

# 20 Lecture - PHY101

## Important Mcqs

**What type of waves are sound waves?**

- A) Transverse waves
- B) Electromagnetic waves
- C) Longitudinal waves
- D) None of the above

**Answer: C) Longitudinal waves**

**Which of the following is not a characteristic of a wave?**

- A) Wavelength
- B) Amplitude
- C) Mass
- D) Frequency

**Answer: C) Mass**

**Which of the following waves requires a medium to travel through?**

- A) Transverse waves
- B) Electromagnetic waves
- C) Longitudinal waves
- D) All of the above

**Answer: C) Longitudinal waves**

**What is the relationship between frequency and wavelength?**

- A) They are inversely proportional
- B) They are directly proportional
- C) There is no relationship between them
- D) It depends on the type of wave

**Answer: A) They are inversely proportional**

**What is the speed of light in a vacuum?**

- A)  $3 \times 10^8$  m/s
- B)  $3 \times 10^6$  m/s
- C)  $3 \times 10^{10}$  m/s
- D)  $3 \times 10^2$  m/s

**Answer: A)  $3 \times 10^8$  m/s**

**Which of the following waves has the highest frequency?**

- A) Radio waves
- B) Microwaves
- C) X-rays
- D) Gamma rays

**Answer: D) Gamma rays**

**What is the amplitude of a wave?**

- A) The distance between two consecutive crests or troughs
- B) The distance between the highest and lowest points of a wave
- C) The number of waves that pass a point in one second
- D) The time it takes for one wave to pass a point

**Answer: B) The distance between the highest and lowest points of a wave**

**Which of the following is an example of a mechanical wave?**

- A) Radio wave
- B) Light wave
- C) Sound wave
- D) X-ray

**Answer: C) Sound wave**

**What is the phenomenon of interference in waves?**

- A) When two waves combine to form a larger wave
- B) When a wave bounces off a surface
- C) When a wave changes direction as it passes through a medium
- D) None of the above

**Answer: A) When two waves combine to form a larger wave**

**What is the difference between a standing wave and a traveling wave?**

**A) A standing**