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Science for Prep2 second Term

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Put (✓) or (x):

1. The pitch of sound depends on the amplitude of the vibration of its source. (

2. The stamen ends with a swollen called the receptacle. ()

3.Uniform reflection occurs from smooth shiny surfaces. ()

4. In the transverse wave, the particles of the medium vibrate in the same direction of the wave propagation. ()

5. Wave velocity (V)=Frequency (F)xWavelength (λ). ()

6. The sound intensity decreases, when the source of sound touches an empty box.

7. Sound quality it is the property by which the ear can distingwishing between sounds either strong or weak sound. ()

8. Flowers in which pollination occurs by air are feathery like and sticky. ()

9. The product of multiplying frequency and periodic time equals one. ()

10.Wave amplitude is the number of waves produced from the source in one second()

11.The human ear can hear sounds of frequencies ranging from20 to 20000
H2:Each stamen consists a fine filament ending in a sac know as stigma. ()
13.Crest is the highest point of the particles of the medium in transverse

what the energy of the green light is lower than that of yellow light. ()

15. The innermost whorl of female flower is the androecium. ()

16.Fundamental tone's intensity is lower than that of harmonic tone. ()17.In non-uniform reflection, the light rays are reflected directly in one

direction.

18. The uterus has a muscular wall. ()

19.The result of multiplying the frequency of an oscillating body by its periodic time equals $\frac{1}{2}$ ()

20. The intensity of sound is directly proportional to the square of the **amphimtegular** reflection, the reflected rays are reflected in many directions.

22.Wavelength is directly proportional with frequency.

23. The two ovaries in the female produce the progesterone hormone.

24.Reproduction by grafting can occur between orange and peaches.

25.After completing of the fertilization process the ovary in plants develops to become a fruit.

26.A vibrating body makes $\frac{1}{4}$ complete vibration in $\frac{1}{64}$ sec, its frequency is 6 Hz.

27. Sound velocity through gases in more than that through liquids.

28. Typical flower contains four floral whorls.

29.The corolla consists of a group of colorful and scented petals.2.The human ear can hear ultrasonic waves. ()

30.Sound waves consist of compressions and rarefactions.()

4. The gynoecium consists of a group of carpels. ()

3I.Fundamental tome's intensity is lower than harmonic tone ()

32. The aboolute refractive index of any medium is always less than one. ()

)

(

)

33. The carpel of flower consists of filament and anther.

34. The measuring unit of sound intensity is wart/m

35. The pregnancy period in human beings takes 20 weeks. ()

36. Palm trees are pollinated by air.()

37.When light ray travels from air to water, the angle of incidence is greater than the angle of refraction. ()

38-.3 nanometers=300x10-11 meter. ()

39. The corolla consists of bright colored scented leaves. ()

40-. The ovum is mobile of a relatively large size. ()

41-. The absolute refractive index of any transparent medium is always greater than one.()

42.Amplitude of a wave is the time taken for one wave. ()

Put(\checkmark) or (x) and correct the wrong ones:

1. Sound velocity through liquids is more than that through gases.

2. The anthers of air pollinated flowers are feathery like and sticky.

3.As optical density of the medium increases, the speed of light through it increases. ()

4. The wavelength for a longitudinal wave is the distance between the center of first crest and the center of second crest. ()

5.Periodic motion is the type of motion regularly repeated in equal periods of time.()

6. The wavelength of light is the distance covered by light in one second. ()

7. The angle of incidence=The angle of reflection. ()

8. The female genital system consists of ovaries, fallopian tube, uterus and penis. (

9. The sperms transfer from testes to urethra through the epididymis. () 10 Fundamental tone's intensity is lower than harmonic tone

10.Fundamental tone's intensity is lower than harmonic tone.

11.The frequency of the oscillating body is the reciprocal of the periodic time.12.There is a direct relation between the angle of incidence and the angle of reflection.()

<u>Complete the following sentences:</u>

2. Waves are classified according to the ability to propagate and transfer energy intoand

3. The outer whorl of the flower is called... ,each leaf is called

4.Frequency of sonic waves ranges between Hz and Hz.

2)Write te scientific term:

1. The fusion of the male cell (pollen grain) with female cell (ovum).

2. The changing of light ray path when moving from a transparent medium to another transparent medium.

3.It is an external factor that affects the ear causing the sense of hearing.

4. The maximum displacement done by the oscillating body away from its original position.

5. Sound waves frequencies less than 20 Hz.

6. The angel between the emergent light and the normal line at the point of emergence on the interface.

7.It is the area of the lowest density and pressure in the longitudinal wave.

8-.One of the components of the electromagnetic spectrum of wavelength ranges between 380:700 nanometers.

9-. The angle between the incident light ray and the normal at the point of incidence on the separating surface.

10-Short stem where leaves developed and modified into reproductive organs.

11-The periodic motion made by a body around its position of rest, where the motion is repeated equal intervals of time.

12- It is the process of transfer of pollen grains from the anther of flower to stigma of the same flower.

13.A medium doesn't allow light rays to penetrate through.

14. The motion which is regularly repeated in equal periods of time.

15. The distance covered by the wave in one second.

16-. The ability of a transparent medium to refract the light.

17.A property by which the ear can distinguish between harsh and sharp voice.

18-The measuring unit of frequency.

19-A property by which the ear can distinguish between rough and sharp voices.

20-A pear shaped hollow organ in the female genital system.

21-A tube that helps to transfer the sperms from testes to urethra.

22- Number of complete oscillations made by an oscillating body in one second.

23-Two tubes of funnel shaped opening provided with finger like projections and lined with cilia.

24-. The highest point of the particles o the medium in the transverse wave.

25-A tone of regular frequency that is produced from the reed pipe.

26-The amount of light falling perpendicular to a unit area of a surface in one second.

27- The male reproductive organ in plants.

28-It is the distance covered by light in one second.

29-A muscular tube between the uterus and the external genital opening.

30-.A new method of vegetative reprodection to prodace large nbers of plans from a small part of it.

31-Angle of incidence=Angle of refletion

32-Two glands of oval shape that produce male cells (gametes) in human

33-The reproduction of some plants by parts of the roots or stems.

34-The periodic motion made by a body around its point of rest.

35-The area in the longitudinal wave at which the medium particles are the highest density and pressure.

36-A fluid secreted by male genital associated glands.

37-Wave, in which the particles of the medium vibrate perpendicular to direction of wave propagation.

38-The tones accompanying the fundamental tone but they are higher in pitch and less in intensity.

39. The motion produced as a result of the vibration of the particles of the medium in certain point and in a certain direction.

40. The reflection in which the light rays recoil in one direction when incident on a glistening surface.

41- A cell, which its nucleus contains 23 pairs of chromosomes resulting from the fusion sperm and ovum.

42-The fusion of male cell nucleus (pollen grain) with the female cell nucleus (ovum) to form zygote.

43. The distance between two successive crests or troughs.

44. The distance between the centers of two successive compressions or two successive rarefactions.

45.Sound intensity at a certain point is inversely proportional to the square of distance between this point and the source of the sound.

46-The reflection in which the light rays return back in one direction when falling on a glistening surface.

47-The fusion of male cell nucleus with the female cell nucleus.

48-.It is the returning back of light waves in the same medium on meeting reflecting surface.

49-.It is the angle between the reflected light ray and the line perpendicular to the reflecting surface at he point of incidence.

50-. It is the reflection of light rays when they meet a smooth and glistening reflecting surface, where the incident light rays are reflected in one direction.

51-. The time taken by an oscillating body to make one complete oscillation.

52-Tones accompanying the fundamental tone that are higher in pitch and lower in intensity.

53-The angle between the refracted ray of light and the normal from the point of incidence on the interface.

54-Highly looped tubes connected to the testes in which sperm development is completed.

55- Motion produced as a result of the vibration of the medium particles at a certain moment and in a definite direction.

<u>Cross out the odd word then write the scientific term for other:</u>

1. Cutting-Pollination-Layering-Grafting.

2.Red-White-Yellow-Orange.

3.Reed pipe-Drill-Piano-Violin.

4.Pendulum motion-Spring motion-Rotary bee motion-Stretched string motion.

5.Water waves-Radio waves-Light waves-Infrared waves.

6.Calyx-Corolla-Stamen-Testes.

7- Glass-Water-Air-Wood.

8-Frequency-Wavelength-Displacement-Wave velocity.

9-Water wave-Radio wave-Light wave-Sound wave.

10-Prostate-Fallopian tube-Uterus-Ovary.

11- Sepals-Petals-Tubers-Carpels.

12-Red light-Green light-Blue light-White light.

13-.Sepals-Petals-Tubers-Carpel.

14-.Sound waves-Light waves-Radio waves-Infrared.

15-Red-Orange-Yellow-Black.

16-Stigma-Stamen-Style-Ovary.

17-Movement of pendulum-Movement of Earth around Sun-Fan movement-Rotary bee movement.

18-Graftting-Cutting-Pollination-Tissue culture.

19-.20 Hertz-5 Hertz-100 Hertz-200 Hertz.

20-Distance-Amplitude-Density of medium-Energy of photon

21-Clear glass-Air-Pure water-Wood.

22-Red-Green-Black-Yellow.

23-Tuning fork-Spring-Pendulum-The bee toy.

24-Testes-Ovaries-Uterus-Vagina.

25-Fallopian tubes-Scrotum-Vas deferens-Testes.

26-Sound wave-Light wave-Radio wave-Infrared wave.

27- Yellow-Blue-White-Violet.

28- Stigma-Stamen-Style-Ovary.

29-Spring-Rotary bee-Simple pendulum-Tuning fork.

30-Sound wave-Light wave-Radio wave-Infrared wave.

31-Blue-Red-Yellow-White-Violet.

32-Layering-Cutting-Pollination-Grafting.

33-Nanometer-Hertz-Gigahertz-Megahertz.

34- Sound of hammer-Sound of explosion-Sound of piano-Sound of drill.

35-Radio wave-Sound wave-Light wave-Infrared wave.

36-Olive-Peas-Beans-Watermelon.

37-Light waves-Radio waves-Ultrasonic waves-Ultraviolet waves.

38-Amplitude of the sound-Density of the medium-Frequency of the sound-Direction of the wind.

39-Tissue culture-Chromes-Cutting-Grafting.

40- Vas deferens-The ovaries-The uterus-Fallopian tubes.

41-Anther-Carpel-Filament-Pollen grain.

42-Sound quality-Sound intensity-Sound pitch-Sound speed.

43-Nanometer-Hertz-Gigahertz-Megahertz.

44-Photon energy-Frequency-Wavelength-Planck's constant.

45-Motion of simple pendulum-Motion of string-Motion of spring-Motion of rotary bee.

46-Yellow-White-Blue-Violet.

47-Sepals-Petals-Tubers-Carpels.

48-Cutting-Pollination-Grafting-Tissue culture.

49-Pendulum movement-Spring movement-Car movement-Stretched string movement.

50-Density of the medium-Wind direction-Frequency-Vibrating surface area.

51- Rhizomes-Corms-Grafting-Bulbs.

52-The two seminal vesicles-The prostate gland-Cowper's gland-The ovary.

Cross out the odd word, then write the relation between the rest of words:

1-Stigma-Stamen-Style-Ovary.

2-Mirror-Stainless sheet-Foil paper-Leaf.

3-Tuning fork-Simple Pendulum-Spring-Water.

4-Red-Orange-Yellow-Black.

3)Give reason for:

1-The energy of red light photon is less than that of orange photon.

2-The oscillatory is considered as a periodic motion.

3-The petal of corolla are coloured and scented.

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

5-Palm flower are unisexual.

6-.Ultrasonic wave are used in sterilizing the food.

7-The periodic time decreases as the number of complete oscillation increases.

8-The petals of corolla are colorful and scented.

9-The midpiece of sperm contains mitochondria.

10-We can hear sound from all the direction.

11-The energy of red light photon is less than that of orange light photon.

12- Auto pollination cannot happen in sunflowers.

13- Petals of corolla are bright colored and scented leaves.

14-Seeing lightning before hearing thunder.

15-Rotary bee is a periodic motion can't be considered as oscillatory motion.

16-The incident light ray which falls perpendicular on a reflecting surface, reflects on itself.

17-The energy of red light photon is less than that of violet light photon.

18-The ovum is relatively large in size.

19-The stigma of air pollinated flowers are feathery like and stick

4)What happens ?

1-What happens when a light ray falls perpendicular on a reflecting surface?2-What happens when the distance between the sound source and the ears increases to double?

3-What happens when you look at a pencil partially immersed in a cup of water and Why?

4-What happens when a light ray falls perpendicular to the interface between two transparent media of different optical density?

5-What happens when the amplitude of vibration of a sound source increases 2 times (concerning the sound intensity)?

6-What happens when a pollen grain falls on the stigma of a flower? What happen...? 7.To the oscillating body when passes through its rest position during its movement (concerning its velocity).

8. When a light ray falls perpendicular on a reflecting surface.

9.To the ovary after fertilization process in plant.

10-.When a pollen grain falls on the stigma of a flower.

11-What happen when incidence of light rays on a rough surface?

12-What happens to the ovary after fertilization process occurs in the plant?

13-What happens when a vibrating object approaches its resting position "according t its speed"?

14- What happen when a light ray falls perpendicular on a reflecting surface?

15-<u>What are the results of the following...?</u>

16. The particles of the medium vibrate a long direction as the wave propagation.

17.A light ray falls perpendicular on a reflection surface.

18. The ovary of the plant after fertilization.

19. When a pollen grain fall on the stigma of a flower.

What happens...?

20.When the pollen grain transfers from the anther of a flower to the stigma of the same flower in the same plant.

21.If the distance between the sound source and the ears increases to double (Concerning the sound intensity)

22. When the two vas deferens were cut.

23. The light ray falls perpendicular(normally) on a reflecting surface

Compare between

1. Compare between: stamen and carpel (according to function).

2-Compare between transverse and longitudinal waves regarding composition and example for each type.

3-Compare between the sperm and the ovum (in terms of number-size-motion).

4.Sound waves and light waves(speed and type of waves).

5. The mechanical-Electromagnetic waves (speed of them).

Problem

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

2-Calculate the **frequency** of a musical tone similar to the tone production from Savart's wheel rotating with a velocity of 960 cycle in 120

seconds, knowing that the number of gear teeth is 30 teeth.

3-Calculate **periodic time and frequency** for an oscillating body that makes 300complete oscillations in half a minute.

4-Find the number of **rotations** in 2 minutes made by Savart's wheel producing sound of frequency 300 Hz. If the metallic plate touches one gear of 100 teeth.

5-Calculate the **frequency** of a musical tone similar to the frequency of a produced ton using Savart's wheel rotated with a speed of (360) cycles in minute, given that the number of teeth of the gear is (60) teeth.

6-Calculate the **absolute refractive index** of diamond given that the speed of light in i equals 1.25×10^8 m/s. and the velocity of light in air equals 3×10^8 m/s.

7-Calculate the frequency of a body makes 240 complete oscillations in one minute.

8- Sound waves have frequency 400 Hz in air and its wavelength is 85 cm.Calculate the velocity of these waves.

What is the function of vas deferens?

1-Mention the function for calyx of the flower.

2. Triangular glass prism.

3.Jacuzzi.

4.Ultrasonic waves.

5.Corolla.

6-Mention one use of ultrasonic waves in the medical field.

7-What are the functions of ovaries in human?

8.Two ovaries in human female.

9. Ear plugs.

10-.Triangular glass prism.

11-.Ultrasonic wave in medical field.

12-.The flower

13. Seminal fluid.

14.Ultrasonic waves in industrial fields.

15-.Hot water in jacuzzi.

16-.Androecium.

17-The tail of a sperm.

18-.Testes.

19. Savart's wheel.

Give one example of each following:

- 1.Oscillatory motion.
- 2.Smooth reflecting surfaces.
- 3. High pitched sounds.
- 4. A plant which is pollinated by man.
- 5-. Unisexual flower.
- 6.Animal can produce ultrasonic waves.
- 7. Mechanical transverse wave.
- 8-.Transever wave.
- 9.Factor affecting sound intensity with direct rela
- 10-.Plant reproduce by tuber.
- 11-. Tool is used to avoid the hazards of noise in loud places.
- 12. The sound of high pitch (sharp).
- 13-. The highest spectrum colour in frequency (deviation).
- 14-.Mechanical wave.
- 15-.Infrasonic waves.
- 16-.Method of mixed pollination.
- 17-.Longitudinal wave.
- 18-.Fruit has single seed.
- 19-. Color that has highest frequency.
- 20-.Female reproductive organ which produce ova.
- 21-Male hormone.
- 22.Female genital organ.
- 23-Electromagnetic wave.
- 24-.Artificial vegetative reproduction.
- 35. Bisexual flower.
- 36-.An animal can produce ultrasonic waves
- 2.Low pitched sound.
- 3.Female gamete in human.
- 4.Natural asexual reproduction in pants

Correct the underlined words:

1. The trough of the transverse wave is equivalent to the center of compression of the longitudinal wave.

2. The male gamete contains quarter of the genetic material.

3. In regular reflection: the angle of incidence is more than the angle of reflection.

4. When a beam of light falls inclined from air to water, the angle of incidence is equal to the angle of refraction.

5. The stamen consists of stigma, style and ovary.

6. The motion of tuning fork is a wave motion.

7. The sound intensity decreases by increasing the density of the medium.

8. The absolute refractive index of any transparent material is always smaller than one.

9.Progesterone hormone is secreted by testes.

10-.Light reflection is the change of light path when it passes through two different media.

11-. White light is splitted into ten spectrum colors.

12-.Electromagnetic waves are waves that need a medium to propagate through.

13-. The measuring unit of wavelength (λ) is a kilogram.

14-. The velocity of sound waves through air=1850 m/s.

15-.Based on the law of light reflection, the angle of incidence is bigger than the angle o reflection.

16-. The stem is a swollen part that carries the floral leaves.

17. The maximum displacement achieved by the oscillating body away from its rest position is frequency.

18-.When the distance between the source of light and surface decreases to its half value, the light intensity of the surface increases to double.

19-.The ouer whorl of the flower is called petal.

20.In human, the fertilized egg is implanted in the lining of cervix.

21-. The distance covered by the wave in one second is called wavelength.

22-. The measuring unit of sound intensity is m/sec.

23. The light is a mechanical transverse wave.

24. The bract is a group of flowers carried on the same axle.

25. The intensity of sound is measured in hertz.

26-.If the vertical distance between the crest and the trough is 40 cm, so the wave amplitude is 15 cm.

27-. The sperm contains a quarter of the genetic material.

28-Natural vegetative reproduction is carried out in potatoes by corms.

29-. Olive fruit is multi-seed fruit.

30-.The distance between the second crest and sixth crest is 20 cm, when the wavelength of the wave is 10 cm.

31. The midpiece of sperm contains chloroplasts which are responsible for energy production needed for the sperms movement.

32. The quantum of energy of green light is less than the quantum of yellow light.

33-. A body of frequency 200 Hertz makes a complete oscillation in 2 seconds.

34. The angle of incidence is greater than the angle of reflection.

35. The right ovary in the human female, produces a mature ovum every 24 days.

36-.The tail contains mitochondria which are responsible for energy production neede the sperm movement.

37-. When light ray travels from air to water, the angle of incidence is equal to the ang refraction.

38-.Ultraviolet waves and infrared waves have same frequency in vacuum.

39-.Corolla is the outer whorl of flower and it consists of a group of green leaves.

40-. The oscillatory motion is considered as a transitional motion.

41-. The energy of red photon has the maximum energy in spectrum colours.3. Palm flowers are bisexual.

42-. The ovary is suitable organ for growth the embryo.

43-. The measuring unit of frequency is meter.

44. The measuring unit of the level of sound intensity is $Watt/m^2$

45. The ovum is a mobile cell and relatively large in size.

46. The reproduction by tubers occurs between oranges and naring.

47-. Simple harmonic motion is the simplest form of the translational motion.

48-.The wavelength of the transverse wave is the distance between the centers of two successive compressions.

49-.Infrasonic waves are used in sterilizing food.

50-. Reproduction by tubers uses in the stem of the orange plant.

51-Light wave and sound wave are electromagnetic waves.

52-Rotary bee and tuning fork produce oscillatory motion.

53- Piano and drill produce musical tones

54- Ovary, fallopian tube, uterus and testes are components of female reproductive system.

From the opposite figure calculate:

1-Displacement(m)

2-Wavelength.

3- Frequency.

4-Amplitude.

Rearrange the following according to which between brackets:

1.Corolla-Calyx-Carpel-Stamen. (from outer to inner)

2.Red-Yellow-Green-Orange. (splitting light from lowest frequency to the highest)

3.Water-Wood-Air-Carbon dioxide.

(descending order according to sound velocity)

4. Urethra-Epididymis-Vas deferens-Testes.

(the path of the sperms from the beginning of its formation)

5-Arrange the floral whorls from outside to inside:

(Corolla-Gynoecium-Androecium-Calyx).

3.Water-Wood-Air-Carbon dioxide. (discerningly according to sound velocity).

4.Red-Green-Blue-Yellow. (ascendingly according to deviation).

Complete the following sentences:

1.Testes produceand secrete hormone.

2. The measuring unit of sound intensity is while that of the noise intensity is

3-The angle of incidencethe angle of reflection.

4-The crest in the wave is equivalent to the in the longitudinal wave.

Choose from column (B) what suits it in column (A):

(A)	(B)
1.Simple pendulum is example	a.high pitched sound.
2.Man sound is example of	b.bisexual flower.
3.Tulip is a	c. oscillatory motion.
4. Fallopian tube	d.receive the ovum.





Write the number which indicate the following:

1. The result of multiplying the frequency and periodie time.

2. The number of chromosomes in sperm.

3. The value of angle of reflection when the light ray falls perpendicular on reflecting surface.

4. The number of floral whorls in unisexual flower.

Study the opposite figure, then label the figure.





Complete the following sentences:

1-The complete oscillation includes.....displacements, each is called

2. Waves are classified according to the ability to propagate and transfer energy intoand.....

3. The absolute refractive index of the medium is the ratio between......and

4.The......hormone in male and.hormone in female are responsible for appearance of secondary characters.

Complete the following sentences:

1.....is the time taken by an oscillating body to make one complete oscillation, w is number of complete oscillations made by an oscillating body in one sec 2.Wavelength of transverse wave is the distance between two successive.....or

3.Some animals such as.....and...can hear ultrasonic waves.

4. The corolla attracts......to the flower which helps in......process.

5. The complete oscillation includes...... successive displacements each one is called

6.....is a group of coloured leaves, each leaf is called a

7. The crest in the...... wave is equivalent to the. in the longitudinal wave.

8. The fundamental tone is lower in.....and higher in than the harmonic tones.

8.Angle of.....is the angle between the refracted light ray and..... at the point of incidence on the separating surface.

9. The measuring unit of sound intensity is,..... while that of noise intensity is

10. The tuber is a..as sweet potatoes or a...... as potatoes.

11.Transverse wave consists ofand

12. The floral leaves of calyx have. .color and each one is called

13. The human zygote results from the fusion of and

14. The voice of lion is.....pitch while the voice of sparrow is.....pitch.

15. In the flower,.....produce pollen grains while.....produce ovules.

16.Testosterone is a.....hormone, secreted by.....