

SUCCESS KEY TEST SERIES

Work Sheet

Std: 11th Science

Subject: Physics

Time: 1Hrs

Date :

8. Sound

Max Marks: 35

Q.1 Select and write the most appropriate answers from given alternatives: **5**

- 1) What is the minimum distance between the source and the reflecting surface to hear a distinct echo for air at 22°C?
(a) 12 m (b) 14.3 m (c) 17.2 m (d) 20.4 m
- 2) The Laplace's correction in the expression for velocity of sound given by Newton is needed because sound waves
(a) are longitudinal
(b) propagate isothermally
(c) propagate adiabatically
(d) are of long wavelength
- 3) Speed of sound is maximum in
(a) air (b) water (c) vacuum (d) solid
- 4) The walls of the hall built for music concern should
(a) amplify sound (b) reflect sound
(c) transmit sound (d) absorb sound
- 5) A star emits visible colour at 500 nm. If the star is moving away from a stationary observer, which of the following cannot be the wavelength observed?
(a) 540 nm (b) 570 nm (c) 490 nm (d) 510 nm

Q.2 Answer the following very short questions: **5**

- 1) What is Doppler Effect?
- 2) Define intensity of sound and state its SI unit.
- 3) Define wavelength and state its SI unit.
- 4) What are travelling or progressive waves?
- 5) Waves possess double periodicity. Explain.

Q.3 Answer the following: **10**

- 1) Sound wave A has period 0.015 s, sound wave B has period 0.025. Which sound has greater frequency?
- 2) Write the applications of acoustics in environmental control.
- 3) A tuning fork of frequency 170 Hz produces sound waves of wavelength 2 m. Calculate speed of sound.
- 4) Write the medical applications of acoustics.
- 5) State the expression for apparent frequency when the source of sound and listener are
(i) moving towards to each other
(ii) moving away from each other

Q.4 Answer the following:

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- 1) What are the different types of waves. Write with examples.
- 2) Describe a transverse wave.
- 3) Write the effect of temperature on the velocity of sound in air?
- 4) What is the effect of humidity of the air on the velocity of sound?
- 5) What is called Acoustics? State the conditions that must be satisfied for proper acoustics in an auditorium.

----- All the Best -----