

NOTE: 1. Figure should be Neat and labeled.

2. All Questions are compulsory.

3. Right side indicates marks.

Q.1 Attempt the following

[40marks]

1. This _____ flag is used to indicate parity of the result i.e. numbers of one's. If the result contains even numbers of one's this flag is set to 1.

- a) S b) Z
- c) AC d) P

2. Which interrupt has the highest priority?

- a) TRAP b) RST7.5
- c) RST6.5 d) RST5.5

3. This _____ signal indicates that another master is requesting the use of the address and data buses.

- a) HOLD b) HLDA
- c) RESET d) READY

4. The data bus of Microprocessor is _____.

- a) Unidirectional b) Bidirectional
- c) Unidirectional as well as bidirectional d) None of these

5. LDA is _____ instruction.

- a) arithmetic b) logical
- c) data transfer d) branching

6. If A=56H, B=82H after execution of ANA B, content of A=_____.

- a) 02H b) 20H
- c) 04H d) 40H

7. XCHG instruction of 8085 exchange the content of _____.

- a) BC & DE b) BC & HL
- c) DE & HL d) A & HL

8. Which instruction is required to rotate the content of accumulator one bit right along with carry?

- a) RRC b) RLC
- c) RAR d) RAL

9. The process of storing the data in the stack is called _____ the stack.

- a) Pulling into b) Pulling out
- c) Pushing into d) Pushing out

10. In case of nested subroutines the return addresses are stored in _____.

- a) System Heap b) special memory buffer
- c) processor stack d) register

11. The books arranged one on the other on a table is an example of _____.
 a) Queue b) Stack
 c) FIFO d) Random Access
12. The stack is useful for _____.
 a) storing the register status of the processor b) temporary storage of data
 c) storing contents of registers temporarily inside the CPU d) all of the mentioned
13. The decimal number 80 is represented in its BCD form as _____.
 a) 10000000 b) 11000000
 c) 10000001 d) 0110000
14. A group of bits used to represent a symbol is called a _____.
 a) code b) byte
 c) nibble d) bit
15. The weights used in Binary coded decimal code are _____.
 a) 8,4,2,1 b) 8,6,4,1
 c) 6,4,2,1 d) 8,6,2,1
16. Write the decimal equivalent for (110001) BCD is _____.
 a) 31 b) 21
 c) 11 d) 22
17. RISC processor's first pipeline stage is _____.
 a) Instruction fetch b) Instruction read
 c) Instruction stored d) Instruction load
18. In a pipelined processor, a pipeline has _____ ends.
 a) one b) two
 c) three d) four
19. The CMPXCHG8B instruction is an extension of _____ instruction.
 a) CMPXCHG b) CMAXCHG
 c) CMXCHG d) CPXCHG
20. APIC stands for _____.
 a) Advanced Programmable Instruction Controller
 b) Array Programmable Interrupt Controller
 c) Array Programmable Instruction Controller
 d) Advanced Programmable Interrupt Controller

Q.2 Attempt the following.

A) Answer any ONE.

[04marks]

- 1) Explain the functions of following units of 8085:
 i) Instruction Register ii) Accumulator
 iii) Timing and control iv) Temp register
- 2) Write a short note on Flag Register.

B) Answer any ONE.

[03marks]

- 1) Explain T-state, Machine cycle and Instruction Cycle.
- 2) Explain the types of computers.

Q.3 Attempt the following.

A) Answer any ONE.

[04marks]

- 1) Draw and explain the timing diagram for execution of OUT instruction.
- 2) Draw and explain the concept of Input Interfacing.

B) Answer any ONE.

[03marks]

- 1) Explain the working of following instructions:
a. DAA b. CMC c. STAX rp
- 2) Explain the working of following instructions:
a. ADI 8-bit data b. SBB M c. CMP r

Q.4 Attempt the following.

A) Answer any ONE.

[04marks]

- 1) Specify the contents of memory location XX70H to XX73H after execution of the following instruction

LXI H, XX70H

MVI B, 05H

MVI A, 01H

STORE: MOV M, A

INR A

INX H

DCR B

JNZ STORE

HLT

- 2) Draw and explain the concept of Nesting.

B) Answer any ONE.

[03marks]

- 1) List down the common source of errors.
- 2) Write a 8085 microprocessor program in assembly language to find square of a number stored at memory location C200 H. Store the LSB of result at memory location C300H and MSB of result at memory location C301H.

Q.5 Attempt the following.

A) Answer any ONE.

[04marks]

- 1) Draw and explain DMA.
- 2) Explain 8085 vectored interrupts.

B) Answer any ONE.

[03marks]

- 1) Write a short note on system hardware and storage memory.
- 2) What is OS? Explain the types of OS.

Q.6 Attempt the following.

A) Answer any ONE.

[04marks]

- 1) Draw and explain block diagram of Pentium Pro.
- 2) Draw and explain the Pentium Pro dispatch and execution unit.

B) Answer any ONE.

[03marks]

- 1) What is Pipeline in processor? Explain.
- 2) Compare Pentium and Pentium Pro Processor.