V - SEM/ ELECT/ 2019 (S) [31-05-2019, Back]

MICROPROCESSOR AND ITS INTERFACING

Sub Code - ETT 521

Full Marks: 70 Time: 3 hours

Answer any **FIVE** Questions

The figures in the right-hand margin indicate marks

1. (*a*) What is microprocessor ? 2

(*b*) Describe evolution of microprocessor. 5

(*c*) Describe bus structure of 8085 microprocessor. 7

2. (*a*) What are different interrupts of 8085 microprocessor ? 2

(*b*) Describe PSW. 5

(*c*) Draw pin diagram of 8085 microprocessor and describe function of each pin. 7

3. (*a*) What is hand assembler and cross assembler ? 2

(*b*) Write a program to find largest data in an array using instructions of 8085. 5

(*c*) Explain stack and subroutine. 7

4. (*a*) What is secondary memory ? 2

(*b*) Describe different addressing memory location. 5

(*c*) Describe briefly internal organization of RAM and ROM. 7

5. (*a*) What is T state ? 2

(*b*) Draw timing diagram of MOV C, A and explain it. 5

(*c*) What is addressing mode ? Describe different type of addressing modes with examples. 7

6. (*a*) Explain control word of 8255. 2

(*b*) Describe operation of ADC 0805. 5

(*c*) Describe functional block diagram of 8255 with a neat block diagram. 7

7. (*a*) Write down the specification of DAC. 2

(*b*) Describe interrupt modes of 8259. 5

(*c*) Write a program for traffic light control using 8085 instruction sets and interfacing kits. 7

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Collected By:-

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V - SEM/ELECT/ 2018 (W) [DEC, REG]

MICROPROCESSOR AND ITS INTERFACING

Sub Code - ETT 521

Full Marks: 70 Time: 3 hours

Answer any **FIVE** Questions

The figures in the right-hand margin indicate marks

1)

(a) Define a Microcomputer and mention at least two applications of it. [2]

(b) Explain the generation of clock pulse and reset circuit of Intel 8085A microprocessor. [5]

(c) Draw the functional block diagram of Intel 8251 USART and explain each block. [7]

2)

(a) What are the different interrupts present in Intel 8085A microprocessor? Write in order of their priority. [2]

(b) Discuss different types of addressing modes of Intel 8085 microprocessor with example. [5]

(c) With necessary interfacing diagram and software explain the operation of a simple traffic light controller which is controlled by Intel 8085A microprocessor. [7]

3)

(a) What is a port? How many ports are there in Intel 8255 PPI? [2]

(b) Two 8-bit datas 75H and 25H are present in the memory location 9500H and 9501H. Write an assembly language program for Intel 8085A microprocessor to find the smaller number and save it in the memory location 9550H. [5]

(c) What is a timing diagram? Draw the timing diagram for Opcode fetch operation of Intel 8085A microprocessor and explain in brief. [7]

4)

(a) What are the functions of ALE and IO/$\overline{M}$ signals of the Intel 8085A microprocessor? [2]

(b) What are different types of memory which are usually used with digital computer? Give their important features in brief. [5]

(c) Draw the interfacing diagram of ADC 0808 with Intel 8085A microprocessor and develop the necessary assembly language program for its operation. [7]

5)

(a) Define Opcode and operand. [2]

(b) What are the different status flags present in Intel 8085A microprocessor? Explain the role of each flags. [5]

(c) Draw the pin configuration of Intel 8259 PIC and explain each pin. [7]

6)

(a) How many special purpose registers present in Intel 8085A microprocessor. Enlist them. [2]

(b) Define the following instructions in connection with Intel 8085A microprocessor: -
(i) MVI r, data (**ii**) LDA addr (**iii**) RAL (**iv**) JMP addr (Label) (**v**) XCGH [5]

(c) Write an assembly language program for Intel 8085A microprocessor to add ten (10) eight-bit numbers whose sum is also eight bit and save the result in memory location 6500H. [7]

7)

(a) What is subroutine? What instruction is used to call a subroutine? [2]

(b) What is microprogramming? Give examples of (i) CPUS which used microprogramming (ii) and the CPUS which do not use microprogramming . [5]

(c) Draw the pin diagram of Intel 8085A microprocessor and explain function of each pins. [7]

V - SEM/ ELECT/ 2018 (S) [11-05-2018, Back]

MICROPROCESSOR AND ITS INTERFACING

Sub Code - ETT 521

Full Marks: 70

Time: 3 hours

Answer any **FIVE** Questions

The figures in the right-hand margin indicate marks

1. **(a)** What is Microprocessor? **[2]**
(b) Explain briefly the evolution of Microprocessor. **[5]**
(c) Explain register organization of 8085 Microprocessor. **[7]**

2. **(a)** What are different interrupts of 8085 Microprocessor? **[2]**
(b) What is addressing mode? Explain different addressing mode with examples. **[5]**
(c) Draw the timing diagram of MOV A, B. **[7]**

3. **(a)** What is T State? **[2]**
(b) What is Stack, Stack Top and Stack Pointer? Why it is needed? **[5]**
(c) Write an Assembly Language Program, to sum two 8-bit numbers and result is 16-bit. **[7]**

4. **(a)** What is Modular programming? **[2]**
(b) Describe Internal Organization of RAM and ROM. **[5]**
(c) What are different ways of address space partition? **[7]**

5. **(a)** What is the function of XCHF and RAL Instruction? **[2]**
(b) Explain status flag of 8085 Microprocessor. **[5]**
(c) Draw and describe pin diagram of 8085 Microprocessor. **[7]**

6. **(a)** What is USART? **[2]**
(b) Describe different operating modes of 8255. **[5]**
(c) Draw and describe the functional block diagram of 8259. **[7]**

7. **(a)** What are the different specifications of DAC? **[2]**
(b) Explain the principle operation of DAC 0808 with neat diagram. **[5]**
(c) Write a program to design Traffic Light Controller. **[7]**

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Collected By:-

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V - SEM/ELECT/ 2017 (W) [11-12-17, REG]

MICROPROCESSOR AND ITS INTERFACING

Sub Code - ETT 521

Full Marks: 70

Time: 3 hours

Answer any **FIVE** Questions

The figures in the right-hand margin indicate marks

1) [2 +5 + 7]

a) What is BUS? What are different buses in microprocessor?

b) What is the difference between SPR and GPR?

c) Draw and explain the pin diagram of 8085 microprocessor?

2) [2 +5 + 7]

a) Write the flag register of 8085.

b) Explain about the evolution of microprocessor.

c) Explain briefly different addressing modes of 8085 with example.

3) [2 +5 + 7]

a) What do you mean by DMA technique?

b) Draw the timing diagram of instruction MVI A, 90H (Assume Memory locations 8051 & 8052).

c) Explain the CALL instruction.

4) [2 +5 + 7]

a) Define an instruction cycle.

b) What is time delay? Calculate the time delay for two register.

c) Explain the functional block diagram of 8259.

5) [2 +5 + 7]

a) Give one example of 1-byte, 2-byte and 3-byte instruction.

b) What is interrupt? What are types of interrupt in 8085? Explain each with example.

c) Write an assembly language programme to find addition of two 8-bit nos whose sum is 16-bit

6) [2 +5 + 7]

a) Differentiate between Hand assembler and Cross assembler.

b) Describe the operational mode of Intel 8253.

c) Design a Traffic Light Controller with a neat interfacing diagram with 8085 instruction.

7) [2 +5 + 7]

a) What is the difference between instruction CALL and JUMP?

b) Explain the principle of operation of ADC 0801 with example.

c) Draw the functional block diagram of 8255 and explain each block.

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MICROPROCESSOR AND ITS INTERFACING

Sub Code - ETT 521

Full Marks: 70

Time: 3 hours

Answer any **FIVE** Questions

The figures in the right-hand margin indicate marks

1. (a) What is microprocessor? [2
(b) What is the difference between SPR and GPR? [5
(c) With a neat block diagram explain the architecture of 8085 Microprocessor. [7

2. (a) What is Flag and list the Flags of 8085? [2
(b) Explain about Evaluation of microprocessor. [5
(c) What is addressing modes? Describe about different type of addressing modes. [7

3. (a) What is an instruction cycle? [2
(b) Draw the Timing diagram of op code fetch. [5
(c) Explain the CALL Instruction. [7

4. (a) Why interfacing is required in microprocessor? [2
(b) Distinguish between modular and structure programming. [5
(c) Explain the functional Block Diagram of 8259. [7

5. (a) What is the T – states? [2
(b) Explain the internal organization of RAM and ROM. [5
(c) Design a Traffic Light Controller using both hardware and software. [7

6. (a) What are the different modes of operation of 8253 A? [2
(b) What are the advantages of Assembly Language and High Level Language? [5
(c) Explain about application of DAC for Speed Control of D.C. Motor. [7

7. (a) What is an Interrupt? [2
(b) Give a functional block diagram of 8255 (PPI). [5
(c) Explain the working of Digital Clock with a neat block diagram. [7

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V - SEM/ELECT/ 2016 (W) <REG>

MICROPROCESSOR AND ITS INTERFACING

Sub Code - ETT 521

Full Marks: 70

Time: 3 hours

Answer any **FIVE** Questions

The figures in the right-hand margin indicate marks

1. (a) Give two examples each of 2 byte and 3 byte instruction. [2
(b) What is bus? With neat diagram explain bus structure of 8085 microprocessor. [5
(c) Draw the pin diagram of 8085 microprocessor and explain the function of each pin. [7

2. (a) What is the function of stack pointer and program counter? [2
(b) With neat sketch the each bit position of Flag resistor of Intel 8085. [5
(c) Explain the different addressing modes of 8085 microprocessor with examples. [7

3. (a) What do you mean by self assembler and cross assembler? [2
(b) Draw the timing diagram of instruction MOV B, M of 8085 microprocessor. [5
(c) With neat block diagram explain the architecture of 8085 microprocessor and explain function of each block. [7

4. (a) What do you mean by DMA techniques? [2
(b) Write an ALP to sum of two 8-bit nos whose sum is 16 bit using 8085 instruction sets. [5
(c) Draw the functional block diagram of Intel 8255 & explain the function of each block. [7

5. (a) What do you mean by INR M Instruction? Write its number of machine cycles. [2
(b) What is time delay? Calculate the maximum time delay for two resistors. [5
(c) Design a traffic light controller program with a neat block diagram. [7

6. (a) What is the difference between the instruction CALL and JUMP? [2
(b) Explain with block diagram, the working of ADC 0800. [5
(c) Draw the functional block diagram of Intel 8259 & explain the function of each block. [7

7. (a) Name different types of Hardware interrupts in the ascending order of their priority. [2
(b) Write the difference between SPR and GPR. [5
(c) Write an ALP to find out subtraction of two 8 – bit data using 8085 instruction. [7

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V - SEM/ELECT/ 2015 (W), <REG>

MICROPROCESSOR AND ITS INTERFACING

Sub Code - ETT 521

Full Marks: 70

Time: 3 hours

Answer any **FIVE** Questions

The figures in the right-hand margin indicate marks

1. (a) What is multiprocessor? Give an example. [2
(b) Define the Buses in 8085 microprocessor. Why they are used? [5
(c) Briefly explain the architecture of 8085 microprocessor. [7

2. (a) What is machine cycle? [2
(b) Draw the timing diagram of Memory Read operation. [5
(c) Explain in brief about the register in 8085. [7

3. (a) What is a volatile Memory and non-volatile memory? Give example of each. [2
(b) Define Assembly language, High level language, Assembler & its types. State their uses. [5
(c) Describe Addressing Modes of 8085 with examples. [7

4. (a) Which instruction are used in Stack Pointer for putting a data and extracting a data? [2
(b) Write a short note on Primary Memory and Secondary Memory. [5
(c) Write a program for addition of two 8 bit number and sum is 16 bit. Using 8085 instruction Sets and store the result in 8085 memory location. [7

5. (a) Define Primary and Secondary memory. [2
(b) Define Program Status Word of Intel 8085. Explain each Flag. [5
(c) Define the functional block diagram of 8085. [7

6. (a) Differentiate Hand Assembler and cross assembler. [2
(b) Explain briefly the Sub-routine. [5
(c) Write a program to find the Largest number in a data array. Using 8085 MP instruction. [7

7. (a) Name the interrupts in 8085. [2
(b) Draw the pin diagram of 8085 and explain the function of each pin. [5
(c) Describe the operation of DAC 0808 with interfacing to 8085 microprocessor. [7

--- ALL THE BEST --- ALL THE BEST ---

Collected By:-

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V - SEM/ELECT/ 2014 (W), <REG>

MICROPROCESSOR AND ITS INTERFACING

Sub Code - ETT 521

Full Marks: 70

Time: 3 hours

Answer any **FIVE** Questions

The figures in the right-hand margin indicate marks

1. (a) Why interfacing is needed for I/C device? [2
(b) What is evaluation of microprocessor & write any two application of microprocessor. [6
(c) Draw the pin diagram of 8085A microprocessor and explain the function of each pin. [8

2. (a) What are the interrupts of 8085? [2
(b) Explain Address bus, Data bus and Control bus. [6
(c) Explain the different addressing modes of 8085 microprocessor with examples. [8

3. (a) Define mnemonics. [2
(b) Draw the timing diagram of MVI A, 15H instruction of 8085 microprocessor. [6
(c) Explain Arithmetic Group instructions with examples. [8

4. (a) What is the function of XCHG instruction? [2
(b) Explain Stack and Sub-routine programming instructions with examples. [6
(c) Write a delay routine to produce a time delay of 0.8 sec in 8085 processor based system Whose clock frequency is 3 MHz. [8

5. (a) Give one examples of l-byte, 2-byte and 3-byte instructions. [2
(b) What is RAM and explain chip select generation of memory. [6
(c) Draw the functional block diagram of Intel 8255 & explain the function of each block. [8

6. (a) What is I/O Port addressing [2
(b) Describe the operational modes of Timer chip Intel 8253. [6
(c) Explain interrupts modes using 8259. [8

7. (a) What is mean by 8 bit microprocessor? [2
(b) Explain application of DAC for Speed Control of DC Motor using 8085 instructions. [6
(c) Design a Digital Clock using 8085 microprocessor. [8

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V - SEM/ELECT/ 2013(W), REG

MICROPROCESSOR AND ITS INTERFACING

Sub Code - ETT 521

Full Marks: 70

Time: 3 hours

Answer any five questions

The figures in the right-hand margin indicate marks

1. (a) What is a Microprocessor? [2

(b) What is the difference between SPR and GPR? [6

(c) With a neat block diagram explain the Architecture of 8085 microprocessor. [8

2. (a) What is the need for Addressing data [2

(b) Explain the different Addressing modes of 8085 with example [6

(c) What are the functions of following instructions?

(i) SBI, 8 bit data **(ii)** CMP M **(iii)** RLC **(iv)** LHLD [8

3. (a) Write the Flag register of 8085. [2

(b) Draw the timing diagram of MVI R, 8 bit data instruction with neat sketch. [6

(c) Explain the CALL instruction. [8

4. (a) What is an instruction cycle? [2

(b) Define Stack, Stack Top and Stack Pointer. Why it is essential? [6

(c) Differentiate between Structure and Modular programming. [8

5. (a) What is Interfacing? [2

(b) State and explain the ways in which address space can be partitioned. [6

(c) Explain the functional block diagram of 8259. [8

6. (a) What are the different modes of operation of 8253? [2

(b) Design a Traffic Light Controller with a neat block diagram with 8085 instructions. [8

(c) Write an assembly language program to subtract two numbers of 8 bit data stored in the memory location 2500_H and 2501_H and store the result in 2000_H. [6

7. (a) Give any two specification of D/ A converter. [2

(b) Explain principle of operation of ADC 0801 interfacing with example. [6

(c) Explain the functional block diagram of 8255. [8

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V - SEM/ELECT/ 2012(W), REG

MICROPROCESSOR AND ITS INTERFACING

Sub Code - ETT 521

Full Marks: 70

Time: 3 hours

Answer any five questions

The figures in the right-hand margin indicate marks

1. (a) What is BUS and what are the different buses in Microprocessor? [2
(b) Explain briefly the evolution of Microprocessor. [6
(c) Explain the architecture of Intel 8085 Microprocessor with a neat block diagram. [8

2. (a) What are different types of data transfer operations possible? [2
(b) Explain briefly different addressing modes of 8085 with examples. [6
(c) Draw the timing diagram of instruction MOV B, A. Let program memory location 4080H. [8

3. (a) What is function of LDAX and STAX instruction? [2
(b) Draw the flowchart and write down the program to add two numbers 16H and D2H. Store the result in memory location 4080H using 8085 Microprocessor instruction. [6
(c) Set up a delay of 10 ms. Assume 3MHz to be the Microprocessor clock frequency. [8

4. (a) What is Stack and why it is used in a program? [2
(b) Explain the CALL instruction. [6
(c) What are the advantage of Assembly Language and High Level Language? [8

5. (a) What are the ways in which the Address Space can be partitioned? [2
(b) Explain the internal organization of RAM and ROM. [6
(c) Design a Traffic light controller using both hardware and software. [8

6. (a) Draw the Control Word format for I/O mode operation of PPI 8255. [2
(b) Explain the functional block diagram of 8255. [6
(c) Write a program for application of DAC for Speed Control of DC motor. [8

7. (a) What is USART and why it is used? [2
(b) Explain the functional block diagram of Intel 8251 with a neat diagram. [8
(c) Explain principle of operation of ADC 0801 with example. [6

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