# 21 Lecture - PHY101

## **Important Mcqs**

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

What type of waves are sound waves?

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)  $3 \times 10^8 \text{ m/s}$
- B) 3 x 10<sup>6</sup> m/s
- C) 3 x 10<sup>10</sup> m/s
- D) 3 x 10<sup>2</sup> m/s

Answer: A) 3 x 10<sup>8</sup> 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