Force

1. F = ma { m =mass, a =acceration }
2. P= mv { m= mass , v = velocity}
3. ΔP =F.Δt { P = lmpulse , F = force}
4. Weight in lift****

   1 . up Side

   R = m (g+a)

   2. In side

   R = m(g-a)

   3.balance

   R = w or R = mg

   { m = mass ,g = gravitation acceration

   , a = acceration}
5. Concurrent Force

F = f1 +f2+f3

Circular Motion

1. ΔS/r = ΔQ { Δs = straight line displacement, ΔQ = Angular displacement, r = radius}
2. Δw = ΔQ/t { w = Angular Velocity,t = time }
3. a = w/t { a = angular acceration , }
4. Reation between Angular and linear motion

Δs = r.ΔQ

V = W. r

A = a.r { A = linear motion}

5. T = 2π/w { T = period time}
6. n = 1/T { n = repeatition}

   W = 2πn
7. Angular motion equation
   - w = w° + at
   - Q = w°t +½at²
   - W² = w°² + 2a Q
8. F = mv²/r { F centripetal force}

   F= mrw²
9. á = v²/ r { á= centripetal acceration}

   á = r .w²
10. Tan•° = v² /rg
11. Motion in circular motion

    Và = gr½

    Vb = 5gr½

    Vc = 3gr½

Friction

1. Fs = μs.R{ R = mg }
2. Fk = μk.R
3. μs = tan•°
4. Tan•° = μs /μk

Work ,Power and Energy

1. W = F.d
2. W = F.dcos•°
3. P =W / t ,or P = mgh/ t ,or P = mv^2/ t
4. K = mv^2/ t
5. U = mgh se
6. P = √2mk
7. Ū = 1/2 kx^2
8. e = u1 -u2/V1 -v2 = 1
9. V1 = u1 (m1 – m2)+ 2 m1.m2/M1 + m2

Double axis collision

X -axis

m1v1 +m2v2= m1v1cos• + m2v2cos•

Y – axis

m1v1+ m2v2 = m1v1sin• + m2v2 sin•

ΔK = ½ m1m2× $v1^2$/(m1 + m2)

{ W = work , U = potential engry , K = kinetic energy, p = Impulse, Ū = potential engry in spring, e = collision}

Motion in rigid body

1. t = F.r
2. I = £mr
3. K = (I/m)½
4. In paller axis
   I = Icm + Md^2
5. In particular axis
   Iz = Iy +Ix
6.