Numerical

Q1., A Tractor wheel having 600mm diameter was testes in a soil bin and the following data was recorder: Angular speed of the wheel is 10 rev / min , Input torque is 60 N-m , drawbar pull is 150 N , normal load on the wheel axle is 500N , wheel forward speed is 0.25 m / sec. Calculate (a) Coefficient of tractor (b) wheel slippage  (c) Tractive efficiency          [GATE 1991]

Q2. Predict the maximum traction thrust of a track type tractor with two tracks each 360 mm wide and 1680 mm long . The weight of the tractor is 31.75 KN . The soil is sheared off in the plane area at the ends of lugs. Soil Parameter are C= 14 Kpa and Angle of internal friction is 30 degree
[GATE 1994]

Q3. A tractor pulls 8 KN drawbar pulls against 4KN rolling resistance. If the tractor develops 57 percent tractive efficiency then slip experienced by the tractor is [GATE 2017]