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Question Paper Code: 44423

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Fourth Semester

Computer Science and Engineering

14UEC423 - MICROPROCESSORS AND MICROCONTROLLERS

(Common to Information Technology)

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

- SUB B* instruction in 8085 microprocessor
 - resets the carry and sign flag
 - sets the zero and parity flag
 - sets the zero and carry flag
 - can modify all flags according to result
- Vector address of interrupt RST 7.5 is
 - 0.002CH
 - 0.002CH
 - 0.003CH
 - none of these
- Size of 8086 flag register is _____ bit.
 - 8
 - 16
 - 32
 - 64
- Which of the following instruction is a logical instruction?
 - DIV AB
 - TEST
 - CALL
 - AAM
- The 8087 coprocessor operate in _____ with an 8086 processor and with the same instruction_____
 - series, byte
 - parallel, byte
 - series, bits
 - parallel, bits

6. The synchronization between processor and coprocessor can be done by _____ connection and the _____ instruction.
- (a) RQ/GT₀ and RQ/GT₁, FWAIT (b) INT and NMI, WAIT
(c) BUSY and TEST, FWAIT (d) S₀ and QS₀, WAIT
7. In 8279, the keyboard entries are debounced and stored in an _____ that is further accessed by the CPU to read the key codes.
- (a) 8 -bit FIFO (b) 8 - byte FIFO
(c) 16 byte FIFO (d) 16 bit FIFO
8. The 8279 is a
- (a) DMA controller (b) programmable keyboard display interface
(c) counter (d) interrupt controller
9. Which of the following registers can be used as two individual 8-bit registers?
- (a) DPTR (b) PC (c) SBUF (d) PSW
10. The 8051 has _____ 16-bit Timer/Counter registers.
- (a) 5 (b) 4 (c) 3 (d) 2

PART - B (5 x 2 = 10 Marks)

11. Compare single byte, two byte and three byte instructions.
12. List the various segment registers in 8086.
13. Compare closely coupled and loosely coupled configurations of co-processor.
14. Outline the importance of DMA.
15. Draw the format of PSW of 8051.

PART - C (5 x 16 = 80 Marks)

16. (a) Describe the Architecture of 8085 with neat explanation. (16)
- Or
- (b) Write an ALP to convert binary to decimal number using 8085. (16)
17. (a) (i) Illustrate the each pins of 8086 with neat explanation. (8)
(ii) Outline about the MACRO with example. (8)

Or

- (b) Explain in detail about Interrupt Service Routine (ISR) of 8086 processor. (16)
18. (a) List the various types of coprocessor configurations? Explain them in detail. (16)

Or

- (b) Explain the architecture of 8089 I/O processor with a diagram. (16)
19. (a) Apply 8085 microprocessor for interfacing stepper motor control system and write an assembly language program for speed control. (16)

Or

- (b) Show the interface circuit of 8085 with input output devices and explain. (16)
20. (a) Show the block diagram of 8051 microcontroller and explain the functions in detail. (16)

Or

- (b) Explain the interfacing of ADC and DAC with 8051 microcontroller. (16)
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