

## MDCAT Physics Chapter 6 Waves Online Test

Sr	Questions	Answers Choice
1	When temperature increases, frequency of organ pipe:	A. Decreases B. Remains the same C. Increases D. Becomes zero
2	The frequency of an open pipe is f. if one end is closed then its fundamental frequency will be:	A. $f/2$ B. $3f/4$ C. f D. 2f
3	It is a common characteristic of all types of wave motion that	A. Particles move up and down B. Particles move back and forth C. Energy is transferred without the transport of particles D. A material medium transmits the disturbance
4	If source and observer are moving towards each other with same speed and after crossing they are receding each other then frequency observed by observer:	A. Decreases B. Remains constant C. Increases D. First increases then decreases
5	With the propagation of longitudinal waves through a material medium, the quantities transferred in the direction of propagation are:	A. Energy, momentum and mass B. Energy and momentum C. Energy and mass D. Energy
6	The maximum wavelength of a transverse wave that can be set up in a string of length L is	A. L B. 2L C. $\sqrt{L}$ D. 4L
7	A string vibrates in 1 loop has frequency 25 Hz if it moves in 2 loops its frequency would be:	A. 25 Hz B. 50 Hz C. 12.5 Hz D. 5 Hz
8	Wavelength of the wave is the distance between the particles of the medium having a difference of:	A. Zero B. $\pi$ C. $2\pi$ D. $\pi/2$
9	The fundamental frequency in a stretched string is 10 Hz. To double the frequency, the tension in it must be changed to:	A. $T_{sub>2</sub>} = 2T_{sub>1</sub>}$ B. $T_{sub>2</sub>} = 4T_{sub>1</sub>}$ C. $T_{sub>2</sub>} = T_{sub>1</sub>}$ D. none of these
10	A progressive sound wave is a means of transferring energy. A progressive sound wave of constant frequency is generated in air. The intensity of energy transfer is directly proportional to another of the wave parameters. Which of the following is correct?	A. $\text{Intensity} \propto (\text{amplitude})^2$ B. $\text{Intensity} \propto (\text{frequency})^2$ C. $\text{Intensity} \propto (\text{wavelength})^2$ D. $\text{Intensity} \propto (\text{speed})^2$
11	A sonar depth finder in a boat uses sound signals to determine the depth of water. Four seconds after the sound leaves the boat it returns to the boat because of reflection from the bottom. Assume the speed of sound in water is 1,460 meters per second. The depth of the water is, in meters, :	A. 2,200 B. 4,800 C. 4,400 D. 2,920
12	Bats navigate and find food by:	A. Ultrasonic B. Echolocation C. Refraction
13	A longitudinal sinusoidal wave has wavelength of 1cm and a period of 2sec. Its wave velocity is:	A. 50 cm/ sec B. 0.5 cm/ sec C. 5 m/ s D. 0.005 m/ sec

14	A closed organ pipe and an open organ pipe have their first overtone identical frequency. Their lengths are in ratio	B. 1:2 C. 2:3 D. 3:5
15	Which one is the case when the wavelength is actually changed?	A. When source move relative to observer B. When observer move relative to source C. When observer moves around a stationary source at the center of circle D. When the relative displacement between source and observer is zero
16	A sonometer wire 100 cm in length has a fundamental frequency of 330 Hz. The velocity of propagation of waves along the wire is	A. 115m/sec B. 115m/sec C. 660m/sec D. 990m/sec
17	A listener observes the frequency "f" of stationary source. If it move toward with 3 times of velocity of sound. Then the apparent frequency of the sound will be	A. f B. 3f C. f/2 D. 4f
18	A particular wavelength received from a galaxy is measured on earth and is found to be 5% more than that its wave length on earth. Hence galaxy is	A. Moving towards earth B. Going away from earth C. Stationary with respect to earth D. None
19	In a closed organ pipe, the fundamental frequency is f. What will be the ratio of the frequencies of the next three overtones?	A. 2 : 3 : 4 B. 3 : 7 : 11 C. 3 : 4 : 5 D. 3 : 5 : 7
20	A wave which consists of a single, non-repetitive disturbance is called a	A. Continuous wave B. Longitudinal wave C. Pulse D. Transverse wave