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| Saveetha Institute of Medical And Technical Sciences | **Saveetha Institute of Medical and Technical Sciences**  **SIMATS School of Engineering**  Lab Code & Name: ECA10 - Microprocessor and Microcontroller Laboratory |  |

List of Experiments

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| **EX.No** | **EXPERIMENT NAME** | **Hardware Trainer / Software Tool** |
| 1 | **Arithmetic Operations using 8085 Microprocessor**  [a] Addition of two 8-bit Numbers with carry  [b] Addition of two 16-bit Numbers  [c] Subtraction of two 8-bit Numbers with borrow  [d] Multiplication two 8-bit Numbers  [e] Division of two 8-bit Numbers | Software Tool  (Sim 8085) |
| 2 | **Array Operations using 8085 Microprocessor**  [a] Largest and Smallest number from an array of 8-bit numbers and store the result in memory  [b] Ascending Order and Descending Order of an Unsorted Array | Software Tool  (Sim 8085)  8085 Hardware Trainer |
| 3 | **Code Conversion using 8085 Microprocessor**   * ASCII to Hexadecimal Conversion | 8085 Hardware Trainer |
| 4 | **Logical operation using 8085 Microprocessor**   * Masking off MSB Bits (ANI Instruction) * Setting off Bits (ORI Instruction) * One’s and Two’s complement of given data. | 8085 Hardware Trainer |
| 5 | **Interface Stepper Motor Controller with 8085 Microprocessor**   * To run the motor in Clockwise and Anticlockwise direction | 8085 Hardware Trainer kit |
| 6 | **Arithmetic Operations using 8086 Microprocessors**  [a] 16-bit Addition with carry  [b] 16-bit Subtraction with borrow  [c] 16-bit Multiplication  [d] 32-bit by 16-bit Division | 8086  Emulator |
| 7 | **String Operation using 8086 Microprocessors** Move a block of data from source to destination | 8086  Hardware Trainer |
| 8 | **Logical operations in 8086 Microprocessor**  [a] Masking of bits using AND operation. [b] Setting of bits using OR operation. | 8086  Emulator |
| 9 | **Array Operations using 8086 Microprocessor**   * Sum of N Numbers of a word array using indirect addressing in 8086 Microprocessor | 8086  Hardware Trainer |
| 10 | **Interface 8279 with 8086**  [a]Character display using Keyboard Display Controller  [b]Rolling display using Keyboard Display Controller | 8086  Hardware Trainer |
| 11 | Interface 8-Switches with 8086 microprocessors through Programmable Peripheral Interface [8086-8255] | 8086  Hardware Trainer |
| 12 | **Arithmetic Operations using 8051 Microcontroller**  [a] 8-bit Addition  [b] 8-bit Subtraction  [c] 8-bit Multiplication  [d] 8-bit Division | 8051  Hardware Trainer |
| 13 | **Logical operations using 8051 Microcontroller** [a] Masking of bits using AND operation. [b] Setting of bits using OR operation. | 8051MC Software Tool |
| 14 | **Traffic Light controller using 8085/8051 Microcontroller** | 8051MC Software Tool |
| 15 | **Interface ADC with 8051/8086** | 8051MC Software Tool |