Experiment No: 09 **Date :**

Roll No: _____

Aim : **Draw the timing diagram of memory and IO read write operation of 8086 minimum mode.**

Theory :

Timing Diagram:

Timing Diagram is a graphical representation. It represents the execution time taken by each instruction in a graphical format. The execution time is represented in T-states.

Instruction Cycle: The time required to execute an instruction is called instruction cycle. An instruction cycle consists of one to six machine cycles.

Machine Cycle: The time required to access the memory or input/output devices is called machine cycle. A machine cycle consists of three to six T-states.

T-State: The machine cycle and instruction cycle takes multiple clock periods. A portion of an operation carried out in one system clock period is called as T-state.

Fetch cycle: The fetch cycle in a microprocessor comprises of several time states during which the next instruction to be executed is copied (fetched) from the memory location (whose address is in the Program Counter) to the Instruction Register.

1. **Timing diagram of memory/IO read operation of 8086 minimum mode**
2. **Timing diagram of memory/IO write operation of 8086 minimum mode**

Conclusion :