Experimental data to determine the coefficient of viscosity

Density of Castor oil = 0.961 gm/cc

Today's temperature 23^0 C

Least count of the Screw Gauge=0.001 cm

Least count of Digital Balance = 0.01 gm

Least count of stopwatch = 0.01 s

A. Determination of Diameter of ball 1 (small) using Screw Gauge:

S. No.	Linear Scale reading (in cm)	Circular Scale Reading	Mass of 10 balls (in gm)
1	0.3	15	1.31
2	0.3	18	
3	0.3	17	
4	0.3	15	
5	0.3	16	
6	0.3	19	
7	0.3	16	

B. Determination of Diameter of ball 2 (medium) using Screw Gauge:

S. No.	Linear Scale reading (in cm)	Circular Scale Reading	Mass of 10 balls (in gm)
1	0.3	48	2.05
2	0.3	46	
3	0.3	49	
4	0.3	46	
5	0.3	48	
6	0.3	49	
7	0.3	47	

C. Determination of Diameter of ball 3 (Large) using Screw Gauge:

S. No.	Linear Scale reading (in cm)	Circular Scale Reading	Mass of the 10 balls (in gm)
1	0.4	24	4.47
2	0.4	26	
3	0.4	28	
4	0.4	24	
5	0.4	28	
6	0.4	26	
7	0.4	24	

D. Time measurement and Terminal velocity calculation:

Distance traversed by the spherical balls is 80 cm

Sl. No.	Time for ball 1 (in s)	Time for ball 2 (in s)	Time for ball 3 (in s)
1	15.72	10.66	7.68
2	15.93	10.65	7.81
3	15.88	10.69	7.72
4	15.85	10.57	7.81
5	15.75	10.66	7.82
6	16.03	10.63	7.69
7	15.78	10.59	7.90

E. Determination of inner diameter of the glass cylinder:

Vernier Constant of Vernier Calliper = 0.002 cm

S. No.	Main scale reading (in cm)	Vernier reading
1	4.6	5
2	4.6	5
3	4.6	4