** P.S.R. ENGINEERING COLLEGE SIVAKASI-626 140**

 (An Autonomous Institution, Affiliated to Anna University, Chennai)

**QUESTION BAMK**

|  |  |  |  |
| --- | --- | --- | --- |
| Programme: | **B.E.** | Branch | Computer Science and Engineering |
| Acad. Year: | 2018-2019 | Year/Sem/Sec | II/III |
| Course Code: | **161CS33** | Course Name | **Microprocessors and Microcontrollers** |
| Course Tutor(s): |  Section – II: Ms.K.JeyaPradha, AP/ECE |

 **UNIT I**

 **8085 MICROPROCESSOR**

 **2 MARKS**

|  |  |
| --- | --- |
| 1. What is microprocessor and its applications?
 | 2 |
|  2 What is the Function of ALE in 8085 microprocessor? | 2 |
| 1. Show the 8085 flag register format.
 | 2 |
|  4 What is the general purpose registers in 8085? | 2 |
|  5 Define immediate addressing modes in 8085? | 2 |
| 1. Give them any 5 comments with example for data transfer instruction set in 8085
 | 2 |
| 1. What is the function of PCHL in 8085?
 | 2 |
| 1. What is the function of XTHL in 8085?
 | 2 |
| 1. Write down the program of 16-bit addition for 8085?
 | 2 |
| 1. Write down the program of 8-bit multiplication for 8085?
 | 2 |
|  11 What is 8085A microprocessor? | 2 |
|  12 Identify the addressing modes of the following 8085 instruction.1. SHLD 2500H
2. DCR R
 | 2 |

**16-Marks**

|  |  |
| --- | --- |
| 1. Describe the addressing mode in 8085?
 | 12 |
| 1. Develop the program for 16 bit addition and subtraction using 8085?
 | 8 |
| 1. Discuss with the functional block diagram of 8085?
 | 16 |
| 1. Develop the program to multiply two 8-bit number using 8085, which is sorted in the memory location 4500h and 4501h. Store the product in the subsequent memory locations?
 | 8 |
| 1. Develop the program to find the largest 8-bit number among the five numbers using 8085, which are stored in the memory locations 4200h to 4204h.
 | 8 |
| 1. Discuss the different groups of instruction set of 8085 with suitable examples.
 | 16 |

|  |  |
| --- | --- |
| 1. Explain the following 8085 instructions with an example JP, JPO, CM, RPE, DAA, XCHG, SPHL and PCHL.
 | 8 |
| 1. List and explain the functions of flags in 8085 processor.
 | 8 |
| 1. Develop the Programming for 16-bit Multiplication and Division.
 | 8 |
| 1. Discuss with the functional block diagram of 8085A?
 | 16 |
| 1. Describe the addressing mode in 8085A?
 | 16 |

**UNIT-II PERIPHERALS INTERFACING**

**2-Marks**

|  |  |
| --- | --- |
| 1. Define the Priority Resolver.
 | 2 |
| 1. Classify the Basic modes of Data Transmission in Serial Communication.
 | 2 |
| 1. List out the application of stepper motor?
 | 2 |
| 1. How to change the direction of the stepper motor from clockwise direction to anti clockwise direction using a program segment?
 | 2 |
| 1. What is the function of 2-key lock out and N- key roll over?
 | 2 |
| 1. Sketch the diagram of memory mapped I/O?
 | 2 |
| 1. What are the modes of operation of 8255?
 | 2 |
| 1. What the difference between parallel and serial communication interface?
 | 2 |
| 1. What is interrupt controller?
 | 2 |
| 1. What is DMA controller?
 | 2 |
| 1. What is mean by IMR, IRR?
 | 2 |
| 1. What are the modes of keyboard section?
 | 2 |

**16 MARKS**

|  |  |
| --- | --- |
| 1. Summarize the Serial and Parallel communication interface.
 | 16 |
| 1. Explain the Keyboard and display controller.
 | 16 |
| 1. Function of the Memory interfacing and I/O interfacing with 8085.
 | 16 |
| 1. Explain in detail about Interrupt controller in 8085.
 | 8 |
| 1. Explain the DMA based data transfer using 8237 DMA controller.
 | 16 |
| 1. Discuss with the operation and working function of Stepper motor.
 | 8 |
| 1. List out the application of stepper motor.
 | 4 |
| 1. Develop the program for stepper motor using 8085.
 | 8 |
| 1. Explain the four modes of keyboard operation in 8279.
 | 8 |
| 1. Develop the program for keyboard and display interfacing using 8085.
 | 16 |

**UNIT-III -8086 MICROPROCESSOR**

**2-Marks**

|  |  |
| --- | --- |
| 1. What is 8086 microprocessor?
 | 2 |
| 1. What is the difference between minimum mode and maximum mode?
 | 2 |
| 1. Show the flag register format of 8086?
 | 2 |
| 1. List the segment registers of 8086.
 | 2 |
| 1. Identify the addressing modes involved in the following 8086 instructions: MOV AX, 0005H; MOV AX, 50H [BX] [SI].
 | 2 |
| 1. What are the types of addressing modes?
 | 2 |
| 1. What is the function of ALE in 8086?
 | 2 |
| 1. What is the difference between HOLD and HLDA pin in 8086?
 | 2 |
| 1. What are the operand types in 8086?
 | 2 |
| 1. What is the use of base pointer register?
 | 2 |
| 1. What are the data registers in 8086?
 | 2 |
| 1. What the function of string addressing modes with suitable examples?
 | 2 |

**16-Marks**

|  |  |
| --- | --- |
| 1. Explain the function of Intel 8086 microprocessor?
 | 8 |
| 1. Design the internal Architecture of 8086 Microprocessor?
 | 16 |
| 1. Explain in detail about pin description of 8086 Microprocessor?
 | 8 |
| 1. Discuss the different groups of instruction set of 8086 with suitable examples.
 | 16 |
| 1. Write an 8086 Assembly language program to multiply two 8-bit number, which is sorted in the memory location 4500h and 4501h. Store the product in the subsequent memory locations?
 | 8 |
| 1. Elaborate the various addressing modes of 8086 processor with suitable examples.
 | 16 |
| 1. Discuss in detail about Memory Segmentation in 8086.
 | 8 |
| 1. Summarize the functions of flags in 8086 processor
 | 8 |
| 1. Develop the program of 16bit multiplication and division using 8086, which is sorted in the memory location 4500h and 4501h. Store the product in the subsequent memory locations?
 | 8 |

**UNIT-IV 8051 MICROCONTROLLERS**

**2-Marks**

|  |  |
| --- | --- |
| 1. What is microcontroller?
 | 2 |
| 1. Compare between microprocessor and microcontroller?
 | 2 |
| 1. List the addressing modes in 8051?
 | 2 |
| 1. List the features of 8051 microcontroller?
 | 2 |
| 1. What is the function of program counter and stack pointer in 8051?
 | 2 |
| 1. What is the function of DPTR?
 | 2 |
| 1. What is the function of on-chip oscillator?
 | 2 |
| 1. What is the function of $\overbar{PSEN}$ pin in 8051?
 | 2 |
| 1. List out the function of port 3 pins in 8051.
 | 2 |
| 1. What is the function of base register plus index register indirect addressing?
 | 2 |
| 1. Write the instruction of unconditional calls.
 | 2 |
| 1. Write about the jump statement?
 | 2 |
| 1. What are the advantages of 8051 microcontroller in washing machine control?
 | 2 |
| 1. What is the program status word of 8051, the bits RS0 and RS1 are 1 and, then which register bank is selected for operation?
 | 2 |

**16-Marks**

|  |  |
| --- | --- |
| 1. Explain the functions of various signals in 8051?
 | 8 |
| 1. Construct the internal Architecture of 8051 Microcontroller?
 | 16 |
| 1. Elaborate the various addressing modes of 8051microcontroller with suitable examples.
 | 8 |
| 1. Summarize the functions of flags in 8051 microcontroller.
 | 8 |
| 1. Discuss the different groups of instruction set of 8051 with suitable examples.
 | 16 |
| 1. Develop the program for multiply two 8-bit numbers using 8051, which is sorted in the memory location 4500h and 4501h. Store the product in the subsequent memory locations?
 | 8 |
| 1. Develop the 8051 assembly language program to find the largest 8-bit number among the five numbers which are stored in the memory locations 4200h to 4204h.
 | 8 |
| 1. Develop the program for 16bit multiplication and division using 8051, which is sorted in the memory location 4500h and 4501h. Store the product in the subsequent memory locations?
 | 8 |

**UNIT-VSPECIAL FEATURES OF 8051**

**2-Marks**

|  |  |
| --- | --- |
| 1. What is interrupt?
 | 2 |
| 1. What is the function of watch dog timer?
 | 2 |
| 1. Define baud rate in 8051.
 | 2 |
| 1. What is the function of SBUF?
 | 2 |
| 1. What are the interrupt sources in 8051?
 | 2 |
| 1. Define response time?
 | 2 |
| 1. What is the difference between IPR and IER?
 | 2 |
| 1. What is timer function in 8051?
 | 2 |
| 1. What is the counter in 8051?
 | 2 |
| 1. What is the use of UART?
 | 2 |
| 1. Write any two applications of ADC and DAC?
 | 2 |
| 1. What is program memory in 8051?
 | 2 |
| 1. What is data memory in 8051?
 | 2 |

**16-Marks**

|  |  |
| --- | --- |
| 1. Explain with a help of a neat block diagram how DAC and ADC is interfaced with 8051 microcontroller.
 | 16 |
| 1. Describe the various Interrupts in 8051Microcontroller.
 | 8 |
| 1. Describe the special function registers for 8051.
 | 16 |
| 1. Demonstrate the function and modes of timer/ counter.
 | 16 |
| 1. Explain in detail about memory organization.
 | 8 |
| 1. Elaborate the function of I/O ports.
 | 8 |
| 1. Interfacing of LCD and keyboard in 8051.
 | 8 |
| 1. Estimate the function of serial data I/O.
 | 8 |

Prepared By

K.JEYAPRADHA AP/ECE