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

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

**QUESTION BAMK**

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| 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**

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| 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**

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| 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 |

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| 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**

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| 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**

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| 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**

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| 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**

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| 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**

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| 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 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**

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| 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**

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| 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**

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| 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

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