or troughs
- 14- Tones of uniform frequency and comfortable to be heard
- 15- The measuring unit of the noise intensity
- 16- The innermost whorl of a male flower
- 17- An oval shaped gland that produces male cells
- 18- The collection of sound at a point due to its reflection on a concave surface.
- 19- The reproduction of some plants by parts of the roots, stem or leaves.
- 20- A mixture of seven colors that form the white light.
- 21- The stage of embryo development which starts from the beginning of 25rd week till delivery.
- 22- A property of sound by which the ear can distinguish between weak and strong sounds.
- 23- Wave velocity = frequency \times **wavelength**
- 24- They are small green leaves surrounding the flower from outside.
- 25- The flower that contains male and female reproductive organs.
- 26- It is the light wave from components of electromagnetic spectrum.
- 27- Angle of incidence = Angle of reflection
- 28- A new method to produce large numbers of plants from a small part of it.
- 29- A sac lies outside the male body and contains the testes.
- 30- A medium does not allow light rays to pass through it.

3) Compare between:

- 1- Longitudinal wave and transverse wave
- 2- Mechanical and electromagnetic waves
- 3- Self pollination and cross pollination
- 4- Sperm and ovum (with drawing)
- 5- Sonic waves and ultrasonic waves
- 6- Transparent, translucent and opaque media.
- 7- Puerperal sepsis and syphilis.

4) What are the conditions should be found to hear the echo?

5) Complete the following statements:

- 1- A complete oscillation comprises.....successive displacements, each of which is called.....
- 2- Sound intensity at a certain point is.....proportional to the square of the distance between this point and the sound source, and is..... proportional with the square of the amplitude.
- 3- When you look at a coin in a glass of water, it's.....position appears to be lower than theposition.
- 4- Hermaphrodite flowers take the symbol.....while male flowers take the Symbol
- 5- The resonance box the area of vibrating surface.
- 6- Mango trees reproduce by but sugar cane reproduce by
- 7- The frequency of vibrating string is Proportional to its length.
- 8- of pendulum is directly proportional to its length.
- 9- From the examples of oscillatory motion is the
- 10- Jacuzzi is used to treat sprains and cramps by using water.
- 11- Sonar set produces Waves whose frequency is more than
- 12-, and Are components of sperm
- 13- And are examples of genital diseases which don't arise from sexual contact
- 14- Radio waves are considered waves that propagate through with velocity
- 15- Harmonic tones are lower in and higher in
- 16- Before delivery, the embryo position changes gradually to be Where the head is directed towards the

6) Give reasons :

- 1- Ultrasonic waves are used for sterilization of food
- 2- Olive fruit contains one seed
- 3- We must not use metallic cooking pots in the microwave
- 4- Auto pollination can't happen in sunflower
- 5- Oscillatory motion is considered as a periodic motion
- 6- The energy of red light photon is less than that of orange light photon
- 7- Sound can be heard from all surrounding directions.
- 8- The difference in frequency between the musical note and noise.
- 9- The absolute refractive index for any transparent medium is larger than 1.
- 10- A new mother should avoid air currents after delivery.
- 11- We see lightning before hearing thunder.
- 12- If a sound ray is incident perpendicular to a reflecting surface, it reflects on itself.
- 13- The product of frequency and periodic time equals one.
- 14- Bats can determine the position of their preys.
- 15- Pea fruit contains more than one seed.
- 16- Fallopian tube is lined with cilia.
- 17- The uterus is a suitable organ for the growth of embryo.
- 18- The sound can be heard from all direction.

7) Mention the function of :

- 1- Sonar set
- 2- Savart's wheel
- 3- The mid piece of a sperm
- 4- Optical fibers
- 5- Ultrasonic waves
- 6- Scrotal sac
- 7- Testosterone hormone
- 8- Fallopian tube
- 9- Jacuzzi (physiotherapy tubes)
- 10- Radio waves
- 11- Corolla
- 12- Two testes
- 13- Triangular glass prism
- 14- Seminal fluid
- 15- Two ovaries
- 16- The vas deferens
- 17- Estrogen and progesterone hormones

8) Problems :

1- Calculate the periodic time for an oscillatory body that makes 600 complete oscillations in one minute.

2- Savart's wheel rotates with 300 cycles per minute. A sound of frequency 600 Hz is produced when an elastic plate touches the teeth of the gear. Calculate the number of the teeth of the gear.

3- A person stood at a distance of 680 meters from a mountain and produced a sound, he heard the echo after 4 sec. Calculate the velocity of sound at that time.

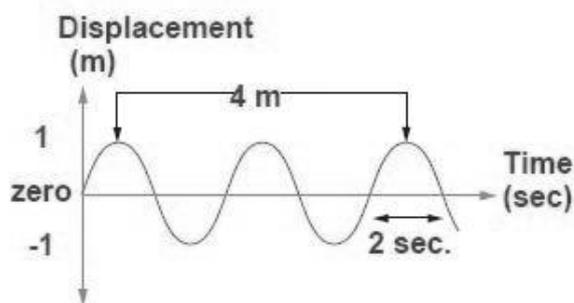
4- An ultrasonic wave is produced by a ship. The wave hit the seabed and returned back after 0.1 of second. Calculate the depth of sea, given that the velocity of such wave through water is 1490 m/sec.

5- Calculate the wavelength of a sound wave propagates in sea water with velocity 1500 m/sec, knowing that the frequency of the wave is 10 kilo Hertz.

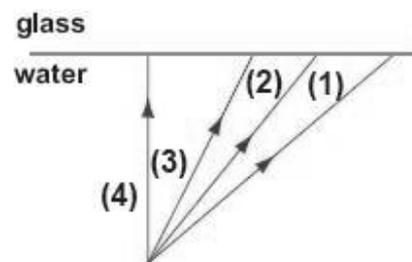
6- Calculate the absolute refractive index of diamond given that the speed of light in it = 1.25×10^8 m/s.

7- From the opposite figure, find:

- (a) Wavelength.
- (b) Frequency.
- (c) Amplitude.
- (d) Wave velocity.



8- Complete the path of the light rays illustrated in the opposite figure given that the angle of incidence of the light ray (2) equal the critical angle.

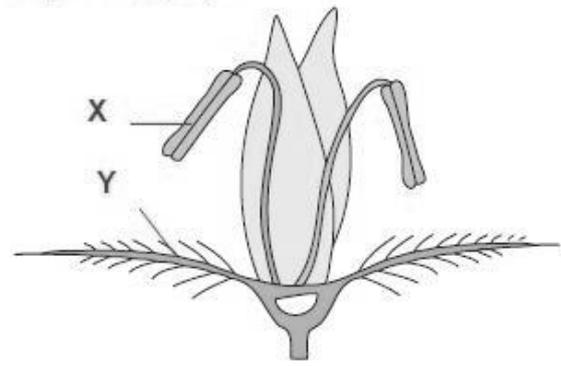


9- The opposite figure shows a flower being pollinated by wind (air):

(a) Write the labels for each of x and y.

(b) Mention two characteristics that make this flower pollinated by wind (air).

(c) Explain how cross pollination happens in this flower.



10- Study the following figure which represents the female genital system, then answer the following questions:

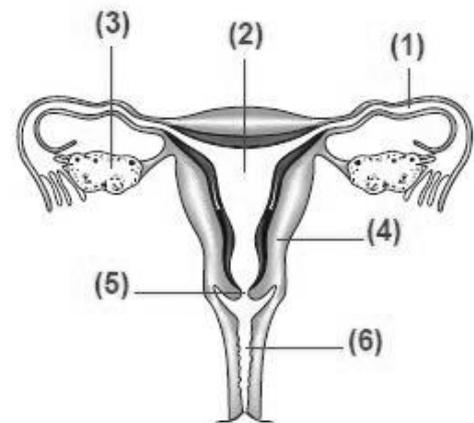
(a) Replace the numbers present on the figure by the suitable labels.

(b) What's the organ in which;

(i) Ova are produced.

(ii) The ovum is fertilized.

(iii) The embryo is delivered to life.



11- Choose from the column (b) and (c), what's suitable for column (a):

(a)	(b)	(c)
Floral whorl	Consists of	Function
1. Calyx	1. Stamen	1. Male organ in a flower.
2. Corolla	2. Sepals	2. Female organ in a flower.
3. Androecium	3. Carpels	3. Protects the inner parts of a flower.
4. Gynoecium	4. Petals	4. Attract insects to the colored leaves.

**Wishing you all good luck
Mr. Mohamed**