BRAJ KISHOR PRASAD, brajki@rediffmail.com**,**
Department of MCA, 2ⁿᵈ Semester
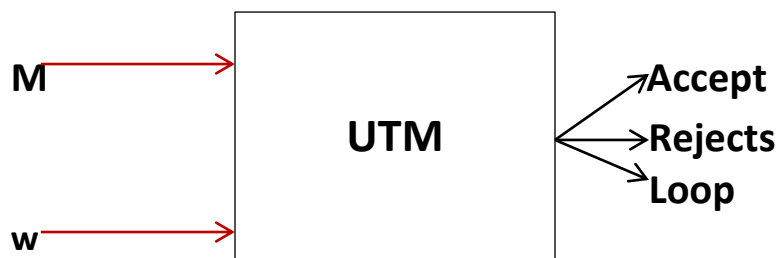**MCA CS2T07:** *Automata Theory*

Universal Turing Machine (UTM)

A turing machine which is equivalent to all other turing machines that we have. Basically, we wish to design a Turing Machine that accepts *a Turing Machine with some input w* then this Turing Machine recognizes that whether it will halt & accept or halt & reject or loop. That is, we wish to design Turing Machine that works as a recognizer.

Language:

$$A_{TM} = \{< M, w > \mid M \text{ is a Turing Machine and } M \text{ accepts } w\}$$

is Turing recogni zer.

So, we can say UTM seems as acceptability of a Turing Machine.