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**Question Paper Code: 41403**

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

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/GT<sub>0</sub> and RQ/GT<sub>1</sub>, FWAIT (b) INT and NMI, WAIT  
(c) BUSY and TEST, FWAIT (d) S<sub>0</sub> and QS<sub>0</sub>, WAIT
7. How many address lines are required to access 1 MB RAM using microprocessor?
- (a) 16 (b) 8 (c) 20 (d) 12
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. What will be the output after execution of the following instruction?
- MOV A, #55  
ANL A, #67
- (a) 54 (b) 45 (c) 55 (d) 67

PART - B (5 x 2 = 10 Marks)

11. Classify the signals of 8085.
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) Explain the addressing modes of 8086 with examples. (16)
- 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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