UNIT-1 8085 MICROPROCESSOR
TWO MARKS

1. What is microprocessor? Give the power supply &clock freqency of 8085

A microprocessor is a multipurpose, programmable logic device that reads binary instructions from a storage device called memory accepts binary data. As input and processes data according to those instructions and provides result as output. The power of 8085 is +5v and clock freqency in 3MHZ.

2. List few applications of microprocessor-based system.

It is used:

i)For measurements, display and control of current, voltage, Temperature, pressure, etc.

ii)For traffic control and industrial tool control.

iii)For speed control of machines.

3. What are the funtions of an accumalator?

The accumalator is the register associated with the ALU operations and sometimes I/O operations. It is an integral part of ALU. It holds one of data to be processed by ALU. It also temporarily stores the result of the operation performed by the ALU.

4. List the 16 – bit registers of 8085 microprossor.

Stack pointer (sp) and program counter(pc).

5. List the allowed register pairs of 8085.

B-C register pair D-C register pair H-L register pair.

6. Mention the purpose of SID and SOD lines

SID(serial input data line):

It is an input line through which the microprocessor accepts serial data.

SOD(serial output data line):

It is an output line through which the microprocessor sends output serial data.

7. What is an opcode?

The part of the instruction that specifies the operation to be performed is called the operation code or opcode.

8.What is the funtion of IO/M signal in the 8085?

It is a status signal. It is used to differentiate between memory locations and I/O operations when this signal is low (IO/M=0) it denotes the memory related operations.when this signal is high(IO/M=1)it denotes an I/O operation

9. What is an operand?

The data on which the operation is to be performed is called as an operand.

10. How many address lines in a 4096*8 EPROM CHIP?

12 Address lines.

11.Control signals used for DMA operation are

HOLD and HLDA

12.What is meant by wait state?

This state is used by slow peripheral devices.the peripheral devices can transfer the data

to or from the microprocessor by using READY input line.the microprocessor remains in the wait state as long as READY line is low.during the wait state,the contents of the address,address/data and control buses are held constant.

13.What is meant by polling?

Polling or device polling is a process which identifies the device that has interrupted the microprocessor.

14.What is meant by interrupt?

Interrupt is an external signal that causes a microprocessor to jump to a specific subroutine.

15.Explain priority interrupts of 8085?

The 8085 microprocessor has five interrupt inputs.they are TRAP,RST 7.5,RST 6.5,RST 5.5,and INTR.these interrupts have a fixed priority of interrupt service.If two or more interrupts go high at the same time,the 8085 will service them on priority basis.the TRAP has the highest priority followed by RST7.5,RST6.5,RST5.5.the priority of interrupts in 8085 is shown in the table.

Interrupts priority
TRAP 1
RST7.5 2
RST6.5 3
RST5.5 4
INTR 5

16.What is a microcomputer?

A computer that is designed using a microprocessor as its CPU is called microcomputer.

17.What is the signal classification of 8085?

All the signals of 8085 can be classified into 6 groups
1. Address bus 2. Data bus
3. Control and status signals 4. Power supply and frequency signals
5. Externally intiated signals 6. Serial I/O ports

18. What are operations performed on data in 8085?

The various operations performed are
1. Store 8-bit data 2. Perform arithmetic and logical operations
3. Test for conditions 4. Sequence the execution of instructions
5. Store data temporarily during execution in the defined R/W
6. Memory locations called the stack

19. Steps involved to fetch a byte in 8085?

i)the pc places the 16-bit memory address on the address bus
ii)the control unit sends the control signal RD to enable the mamory chip
iii)the byte from the memory location is placed on the data bus
iv)the byte is placed in the instruction decoder of the microprocessor and the task is carried out according to the instruction.

20. How many interrupts does 8085 have mention them

The 8085 has 5 interrupt signals they have INTR,RST7.5,RST6.5,RST5.5 and TRAP

21. Basic concepts in the memory interfacing?

The primary function of memory interfacing is that the microprocessor should be able to read from and write into a given register of a memory chip.to perform these operations the microprocessor should,

1. Be able to select the chip 2. Identify the register 3.Enable the appropriate buffer

22. Define instruction cycle,machine cycle and T-state?

Instruction cycle is defined as the time required completing the execution of an instruction.

Machine cycle is defined as the time required completing one operation of accessing memory,I/O or acknowledging an external request.T –cycle is defined as one subdivision of the operation performed in one clock period.

23. What is the use of ALE?

The ALE is used to latch the lower order address so that it can be available in T2 and T3 and used for identifying the memory address.during T1 the ALE goes high,the latch is transparent ie, the output changes according to the input data,so the output of the latch is the lower order address.when ALE goes low,the lower order address is latched until the next ALE.

24. How many machine cycles does 8085 have,mention them?

The 8085 have seven machine cycles they are

1. Opcode fetch
2. Memory read
3. Memory write
4. I/O read
5. I/Owrite
6. Interrupt acknowledge
7. Bus idle

25.Explain the signals HOLD,READY and SID

HOLD indicates that a peripheral such a DMA controller is requesting the use of address bus,data bus and control bus.

READY is used to delay the microprocessor read or write cycles until a slow responding peripheral is ready to accept or send data.

SID is used to accept serial data bit by bit.

26.What is the use of bidirectional buffer?

It is used to increase the driving capacityof data bus.the data bus of the microcomputer system is bidirectional,so it requires a buffer that allow the data to flow in both directions.

27.Give the register organization of 8085?

Temp reg	Temp reg
W(8)	Z(8)
Register	register

B(8) E(8)
Register Register
H(8) L(8)
Stack pointer(16)
Program counter(16)

28.What is the microcontroller and microcomputer?

Microcontroller is a device that includes microprocessor,memory and I/O signal lines on a single chip,fabricated using VLSI technology.

Microcomputer is a computer that is designed using microprocessor as its CPU.it includes microprocessor,memory and I/O.

29.Define flags?

The flags are used to reflect the data conditions in the accumulator.the 8085 flags are ssign flag,zero flag,auxillary flag,parity flag,CY-CARRY FLAG

D7	D6	D5	D4	D3	D2	D1	D0
S	Z		AC		P		CY

30. Difference between memory mapped I/O and peripheral I/O ?

MEMORY MAPPEED I/O	PERIPHERAL I/O
16-bit device address	8-bit device address
The data transfer between any general-purpose register and I/O port	The data transfer only between accumulator and I/O port
The memory map(64kb)is shared between I/O device and system memory	The I/O map is independent of the memory map,256 input device and 256 output device
More hardware is required to decode 16-bit address	Less hardware is required to decode 8-bit address

31.What is interfacing?

An interface is a shared boundary between the devices which involves sharing information.interfacing is the process of making two different systems communicate with each other.

32. What is memory mapping?

The assignment of memory address to various registers in a memory chip is called as memory mapping.

32. What is I/O mapping?

The assignment of addresss to varriousI/O devices in the memory chip is called as I/O mapping.