PHYSICS

BOOKS - NAVNEET PUBLICATION

SOUND: PRODUCTION OF SOUND

Question Bank

1. Fill in the blanks with appropriate words and complete the sentence:

Sound is generated by the rhythmic____of any object.

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2. Fill in the blanks with appropriate words and complete the sentence:

The frequency of sound is measured in ____.

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3. Fill in the blanks with appropriate words and complete the sentence:

If____of sound is decreased, its loudness also decreases.

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4. Fill in the blanks with appropriate words and complete the sentence:

A medium is necessary for____of sound

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5. Fill in the blanks with appropriate words and complete the sentence:

When a stretched rubber band vibrates,____works on the stretched rubber band.

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6. Fill in the blanks with appropriate words and complete the sentence:

While the pendulum oscillates, earth's____works on it.

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7. Fill in the blanks with appropriate words and complete the sentence:

As the length of the pendulum increases, the time period of oscillation____

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8. Fill in the blanks with appropriate words and complete the sentence:

Frequency____on increasing the length of the pendulum.

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9. Fill in the blanks with appropriate words and complete the sentence:

The intensity of sound is proportional to the ____of the amplitude to vibration.

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10. Fill in the blanks with appropriate words and complete the sentence:

If the amplitude of vibrations is doubled. The intensity of sound becomes____

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11. Match the columns:

Group 'A'	Group 'B'
(1) Time period of oscillation	(a) Centimetre (cm)
(2) Frequency	(b) Decibel
(3) Sound level	(c) Second
(4) Amplitude	(d) Measured in Hz

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12. Write the definitions or Define the terms:

Simple pendulum:

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13. Write the definitions or Define the terms:

Oscillatory motion:

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14. Write the definitions or Define the terms:

Oscillation:

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15. Write the definitions or Define the terms:

Amplitude:

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16. Write the definitions or Define the terms:

Time period of oscillation of the pendulum:

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17. Write the definitions or Define the terms:

Frequency of a pendulum:

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18. Write the definitions or Define the terms:

Elasticity:

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19. Who am I?

I am produced by the rhythmic vibrations of an object.

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20. Who am I?

I am the object moving from one end to the other end again and again in fixed intervals of time.

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21. Who am I?

I am the maximum distance on any side up to which the bob of the pendulum can move.

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22. Who am I?

I am the one due to which the stretched rubber comes back to original state on releasing.

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23. Who am I?

I am the measure of the number of oscillations completed in one second by an object performing oscillations.

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24. Who am I?

I am the time required to complete one oscillation.

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25. State whether the followings are true or false:

Sound is produced due to vibrations of an object.

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26. State whether the followings are true or false:

The oscillations completed by an oscillator in

one second is called the time period of the oscillator.

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27. State whether the followings are true or false:

The pitch of men's voice is higher than women's voice.

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28. State whether the followings are true or false:

As the tension in the stretched wire is decreased, the pitch of the sound increases.

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29. Answer the following questions:

How is sound produced?

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30. Answer the following questions:

What does the intensity of sound depend upon?

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31. Answer the following questions:

Explain how the frequency of oscillation is related to the length of a pendulum and the amplitude of its oscillation.

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32. Answer the following questions:

Explain the two ways by which the pitch of the sound generated by a stretched string or wire can be changed.

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33. Answer the following questions:

Explain the high and low pitch of the sound and explain how is the pitch of sound of women's voice and men's voice.

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34. Answer the following questions:

How are the speed, frequency, time period and wavelength of sound related?

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35. Answer the following questions:

Write any four uses of ultrasonic sound.

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36. Answer the following questions:

How is the intensity of sound affected if the amplitude of sound is increased three times the original?

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37. Answer the following questions:

Explain how the frequency of oscillation is related to the length of a pendulum and the amplitude of its oscillation.

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38. Use your brain power:

Will a sound be produced no matter how the ruler is kept on the table?

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39. Use your brain power:

Is there any correlation between the length of the free part of the ruler and the sound produced?

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40. Use your brain power:

If the ruler is plucked while it is held with 25 cm of it off the table, does it make any sound? If there is no sound, look for the reason why it is so.

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41. Use your brain power

What is the importance of haplold cells?

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42. Use your brain power:

What structures in the sitar help to produce higher or lower pitched sound?

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43. Give scientific reasons:

Gold and silver are used to make jewellery.

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44. Give Scientific reasons:

The sounds generated by a tabla and sitar are different.

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45. Give scientific reasons:

The wound spring of a watch possesses potential energy.

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46. Give scientific reasons

Chandra telescope cannot be based on the earth.

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47. Give scientific reasons:

We can feel the heat of a table lamp, under it.

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48. Solve the following examples:

If the time period of a vibrating object is 0.002 second, what will be frequency of that object?

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49. Solve the following examples:

If an oscillating object complete 180 oscillations in (one) 1 minute, what is the time period of oscillations?

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50. Solve the following examples:

A pendulum having a length of 30 cm takes 30 seconds to complete 20 oscillations. What is the time period of that pendulum?

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51. Solve the following example:

If the time period of a wave if 0.004s, find the frequency of the wave.

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52. Answer the following Questions:

What would be the difference perceived between hearing only two pupils (students) in the class talking to each other and all the

children taling to one another at the same time?

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53. Observe the figure and answer the questions given below:

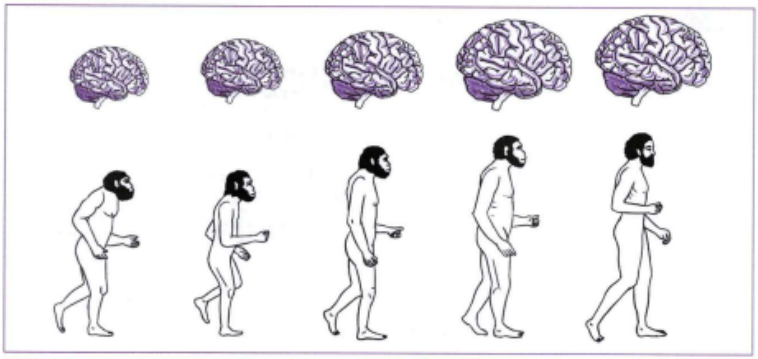

Fig. 1.5. Development of Human Brain

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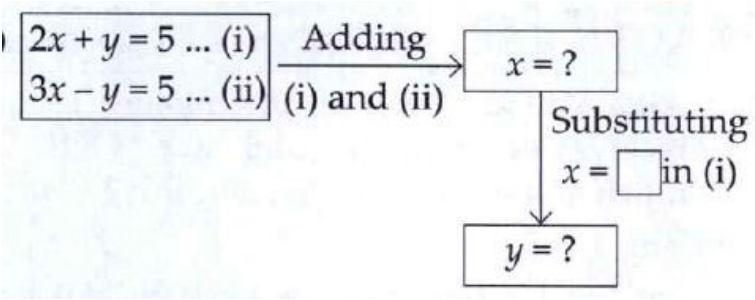
54.



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