Acoustics and Electromagnetism Level 3 Quiz – Answer Key

1. What is the definition of acoustics?

Select one:

1. The study of light waves
2. The study of sound waves
3. The study of water waves
4. The study of electrical waves
5. Which of the following materials is best at absorbing sound?

Select one:

1. Concrete
2. Glass
3. Foam
4. Metal
5. What is the range of frequencies that humans can hear?

Select one:

1. 0 Hz to 120 Hz
2. 10 Hz to 100 kHz
3. 20 Hz to 20 kHz
4. 50 Hz to 50 kHz
5. Which of the following is a characteristic of a longitudinal wave?

Select one:

1. The particles move perpendicular to the wave direction.
2. The wave moves through a vacuum.
3. The particles move parallel to the wave direction.
4. The wave frequency remains constant regardless of the medium.
5. What does the decibel (dB) scale measure?

Select one:

1. Pitch of sound
2. Loudness of sound
3. Speed of sound
4. Temperature of the medium
5. Sound waves cannot travel through a vacuum.

Select one:

1. True
2. False
3. The speed of sound is faster in air than in solids.

Select one:

1. True
2. False
3. Ultrasound is used in medical imaging because it has frequencies above 20 kHz.

Select one:

1. True
2. False
3. Acoustic metamaterials are engineered to manipulate sound in unique ways.

Select one:

1. True
2. False
3. Absorptive materials like foam are used to reduce echoes in a room.

Select one:

1. True
2. False