TEST PAPER: PHYSICS

Time: 45 Minutes **Class:** ICSE 8

Max. Marks: 30 Marks **Date:** 12th December 2018

Marking Scheme: *All questions carry 10 marks each. Subparts (A) and (B) carry 3 marks each and subpart (C) carries 4 marks.*

Question 1:

A. Fill in the blanks:
   i) The time period of a wave is 2s. Its frequency is _____
   ii) A tuning fork produces sound of _____ frequency
   iii) Sound cannot travel in _____

B. Answer the following:
   i) Define amplitude, frequency, time period and wavelength related to a wave.
   ii) State different factors on which loudness of a sound depends.

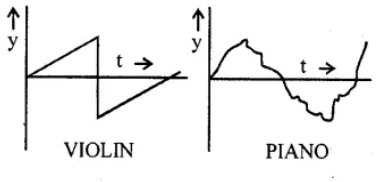
C. Answer the following:
   i) Draw a diagram to show the wave pattern of high pitch note and low pitch note, but of same loudness.
   ii) Two waves of same pitch have amplitudes in the ratio 1:3. What will be the ratio of their a) loudness and b) pitch?

Question 2:

A. State true or false:
   i) Unit of loudness is hertz
   ii) The pitch of a sound depends on frequency
   iii) Light can travel in vacuum

B. Give reasons:
   i) Sound is called a longitudinal wave
   ii) Loudness of sound heard by a plucked wire increased when mounted on a sound board.

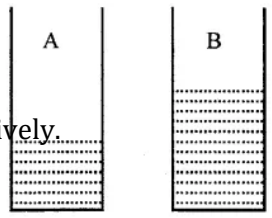
C. Answer the following:
   i) How does sound travel in air?
   ii) Two musical notes of same pitch and same loudness are played on two different instruments. Their wave patterns are as shown: How do they differ in loudness, pitch and quality?



Question 3:

A. Answer the following:
   i) What is safe limit of audible sound?
   ii) How is loudness related to amplitude of wave?
   iii) What is relationship between time period and frequency?

B. Figure shows 2 jars A and B containing water up to different heights. Which will produce sound of higher pitch when air is blown on them? Why?



C. Answer the following:
   i) Two sources of sound A and B are of frequencies 120 hz and 256 hz respectively. Which sound is of higher pitch? Why?
   ii) What are musical instruments? What are their main types?