TEST PAPER: PHYSICS

Time: 45 Minutes **Class: 9th I.C.S.E.**

Max. Marks: 30 Marks **Date: 3rd October, 2018**

Marking Scheme: *Three questions carry 10 marks each. Questions have 3 subparts each. Subparts (a) and (b) carry 3 marks each and subpart (c) carries 4 marks.*

Question 1:

a. Fill in the blanks:

i. Slope of the velocity v/s time graph is equal to _____

ii. Area under the velocity v/s time graph is equal to _____

iii. Slope of the displacement v/s time graph is equal to _____

b. i. Explain anomalous expansion of water.

ii. Define temperature. State its S.I. unit.

c. A car accelerates uniformly from 18 km h–1 to 36 km h–1 in 5 s. Calculate:

(i) the acceleration and

(ii) the distance covered by the car in that time.

Question 2:

a. Define and state the units:

i. Momentum

ii. Force

b. A force of 5 N gives a mass m_1, an acceleration of 10 m s^{-2} and a mass m_2, an acceleration of 20 m s^{-2}. What acceleration would it give if both the masses were tied together?

c. For a screw gauge

i. Define pitch

ii. Define least count (L.C.)

iii. How can the least count of a screw gauge be increased

Question 3:

a. i. Define thermal expansion

ii. Define heat.

iii. State the S.I. unit of heat.

b. Give reason:

i. pipe lines can burst on cold winter nights?

Ii. The anomalous expansion of water helps preserve aquatic life during cold weather.

c. A train starting from rest attains a velocity of 72 km/h in 5 minutes. Assuming that the acceleration is uniform, find:

(i) the acceleration (in m/s) and

(ii) the distance travelled (in m) by the train for attaining this velocity.