ATOMIC ENERGY EDUCATION SOCIETY
Distant Learning Programme
Class XI Subject: Physics
Work Sheet of Chapter: Unit & Measurement (Module 3/4)

1. The uncertain digit in the measurement of a length reported as 41.68 cm is
   (a) 4 (b) 1 (c) 6 (d) 8

2. Two resistances are expressed as $R_1 = (4 \pm 0.5)\Omega$ and $R_2 = (12 \pm 0.5)\Omega$. What is the absolute error in the net resistance, when they are connected in series?
   (a) 1Ω (b) 5Ω (c) 10Ω (d) 15Ω

3. The errors in the measurement of mass and velocity of a moving body are 2% and 3% respectively. error, in kinetic energy obtained by measuring mass and speed, will be
   (a) 12% (b) 10% (c) 8% (d) 2%

4. If radius of a circle is 2.14 m, then area of the circle, with due regards for significant figures, will be
   (a) $14.389\ m^2$ (b) $14.39 m^2$
   (c) $14.4\ m^2$ (d) $14.0\ m^2$

5. The mass and volume of a body are 4.237 g and 2.5 cm^3, respectively. Find the density of the material of the body in correct significant figures?

6. Write the sum of the numbers 436.32, 227.2 and 0.301 in appropriate significant figures.

7. The error in measurements of diameter and height of a cylinder are 2% and 3% respectively. Find percentage error in measurement of its volume.

8. What is the error in the estimation of g if the length and time period of an oscillating pendulum have errors of 1% and 2%?

9. A physical quantity P is related to a, b, c and d as following:

$$P = \frac{a^3 b^2}{c\sqrt{d}}$$

If 1%, 3%, 4% and 2% are the percentage error in measurement of a, b, c, &d, then find percentage error in measurement of P.

10. The period of oscillation of a simple pendulum is $T = 2\pi\sqrt{L/g}$. Measured value of L is 20.0 cm known to 1 mm accuracy and time for 100 oscillations of the pendulum is found to be 90 s using a wrist watch of 1 s resolution. What is the accuracy in the determination of g?