STD: IX   **Marks: 20**
Date: 01/02/2024   **Time: 1hr**

You will not be allowed to write during the first 10 min. This time is to be spent in reading the question paper and planning your work. The time given at the head of the paper will be the time you are given to solve the paper.

Long Experiment: - Measurement of time period of simple pendulum.

Take a simple pendulum and slightly displace it from its mean position and measure the time for 20 oscillations for different length of pendulum, then fill the table given below.

1.   **Aim: -**   **[1]**
2.   **Apparatus: -**   **[1]**
3.   **Observation Table: -**   **[6]**

S.No	Length l(cm)	Time for 20 oscillations t (sec)	Time period T = $\frac{t}{20}$ (sec)
1	25		
2	36		
3	49		

4.   Draw graph of variation of square of time period (T^2) with the length of the pendulum l **[2]**

5.   Find the slope of graph of variation of square of time period (T^2) with the length of the pendulum (l)and Use slope to find the value of acceleration due to gravity (g) from the

        formula $$g = \frac{4\pi^2}{slope\ of\ T^2\ VS\ l\ graph}$$ **[2]**

Short Experiment: - Magnetic field lines

1.   Draw magnetic field lines of bar magnet when north pole of magnet facing geographic north**.**   **[4]**

2.   Draw magnetic field lines of bar magnet when south pole of magnet facing geographic north**.**   **[4]**

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