



## Assignment

**ABHYAS Academy,**Near Govt. College, Nishat Cinema Road,  
Ambala Cantt., Haryana (India)

Phone: +91-171-2631595, +91-9416541198

e-Mail: anusethi1968@yahoo.com

[www.abhyasonline.in](http://www.abhyasonline.in)

Date: \_\_ / \_\_ / \_\_

Name: \_\_\_\_\_

Max Marks: 24

**Section- A (One Marks Each)**

- 1 The frequency of a source of sound is 100 Hz. How many times does it vibrate in a minute?
- 2 What kind of sound waves does an earthquake produce before the main shock waves begin?
- 3 Why do pest repellants produce sound of frequency higher than 20,000 Hz?
- 4 Which principal is SONAR based on?
- 5 What property of ultrasound makes it suitable in medical imaging?

**Section-B (Two Marks Each)**

- 6 What is reverberation? Suggest one way to reduce reverberation in large halls.
- 7 Why are the ceiling and the wall behind the stage of good conference halls or concert halls made curved?
- 8 Why can we hear the humming sound produced by bees, While the sound of vibrations of a pendulum cannot be heard? Name two animals which communicate using the sound range as produced by a pendulum.

**Section-C (Three Marks Each)**

- 9 A SONAR in a submarine sends out a signal and receives an echo 5 s later. Calculate the speed of sound in water if the distance of the object from the submarine is 3625 m. mention two practical application of reflection of sound waves.
- 10 A stone is dropped from the top of a 500 m high tower into a pond of water at the base of the tower. When is the splash heard at the top? ( given:  $g = 10\text{ms}^{-2}$  and speed of sound  $= 340\text{ms}^{-1}$ )
- 11 Explain with the help of a diagram how defects in a metal block can be detected using ultrasound.

**Section-D (Four Marks Each)**

- 12 Explain with the help of a well- labeled diagram how the human ear works.



## Assignment

**ABHYAS Academy,**Near Govt. College, Nishat Cinema Road,  
Ambala Cantt., Haryana (India)

Phone: +91-171-2631595, +91-9416541198

e-Mail: anusethi1968@yahoo.com

[www.abhyasonline.in](http://www.abhyasonline.in)

Date: \_\_ / \_\_ / \_\_

Name: \_\_\_\_\_

Max Marks: 24

**Section- A (One Marks Each)**

- 1 The frequency of a source of sound is 100 Hz. How many times does it vibrate in a minute?
- 2 What kind of sound waves does an earthquake produce before the main shock waves begin?
- 3 Why do pest repellants produce sound of frequency higher than 20,000 Hz?
- 4 Which principal is SONAR based on?
- 5 What property of ultrasound makes it suitable in medical imaging?

**Section-B (Two Marks Each)**

- 6 What is reverberation? Suggest one way to reduce reverberation in large halls.
- 7 Why are the ceiling and the wall behind the stage of good conference halls or concert halls made curved?
- 8 Why can we hear the humming sound produced by bees, While the sound of vibrations of a pendulum cannot be heard? Name two animals which communicate using the sound range as produced by a pendulum.

**Section-C (Three Marks Each)**

- 9 A SONAR in a submarine sends out a signal and receives an echo 5 s later. Calculate the speed of sound in water if the distance of the object from the submarine is 3625 m. mention two practical application of reflection of sound waves.
- 10 A stone is dropped from the top of a 500 m high tower into a pond of water at the base of the tower. When is the splash heard at the top? ( given:  $g = 10\text{ms}^{-2}$  and speed of sound  $= 340\text{ms}^{-1}$ )
- 11 Explain with the help of a diagram how defects in a metal block can be detected using ultrasound.

**Section-D (Four Marks Each)**

- 12 Explain with the help of a well- labeled diagram how the human ear works.