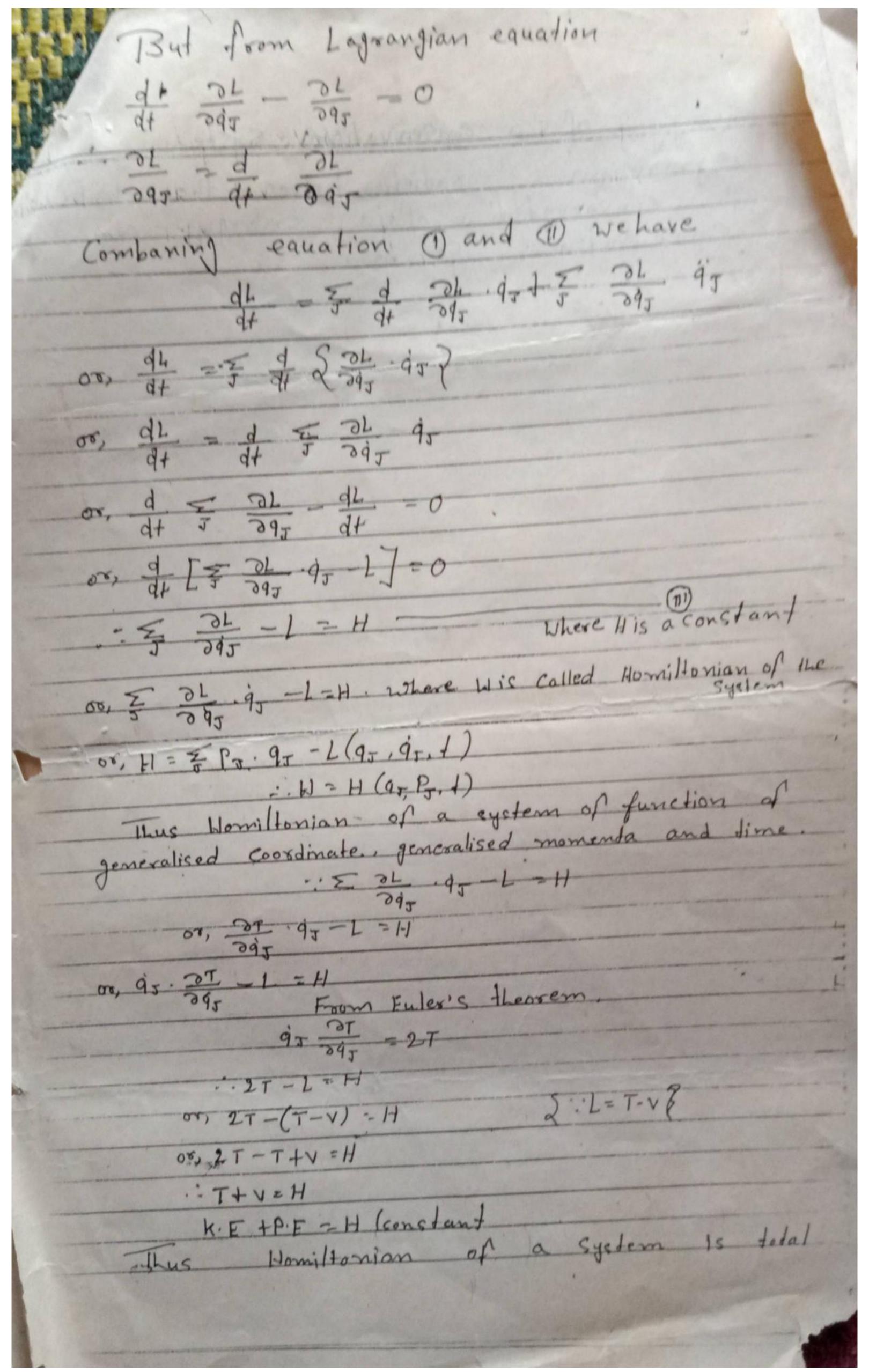
Importance of Lagrangian equation: The Newtonian and haggrangian equation of motion are second order differential equation of motion of the system. When these equation are solved. They discribe the nature of motion have different approch to formulation. In Newtonian approch, Conserned with the applied on the system. This acting forces acceleration in the forces produces Stem. The force are due to enternal energy These forces represented.
The cause of acceleration In Lagrangian apporch, we consider the kinetic energy and potential energy of the System. The Concept of forces does not inter the Lagrangian formulation. This is the différence between Newtonian and Lagrangian approch Since Kinetic energy and potential energy are scelar anantity. Therefore they are invariament under Coordinate transformation. Another diffrence is that insome problem. It is not possible to know all forces acting on the System. These forces are of constraints. These constraints are not removed in Newton formula - 12ht Lagrangian Pavation of motion is enpressed in the term of generalised

Coordinate: Hence forces are Constrain are easly removed.  $\frac{d97}{d4} = 95 = Greneralised velocity.$ OT - Py - Greneralised Momentum PJ = Greneralised momentum 95 - Greneralised velocity Conservative System



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