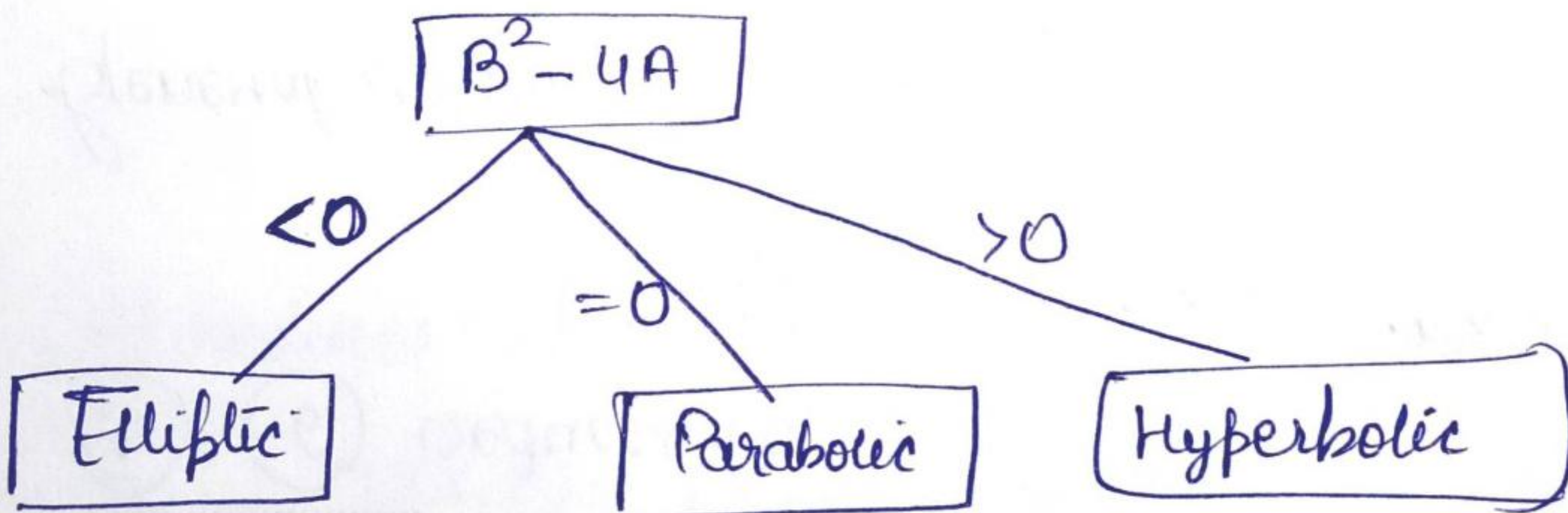


Important points

- ① Wave equation - $\frac{\partial^2 y}{\partial t^2} = c^2 \frac{\partial^2 y}{\partial x^2}$
- ② General Solution of wave equation
 $y(x, t) = [C_1 \cos px + C_2 \sin px] [C_3 \cos pt + C_4 \sin pt]$
- ③ one dimensional heat flow equation
 $\frac{\partial u}{\partial t} = c^2 \frac{\partial^2 u}{\partial x^2}$
- ④ General solution of one dimensional heat flow equation
 $u(x, t) = [A \cos px + B \sin px] e^{-c^2 p^2 t}$
- ⑤ Laplace equation $\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} = 0$
- ⑥ $A \frac{\partial^2 u}{\partial x^2} + B \frac{\partial^2 u}{\partial y^2} + C \frac{\partial^2 u}{\partial x \partial y} + D \frac{\partial u}{\partial x} + E \frac{\partial u}{\partial y} + Fu + G = 0$



- ⑦ Two dimensional heat equation, in the steady state condition, become Laplace equation