**INSTITUTE OF ENGINEERING & TECHNOLOGY**

**MOHANLAL SUKHADIA UNIVERSITY, UDAIPUR**

**(RAJ.)**

***DEPARTMENT OF COMPUTER SCIENCE ENGINEERING***

***B. Tech - IV SEMESTER***

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**Session 2022-23**

**Microprocessor & Interfaces Lab**

**LABORATORY MANUAL**

**BT4CS07-CP01**

**Prepared by:**

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|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S. No. | Name of Experiment | Date of  Perform | Checked on. | Signature and Remarks. |
| 1. | Place 05H in register B |  |  |  |
| 2. | Get 08 in register A; then move it to register B |  |  |  |
| 3. | Load the content of memory location 2050H directly to the accumulator, then transfer it to register B. The content of memory location  2050H is 05H |  |  |  |
| 4. | Move the content of memory location 2150H to register H. The content of memory location  2150H is 1AH |  |  |  |
| 5. | Place the content of memory location 2150H to register B and that of memory location  2151H in register C. The content of memory location 2150H is 11H and 2151H is 12H  respectively |  |  |  |
| 6. | Place 09H in accumulator Increment it by one and store the result in memory location  2500H |  |  |  |
| 7. | Add two 8 bit numbers whose sum is also 8 bit. Numbers are 49H & 56H |  |  |  |
| 8. | Subtract two 8 bit numbers whose difference is also 8 bit. Numbers are 49H & 32HH |  |  |  |

**Experiment – 1**

Experiment Name - Place 05H in register B. Date:-

|  |  |  |  |
| --- | --- | --- | --- |
| Memory Location in Hex. | Instruction Mnemonics  Opcode Operand | Hex Code & Binary Code | //Comments |
| 2001 | MVI B,05H | 06,05 |  |
| 2002 | HLT | 76 |  |

Practical performed on- GNUSim8085

**Experiment – 2**

Experiment Name- Get 08 in register A; then move it to register B.

|  |  |  |  |
| --- | --- | --- | --- |
| Memory Location in Hex. | Instruction Mnemonics  Opcode Operand | Hex Code & Binary Code | //Comments |
| 2050 | MVI A,08H | 3E,08H |  |
| 2051 | MOV B,A | 47 |  |
| 2052 | HLT. | 76 |  |

Practical performed on:- GNUSim8085

**Experiment – 3**

Experiment Name- Load the content of memory location 2050H directly to the accumulator, then transfer it to Register B. The content of memory location 2050H is 05H.

|  |  |  |  |
| --- | --- | --- | --- |
| Memory Location in Hex. | Instruction Mnemonics  Opcode Operand | Hex Code & Binary Code | //Comments |
| 2001 | LDA 2050H | 3A,50,20 |  |
| 2004 | MOV B,A | 47 |  |
| 2005 | HLT. | 76 |  |

Practical performed on:- GNUSim8085

**Experiment – 4**

Experiment Name- Move the content of memory location 2150H to register H.The content of memory location 2150H is 1AH.

|  |  |  |  |
| --- | --- | --- | --- |
| Memory Location in Hex. | Instruction Mnemonics  Opcode Operand | Hex Code & Binary Code | //Comments |
| FC00 | LXI H,2150H | 21,50,21 |  |
| FC03 | MOV C,M | 4E |  |
| FC04 | HLT. | 76 |  |

Practical performed on:- GNUSim8085

**Experiment – 5**

Experiment Name - Place the content of memory location 2150H to register B and that of memory location 2151H in register C. The content of memory location 2150H is 11H and 2151H is 12H respectively.

|  |  |  |  |
| --- | --- | --- | --- |
| Memory Location in Hex. | Instruction Mnemonics  Opcode Operand | Hex Code & Binary Code | //Comments |
| FC00 | LXI H,2150H | 21,50,21 |  |
| FC03 | MOV B,M | 46 |  |
| FC04 | INX H | 23 |  |
| FC05 | MOV C,M | 4E |  |
| FC06 | HLT | 76 |  |

Practical performed on:- GNUSim8085

**Experiment – 6**

Experiment Name - Place 09H in accumulator.Increment it by one and store the result in memory location 2500H.

|  |  |  |  |
| --- | --- | --- | --- |
| Memory Location in Hex. | Instruction Mnemonics  Opcode Operand | Hex Code & Binary Code | //Comments |
| FC00 | MVI A,09H | 3E,09H |  |
| FC02 | INR A | 3C |  |
| FC03 | STA 2500H | 32,00,25 |  |
| FC06 | HLT. | 76 |  |

Practical performed on:- GNUSim8085

**Experiment – 7**

Experiment Name- Add two 8 bit numbers. whose sum is also 8 bit. Numbers are 49H & 56H.

|  |  |  |  |
| --- | --- | --- | --- |
| Memory Location in Hex. | Instruction Mnemonics  Opcode Operand | Hex Code & Binary Code | //Comments |
| 2000 | LXI H,2501 | 21,01,25 |  |
| 2003 | MOV A,M | 7E |  |
| 2004 | INX H | 23 |  |
| 2005 | ADD M | 86 |  |
| 2006 | STA 2503H | 32,03,25 |  |
| 2009 | HLT. | 76 |  |

Practical performed on:- GNUSim8085

**Experiment – 8**

Experiment Name- Subtract two 8 bit numbers whose difference is also 8 bit. Numbers are 49H & 32HH.

|  |  |  |  |
| --- | --- | --- | --- |
| Memory Location in Hex. | Instruction Mnemonics  Opcode Operand | Hex Code & Binary Code | //Comments |
| 2000 | LXI H,2501 | 21,01,25 |  |
| 2003 | MOV A,M | 7E |  |
| 2004 | INX H | 23 |  |
| 2005 | SUB M | 96 |  |
| 2006 | INX H | 23 |  |
| 2007 | MOV M,A | 77 |  |
| 2008 | HLT. | 76 |  |

Practical performed on:- GNUSim8085