9171

PHYSICS – 9th

Time: 2 Hours 40 Minutes

SECTION-B

Marks: 32

1. Attempt any eight of the following. All carry equal marks.

   i. Why are white clothes preferred in summer? Explain briefly.

   ii. State two applications of atmospheric pressure used at home.

   iii. Why have liquids two coefficients of expansion?

   iv. Why is area called a derived quantity?

   v. Define scalars and vectors. Give examples.

   vi. Differentiate between mass and weight.

   vii. How can you determine the centre of gravity of an irregular shaped body?

   viii. Define the following: One Watt, Power, Work, One Joule

   ix. Why is it not easy to whirl a hammer by a longer chain?

   x. Define zero error and zero correction of screw gauge.

   xi. Derive $2as = v_f^2 - v_i^2$ by graphical method.

SECTION-C

Marks: 21

NOTE: Attempt any three of the following questions. All questions carry equal marks.

2. i. By using law of universal gravitation, find mass of earth.
   ii. What is the pressure at a depth of 1300cm below the surface of water?

3. i. Define linear thermal expansion. And show that $L_T = L_0(1 + \alpha\Delta T)$
   ii. How much heat is required to increase the temperature of 0.6kg of water from 15°C to 65°C?

4. i. Define equilibrium. What are its conditions?
   ii. A body is thrown vertically upward with a speed of 28m/sec. How high will it rise?

5. i. Explain radiation of heat. Describe any two of its applications.
   ii. A bullet of mass 30 grams travels at a speed of 1300m/sec. Find its kinetic energy.