Sound – Production of Sound

Solution 1.a:

We hear musical notes when the strings of a sitar are plucked because vibrations are produced in the strings of a sitar.

Solution 1.b:

Bats produce ultrasonic sounds while flying in the dark which is reflected from objects in front of the bat. From the reflected sound, the bat comes to know the position of things in its surroundings in the dark.

Solution 1.c:

The sonar system is based on the fact that ultrasonic sounds produced are reflected from inside a metal which helps to detect faults or impurities inside it.

Solution 1.d:

The sound of a bell is smothered when a hand is placed on it because the hand interrupts the vibrations produced in a bell and lowers its sound.

Solution 2.:

- Man can hear sounds of frequencies between 20 and **20,000** Hz.
- Amplitude and **frequency** are not related.
- The period of oscillation depends on the **length** of the pendulum.

Solution 3:

Group 'A'	**Group 'B'**
(a) Frequency	hertz
(b) Period of oscillation	second
(c) Amplitude	metre
(d) Bat	Ultrasonic sound

Solution 4:

1. False. If frequency increases, the amplitude remains the same.
2. False. A bat uses ultrasonic sound while flying at night.
3. True