

**GOVT. POLYTECHNIC, PALANPUR**  
**Electronics & Communication Department**

**MALP**  
**Assignment – I**  
**Microprocessor Architecture & Instruction Set**

1. Draw the PIN DIAGRAM of 8085 & explain the detail of each pin.
2. Describe the functions of 8085 microprocessor Pins SOD, SID, HOLD, HLDA, READY, ALE, TRAP in short.
3. Draw and explain the internal architecture of 8085 microprocessor.
4. Draw Flag Register of 8085 microprocessor & explain it.
5. Draw and explain the 8085 microprocessor bus organization.
6. Explain with diagram the demultiplexing of multiplexed address/data bus of 8085 microprocessor.
7. Define (1)Bus(2) Opcode(3) Machine cycle(4)Memory map(5)instruction cycle(6)operand (7)Architecture
8. Classify instruction set of 8085 microprocessor on the basis of their operation. Give one example of each one
9. Explain below instructions with suitable example.

LDA	LDAX	LXI	LHLD	SHLD
XTHL	XCHG	PCHL	SPHL	DAD
DAA	CMA	CMC	STC	RLC
RAL	RRC	RAR	PUSH	POP
CALL	RET	SIM	RIM	EI
DI	IN	OUT	NOP	HLT

**Note: Date of Submission – On or Before 3<sup>rd</sup> February, 2017.**

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**Assignment – II**  
**Programming In 8085**

1. Write a program to add numbers 08h and 02h and store result in A.
2. Write a program to subtract numbers 08h and 02h and store result in A.
3. Write a program to add numbers 18h and 02h and store result in C register.
4. Write a program to subtract number 02h from number 18h and store result in C register.
5. Write a program to multiply 06h and 07h
6. Write a program to add two 16 bit numbers using DAD instruction.
7. WAP to add two 16-bit numbers stored in given memory as below: 2000h = 14h (LSB), 2001h = 6Ah (MSB), 3000h = 52h (LSB), 3001h = 4Ch (MSB). Store the answer with higher byte at 4001h and lower byte at 4000h.
8. Write a program to transfer bytes of source block to destination block. Size of block is 7 bytes, address of source block: 5000h and destination block: 6000h
9. WAP to transfer memory block of sixteen data bytes stored from starting location 3000H to starting location 4000H in reverse order.
10. Write a program to complement content of memory location 4000h and store the result in memory location 4001h.
11. Write a program to count number of 1's in given 8-bit number stored at memory location C050H. Store result in memory location C051H.
12. Write a program to form a time delay loop using single register and using register pairs
13. WAP to count 0-7 repeatedly with 1 ms time delay between two successive counts.

**Note: Date of Submission – On or Before 10<sup>th</sup> February, 2017.**

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**Assignment – III**

**Addressing Mode, Timing Diagram & Interfacing Of 8085**

1. Define addressing mode. Explain addressing modes of 8085 microprocessor with one example for each one.
2. Explain looping, counting & indexing with an example.
3. Explain T- state, Machine cycle and Instruction cycle.
4. Draw and explain timing diagram of MVI C, 15 H.
5. What is stack and stack pointer? Explain stack related instruction with the help of example.
6. Explain stack operations in 8085 microprocessor.
7. Explain PUSH and POP instructions with a suitable example.
8. Explain CALL and RET instructions with a suitable example.
9. Compare memory mapped I/O and I/O mapped I/O.
10. Explain the function of IC 8255 with a block diagram.

**Note: Date of Submission – On or Before 10<sup>th</sup> March, 2017.**