Course B.E(EEE)

Batch 2015

Semester V

Subject code UAEE503

subject Name Microprocessor and Microcontroller question bank

UNIT-1 Architecture of a Microprocessor

PART-A Marks: 2

1 Distinguish between microprocessor and microcontroller.

2 List the registers available in 8085 Microprocessor.

3 What is the size of stack pointer and program counter in 8085?

4 Define word and instruction.

5 How does the microprocessor communicate and transfer data with the peripherals?

6 State the purpose for which the signal 'Ready' is available in 8085?

7 What is ALU? What is the purpose of it?

8 What is program counter?

9 What is stack pointer?

10 What are the registers available in 8085 processor?

11 Define HALT state?

12 What is RIM and SIM?

13 What is SID and SOD?

14 What is opcode fetch?

15 What is timing diagram in 8085? Why it is necessary?

16 Define HOLD state?

17 What is RAM and ROM? What is volatile memory?

18 What are general purposes registers?

19 What is an interrupt?

20 What is the operating frequency and voltage of 8085 microprocessor? It works on which voltage?

PART-B UNIT-1(Marks: 6)

1 Explain the hardware interrupt structure available in 8085 microprocessor.

2 Explain HOLD instruction of 8085 µP with neat sketches

3 Explain with neat sketches timing diagram of opcode fetch of 8085 µP?

4 Explain with neat sketches about interrupt signals in 8085?

5 Define flags? And explain each of 8085 µP?

6 List the various PINs available in 8085 µP IC chip?

7 Explain about ISR and Interrupt masking?

8 Explain about instruction decoding explain?

9 Explain about the instruction for loading a program?

10 Explain about the instruction for executing a program?

11 Explain about serial data transfer?

12 Explain about parallel data transfer?

13 Explain about Bit and Byte?

14 Explain about an address bus and data bus?

15 Explain about the special purposes registers?

PART-C 10 Marks

1 With a neat block diagram explain the architecture of 8085 microprocessor.

2 Along with a neat sketch explain the each PIN of 8085microprocessor.

3 Explain read and write timing diagram with neat sketch.

4 Write an assembly language program using microprocessor 8085 for addition of two numbers.

5 Explain the different data transfer control instructions supported by 8085 processor.

6 Write an 8085 based assembly language program to divide two 8 bit data and storetheir result in the memory.

UNIT-2 Programming the 8085

PART-A Marks: 2

1 What is an instruction?

2 What is data transfer operation?

3 Define MOV instruction?

4 Define mvi instruction?

5 Define DAD instruction?

6 Define XCHG instruction?

7 What is arithmetic instruction?

8 Differentiate the instruction MOV and MVI?

9 What is control transfer?

10 What is LXI?

11 What is LHLD?

12 What is STA?

13 What is STAX?

14 List addressing modes?

15 What is immediate addressing mode?

16 What is register addressing mode?

17 Write instruction for clearing the carry register?

18 Narrate indirect addressing mode?

19 What kind of instruction CMP is?

20 What is ANA?

PART-B UNIT-2(Marks: 6)

1 Explain branch operations?

2 Explain data transfer operation?

3 Explain looping?

4 Explain about arithmetic instructions?

5 Write short notes on execution of program in 8085 microprocessor?

6 Explain about XOR logical operation?

7 Explain 16 bit data transfer?

8 Explain counting?

9 Explain programming techniques in 8085?

10 Explain additional data transfer?

11 List arithmetic instructionsexplain each with examples?

12 Explain about 16 bit data transfer to registers?

13 Explain implied addressingmode?

14 Explain about an assembly language program?

15 Explain about a register pair?

PART-C UNIT-2(Marks: 10)

1 Briefly explain about the instructions are available in 8085 processor with examples?

2 List addressing modes? And explain each with examples?

3 Briefly explain about logical instructions?

4 Draw the flow chart for 16 bit subtraction programme?

5 Briefly explain about symbols of flowchart?

6 Briefly explain about the concepts of flags?

UNIT-3 III I/O and Memory Interfacing

PART-A Marks: 2

1 What is an interfacing concept?

2 What are peripheral I/O instructions?

3 What is I/O execution?

4 Define OUT instruction?

5 What is IN instruction?

6 What is device selection?

7 What is data transfer?

8 What is input interfacing?

9 What is interfacing IOs?

10 What is a decoder?

11 What is data transfer instruction?

12 What is testing of I/O interfacing circuits?

13 What is semiconductor memory?

14 What is EPROM?

15 What is EEPROM?

16 What is address decoding?

17 What is interfacing circuit?

18 What is memory mapping?

19 What is testing in 8085microprocessor?

20 What is troubleshooting in 8085microprocessor?

PART-B UNIT-3(Marks: 6)

1 Explain SRAM read?

2 Explain about multiplexer?

3 Explain IN instruction?

4 Explain about decoder? Give an example?

5 Explain device selection

6 Explain about HLDA instruction.

7 Explain about transfer instruction?

8 Explain input interfacing

9 Explain about semiconductor memory?

10 Explain about general control signal.

11 Explain SRAM write circuitry?

12 Explain instruction register.

13 State the applications of 8051 microcontroller.

14 Distinguish between the instruction PUSH and PSW of Intel8085 and that of microcontroller 8051?

15 State the purpose for which the signal 'Ready' is available in 8085?

PART-C UNIT-3(Marks: 10)

1 Explain interfacing concepts with examples?

2 What are peripheral I/O instructions explain with examples?

3 What is I/O execution explain with examples?

4 Define OUT instruction explains with timing diagram and examples?

5 What is memory mapping explain with examples?

6 Explain the data transfer with interrupt and handshake signal.

UNIT-4 Programmable Peripheral Interfacing Chips

PART-A Marks: 2

1 What do you mean by interfacing of 8255?

2 What is mode 0 in 8255?

3 What is mode 1 in 8255?

4 What is mode 2 in 8255?

5 What is other name for Programmable peripheral input-output port

6 Port C of 8255 can function independently _____.

7 All the functions of the ports of 8255 are achieved by programming the bits of an internal

8 register called _____.

9 The data bus buffer is controlled by

10 List the input provided by the microprocessor to the read/write control logic?

11 What are device that receives or transmits data upon the execution of input or output instructions by the microprocessor?

12 What is the port thatis used for the generation of handshake lines in mode 1 or mode 2?

13 Port C upper is used for the generation of handshake lines in mode 1 or mode 2.

14 If A1=0, A0=1 then the input read cycle is performed from_____.

15 When the function, 'data bus tristated' is performed?

16 Name the pin that clears the control word register of 8255 when enabled?

17 Name the control logic which controls the data bus buffer?

18 What are the signals used in input control signal and output control signals?

19 What are the features used mode 2 in8255?

20 What are the modes of operation used in 8253?

PART-B UNIT-4(Marks: 6)

1 Explain the working principle and operation of 8255?

2 Write short notes onthe features used in 8255?

3 Write short notes onthe basic modes of operation of 8255?

4 What is the special name for 8253?

5 Give some example for interfacing design problems in 8255 PPI?

6 Explain in detail about optoisolator?

7 Write short notes onthe various programmed data transfer method?

8 Write short notes onthe use of 8051 chip?

9 Write short notes onthe different types of methods used for data transmission?

10 Write short notes onsynchronous data transfer?

11 Write short notes onasynchronous data transfer?

12 Explain in detail about BLDC diagram?

13 Write short notes onthe functional types used in control words of 8251a?

14 Explain in detail about BSR control word.

15 Write short notes on different modes in 8255?

PART-C UNIT-4(Marks: 10)

1 Explain about programmable peripheral interface 8255 with architecture diagram.

2 Explain PIN diagram of 8255 with neat sketch.

3 Explain with neat sketch about 8253 programmable timer?

4 Explain in neat sketch about operation in 8257 programmable timer?

5 Explain with neat sketch about the interfacing of 8257 direct memory access controller?

UNIT-5 PeripheralInterfacing and Applications

PART-A Marks: 2

1 Give the different types of command words used in 8259A.

2 Give the operation modes of 8259A?

3 Define scan counter?

4 What is the output modes used in 8279?

5 What are the modes used in keyboard modes?

6 What are the modes used in display modes?

7 What is the use of modem control unit in 8251?

8 List the operation modes of 8255?

9 What is a control word?

10 What is the purpose of control word written to control register in 8255?

11 What is an USART?

12 What is the use of 8251 chip?

13 The 8279 is a programmable ---------- interface.

14 List the major components of the Keyboard interface.

15 List the major components of the Display interface.

16 What is TXD?

17 Define HRQ?

18 What are the internal devices of a typical DAC?

UNIT-5(Marks: 6)

PART-B

1 Explain the operating modes of 8255 PPI including handshaking operation.

2 Explain the operation of three 8259 PIC in cascaded mode.

3 Write short notes on procedure?

4 Write A program to perform multiplication of 2 nos using 8051

5 Write about CALL statement in 8051

6 Write about the jump statement

7 Write program to load accumulator ,DPH,&DPL using 8051

8 Write short notes onsubroutine?

9 Write short notes onfunction of SWAP?

10 Write short notes onAssembly Language Program?

11 Write short notes ondebugging?

12 List out the arithmetic operations of 8051 microcontroller

13 Explain the JUMP instructions present in 8051 microcontroller with a mnemonic code?

14 With a neat circuit diagram explain how a 4 _ 4 keypad is interfaced with 8051 microcontroller.

15 Draw the schematic for interfacing a stepper motor with 8051 microcontroller

PART-C

1 Explain with neat sketch about USART 8251.

2 Programmable Keyboard/Display Interface 8279 - explain with neat sketch in detail.

3 Priority Interrupt Controller 8259-explain in detail with architecture.

4 Explain with necessary examples about DAC.

5 Explain with necessary examples about ADC.

6 Explain in detail about the matrix keyboard.