

Wave Questions PDF with detailed solutions

Many competitive exams contain Wave questions. They are a little more difficult to answer, but they are also more rewarding. To answer these questions, you need to understand terms like wavelength, echo, frequency, and amplitude. You can start once you know about them.

With a little practice, you can easily answer these General Science questions. So here are ten Wave practice questions for you to try. Answering these questions should take not more than a minute.

## Questions on Wave

You can also download the questions and answers pdf. Just click on the **Download PDF** button. So let's start with the first question.

**Q:1** Consider the following statements:

1. Fermi is a unit of length used to measure nuclear distances.
2. Angstrom is a unit of length used to measure the wavelength of light.

Which of the statements given above is/are correct?

1. 1 only
2. 2 only
3. Both 1 and 2
4. Neither 1 nor 2

**(Difficulty: 1, Estimated Time: 10 Seconds)** Let's start off with a basic question

**Q:2** Which of the following waves are used by the common TV remote control?

1. Lasers
2. Radio waves
3. Ultrasonic waves
4. Infrared waves

**(Difficulty: 2, Estimated Time: 15 Seconds)** You can do this one. Think a little.

**Q:3** Identify the type of wave in which the movement of the particles is parallel to the motion of the energy.

1. Longitudinal waves

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2. Transverse waves
3. Surface waves
4. None of these

(**Difficulty: 2, Estimated Time: 15 Seconds**) This is a bit tricky. Did you get it right?

**Q:4** What happens when sound waves propagate from one medium to another?

1. Speed of Sound changes
2. Its wavelength changes
3. Frequency remains constant
4. All of the above

(**Difficulty: 3, Estimated Time: 20 Seconds**) Read the options carefully before answering.

**Q:5** Which of the following is the range of wavelength that are used for purifying the water?

1. 100 nm – 400 nm
2. 400 nm – 700 nm
3. 10 nm – 100 nm
4. 1000 nm – 2000 nm

(**Difficulty: 3, Estimated Time: 20 Seconds**) Do you know this one?

**Q:6** Which of the following is not a characteristic of a sound wave?

1. Amplitude
2. Nature
3. Wavelength
4. Velocity

(**Difficulty: 1, Estimated Time: 10 Seconds**) This one's easy. Did you answer it correctly?

**Q:7** Which of the following satellite is dedicated as India's first multi-wavelength space observatory?

1. Astrosat
2. SARAL

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3. Bright
4. Jugnu

(**Difficulty: 2, Estimated Time: 15 Seconds**) We are done more than half of the questions.

**Q:8** Which among the following is/are considered transverse waves?

1. Sound waves
2. Ultrasonic waves
3. Seismic P-waves
4. Waves on a guitar string

(**Difficulty: 1, Estimated Time: 10 Seconds**) Do you know about transverse waves?

**Q:9** In a neon laser, all the atoms emit the light waves of

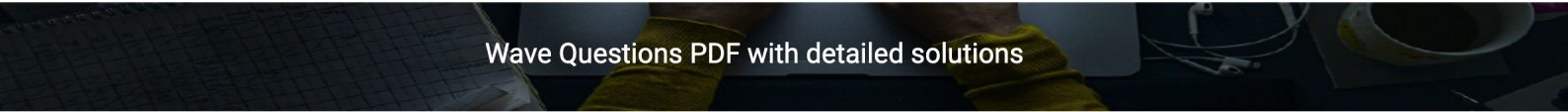
1. Same frequency
2. Same amplitude
3. Same phase
4. All of the above

(**Difficulty: 3, Estimated Time: 20 Seconds**) Hurry up! Time's ticking.

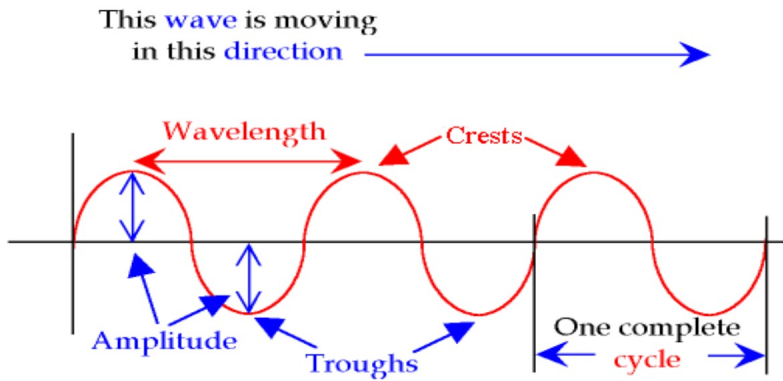
**Q:10** .....colour has the maximum wavelength.

1. Yellow
2. Blue
3. Red
4. Violet

(**Difficulty: 1, Estimated Time: 10 Seconds**) Let us end with an easy one.



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[Image Source: assabet.org]

## Answer Key

Let's have a look at your score.

1. (3)	2. (4)	3. (1)	4. (4)	5. (1)
6. (2)	7. (1)	8. (4)	9. (4)	10. (3)

Comment below your score, considering each question has 1 mark only. If you scored 8 to 10, congratulations! You are one step closer to selection. If you have scored 5 to 8 marks, then you are doing well, keep it up. If you have scored less than 5 marks then you need to work a little harder on this subject. But don't worry, we are here to help you master the subject.

Let's check the answers and solutions and try to find out what went wrong.

## Answers and Solutions

**Q:1** The correct answer is **Option 3** i.e. **Both 1 and 2**

Fermi is a unit of length used to measure nuclear distances.

Angstrom is a unit of length used to measure the wavelength of light.

A light year is a unit of length used to measure astronomical distances.

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**Q:2** The correct answer is **Option 4** i.e. **Infrared waves**

Infrared waves are used by the common TV remote control.

Wavelength: 700 nanometers to 1 millimetre.

**Q:3** The correct answer is **Option 1** i.e. **Longitudinal waves**

The orientation of particle motion relative to the direction of energy propagation is one of the ways waves are characterized. There are three categories:

**Longitudinal waves** - The movement of the particles is parallel to the motion of the energy. Sound waves moving through the air is an example of this type of wave.

**Transverse waves** - The movement of the particles is at right angles (perpendicular) to the motion of the energy. The movement of a wave through a solid object like a stretched rope or a trampoline is an example of this type of wave.

**Surface waves** - particles travel in a circular motion. These waves occur at interfaces. Examples include waves in the ocean and ripples in a cup of water.

**Q:4** The correct answer is **Option 4** i.e. **All of the above**

Sound is propagated in the form of the longitudinal mechanical wave which is generated by transmission of disturbances in the form of rarefactions and compressions.

When sound waves propagate from one medium to another, then their wavelength and speed change, but their frequency remains unchanged/constant.

**Q:5** The correct answer is **Option 1** i.e. **100 nm – 400 nm**

UV rays are used to purify the water

The wavelength range is 100 nm – 400 nm

**Q:6** The correct answer is **Option 2** i.e. **Nature**

There are five main characteristics of sound waves: wavelength, amplitude, frequency, time period, and velocity.



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**Q:7** The correct answer is **Option 1** i.e. **Astrosat**

Astrosat is India's first dedicated multi-wavelength space telescope. It was launched on a PSLV-XL on 28 September 2015.

With the success of this satellite, ISRO has proposed launching AstroSat-2 as a successor for Astrosat.

SARAL or Satellite with ARGOS and ALtiKa is a cooperative altimetry technology mission of Indian Space Research Organisation and CNES. SARAL performs altimetric measurements designed to study ocean circulation and sea surface elevation.

SRMSAT is a Nanosatellite built by students at Sri Ramaswamy Memorial University in India.

This nanosatellite was used to monitor Greenhouse gases in atmosphere.

Jugnu, is an Indian technology demonstration and remote sensing CubeSat satellite which was operated by the Indian Institute of Technology Kanpur.

Built under the guidance of Dr. N. S. Vyas, it is a nanosatellite which will be used to provide data for agriculture and disaster monitoring.

**Q:8** The correct answer is **Option 4** i.e. **Waves on a guitar string**

Transverse waves are waves in which the particle of the medium vibrates perpendicular to the direction of its propagation.

The waves on a guitar string are an example of a transverse wave because, in such waves, all the particles or medium vibrate perpendicular to the direction of propagation.

**Q:9** The correct answer is **Option 4** i.e. **All of the above**

In a neon laser, all the atoms emit light waves of the same frequency, same amplitude, and same phase.

A laser is a device that emits or gives out light (electromagnetic radiation) through a process of optical amplification based on the stimulated emission of photons.

**Q:10** The correct answer is **Option 3** i.e. **Red**

From VIBGYOR - R (red) has the longest, and V(violet) has the shortest

V- Violet



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I- Indigo

B- Blue

G- Green

Y- Yellow

O- Orange

R- Red

So that's it for today. Physics topics are usually important. We'll go over another topic of General Science later. Until then, you can practice the questions by downloading the Wave PDF.



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