Conc : (g/dl)	Flow Time of Polymer -Solvent system (t) sec	Flow Time of Solvent (t0) sec	$\eta_r = \frac{t}{t_0}$	$\eta_{sp} = \eta_r - 1$	Reduced Viscosity, $\eta_{red} = \frac{\eta_{sp}}{C}$ (dl/g)	ln η_r	Inherent Viscosity, $\eta_{inh} = \frac{\ln \eta_r}{C}$ (dl/g)
0.02	107.16	102.99	1.040	0.04	2	0.039	1.95
0.04	109.72	102.99	1.065	0.065	1.625	0.062	1.55
0.06	113.55	102.99	1.102	0.102	1.7	0.097	1.61
0.08	116.76	102.99	1.133	0.133	1.662	0.124	1.55
0.1	121.18	102.99	1.176	0.176	1.76	0.162	1.62

Calculation:
(Include formula)

Graph

From the above graph, [η] = 151 ml/g

For (polymer- solvent system) polyvinylacetate / acetonitrile, K = 41.5 × 10^{-3} ml/g α = 0.62

Substituting these values in the formula, $[\eta] = KM^{\alpha}$

We get, **(show calculation)**

$151 = 41.5 \times 10^{-3} \times (M)^{0.62}$

$151 = 415 \times 10^{-4} \times (M)^{0.62}$

$0.363 \times 10^4 = (M)^{0.62}$

$3630 = (M)^{0.62}$

$\ln(3630) = \ln(M) \times 0.62$

$8.19 = \ln(M) \times 0.62$

$\ln(M) = \frac{8.19}{0.62}$

$\ln(M) = 13.20$

$M = 5,40,364$ g/mol

M = 5,40,364 g/mol

Assignment:

1. Name any 5 compounding agents with an example and their functions in polymers.
2. List important characteristics of an ideal polymer.
3. Write a note on doped conducting polymers.

Result/ Conclusion:

The viscosity average molecular weight of the (polymer)'Mv' = 5,40,364 **g/mol**

Name:-
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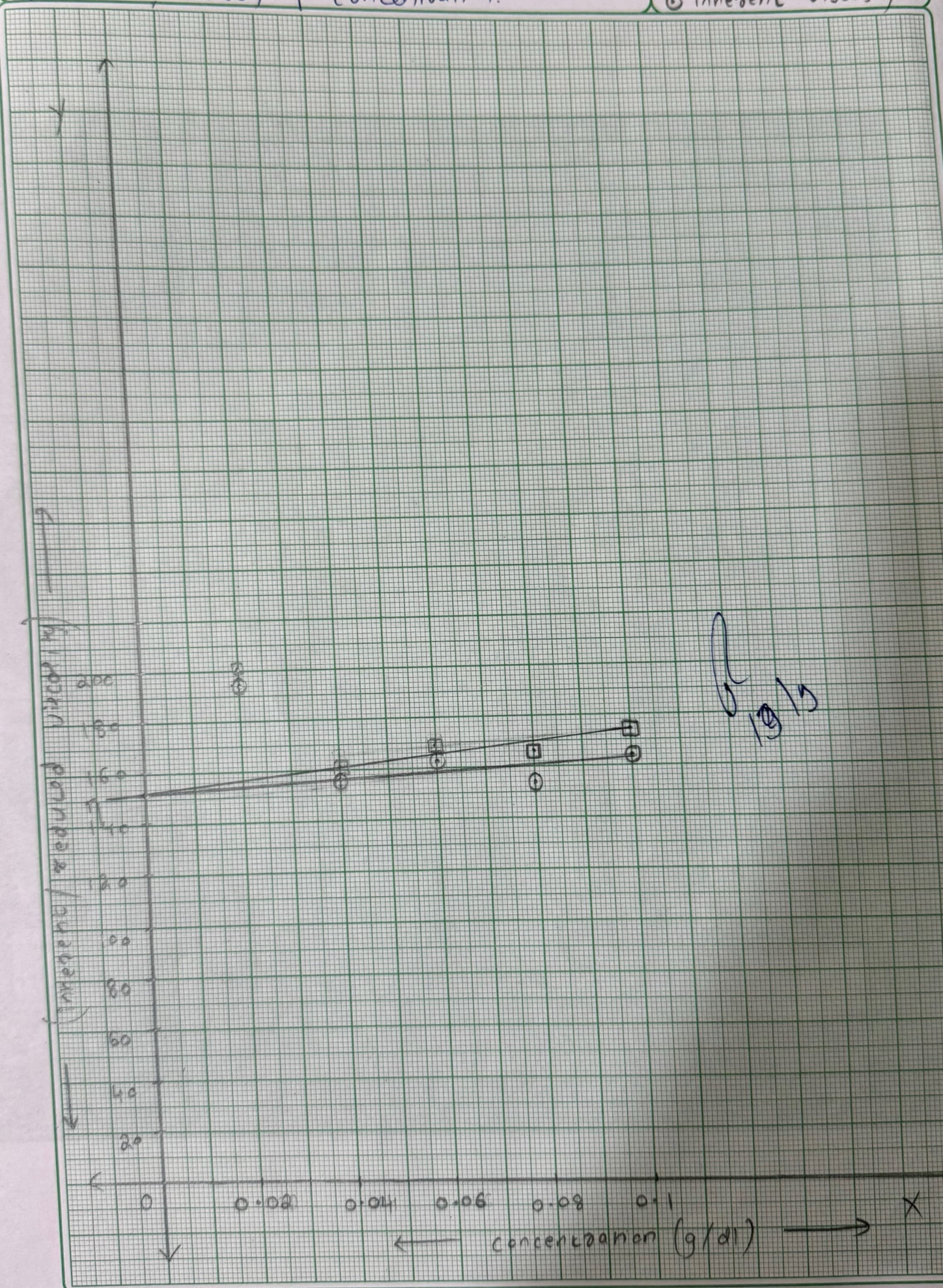
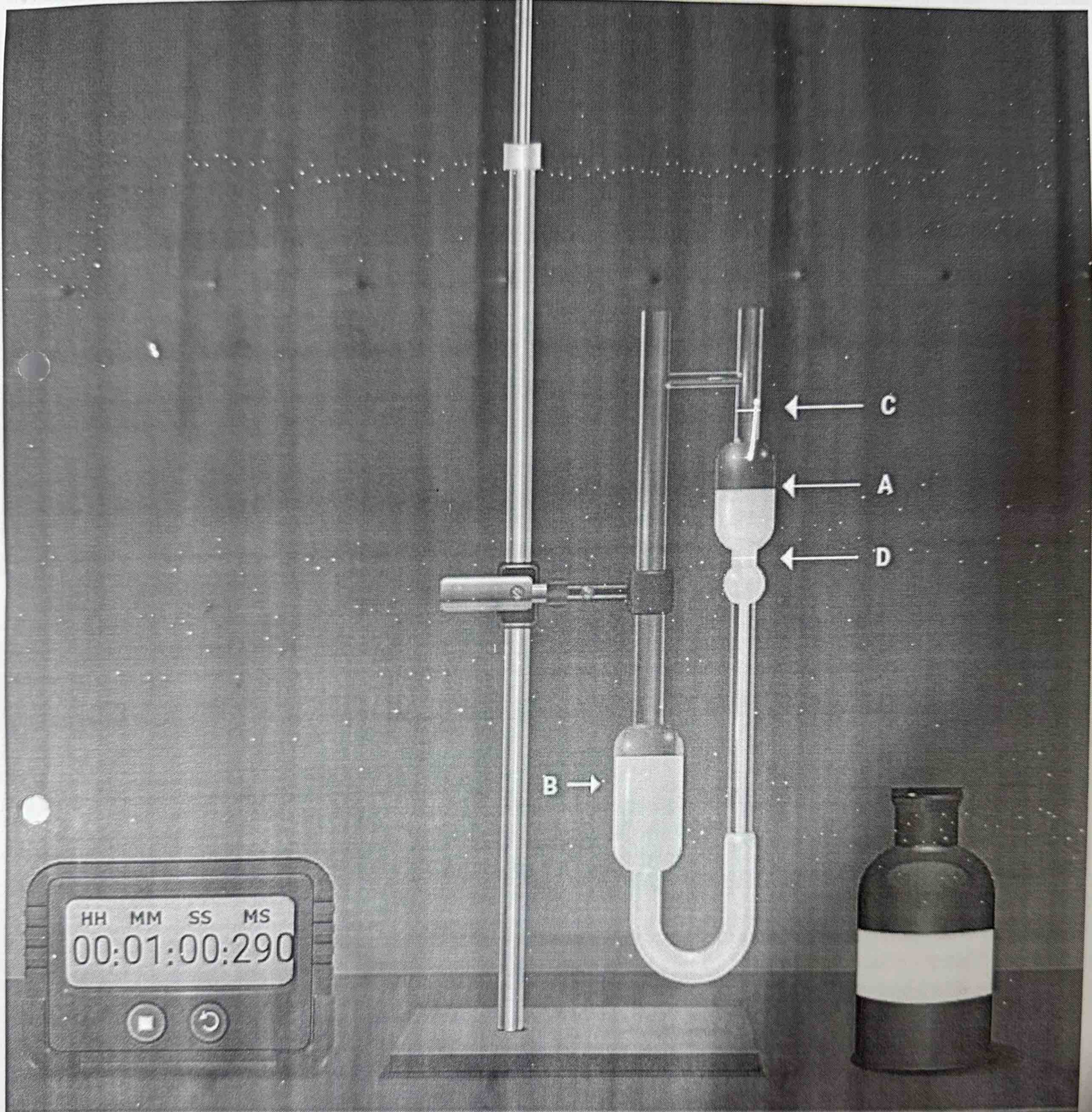
Roll no:- 63 C7(3)

inherant / reduced viscosity
vs
concentration.

SCALE :- X axis :- 2 cm = 0.02 g/dl
Y axis = 1 cm = 2 units
reduced viscosity
inherent viscosity

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