EXPERIMENT - 5

Aim → To find the force of limiting friction for a block placed on horizontal surface.

Apparatus Required → horizontal plane, frictionless pulley, pan, weights, thread, spirit level.

W = weight of block ω = weight on block

weight of pan = 20g

S.no.	R = W + ω (Reaction)	F = P + weight of pan (weight in pan) force	μ = coefficient of friction μ = F/R = friction/Reaction
1.	34 + 100 = 134	20 + 65 = 85	μ = 85/134 = 0.63
2.	34 + 200 = 234	20 + 135 = 155	μ = 155/234 = 0.66
3.	34 + 300 = 334	100 + 70 + 5 = 175	μ = 175/334 = 0.53
4.	34 + 400 = 434	200 + 20 + 5 = 225	μ = 225/434 = 0.51

$$\mu = \frac{0.63 + 0.66 + 0.53 + 0.51}{4} = 0.58N \text{ Ans}$$

Actually $\mu = \frac{F_2 - F_1}{R_2 - R_1}$

$$\mu = \frac{155 - 85}{234 - 134} = \frac{70}{100} = 0.7 \text{ Ans}$$

Teacher's Signature .....