

$T + V = h$  (Constant) P.G. sem - III  
paper - XIII  
unit - 2nd. classical  
mechanics  
Hamiltonian or Hamilton's function

A function  $H(p_i, q_i, t)$  defined as

$$H = \sum_{i=1}^n p_i \dot{q}_i - L$$

where  $p_i = \frac{\partial L}{\partial \dot{q}_i}$  is known as

Hamiltonian function or Hamilton's function

**Note:**  $p_i = \frac{\partial L}{\partial \dot{q}_i}$  is called generalised component of linear momentum.



$$\text{then } T_1 = T_0 = \frac{\partial L}{\partial t} = 0$$

Then the energy integral may be written as  $T + V = h$  (constant).