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| **Topic**  Link/s to previous topic/s | Evolution of Microprocessors, Introduction to Microprocessor,  Memory Interfacing, Memory map, address decoding logic | **Lecture**  1  27/2/23 |
| **Aim**  What I want students to learn | * How CPU got evolved * How CPU is organized for working with memory * How memory is connected to CPU * How to design a memory map * Why tristate logic is important in CPU based design or connecting memory to CPU | |
| **Rationale**  Why this is useful for them | **Students are inquisitive and motivated to learn how a CPU works to execute a program**  **They should know how a Single Chip CPU is organized with Data , Address and Control signals**  **They are aware that the programs are possibly stored in memory. They should know that it is a primary memory which is semiconductor memory, where the program is stored.**  **Students are delighted to learn how a computer is designed. They should therefore know how semiconductor (primary) memory is connected to CPU to create a stored program computer.** | |
| **Learning outcomes**  What I want them to be able to do at the end of the lesson | **At the conclusion of this lesson students will be able to:** | |
| * Explain the history of evolution of single chip CPU by intel * Explain the concept of data, address and control signals/bus * Design memory map for a given RAM or ROM * Design Interface the given RAM and ROM to CPU * Explain the design of single chip CPU based computer design | |

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| ***Main part of this lesson:*** | |
| **Learning activities**  The activities I will use to best enable my students to meet their learning outcomes | **Group activities:**   * Find start and end address of memory depending upon storage capacity * Create memory map from start and end address of memory for 8086 CPU * Design decoding logic to establish communication between CPU and memory so designed using the memory map above |
| **Learning Resources**  What I use to support learning | * CPU 8086 pin diagram * SRAM 6264 pin diagram * EPROM 2764 pin diagram |

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| ***Conclusion of the lesson:*** | |
| **Outcomes**  How I will check that students have achieved the expected outcomes. | **I will check achievement of learning by:** |
| * **Correct start and end address formed by student groups** * **Correct memory maps designed by groups** * **Correct decoding logic designed by groups** |
| Teaching Notes |  |