YENISI - I : SUMMER - 2016

Subject : Computer Organization and Architecture

Day : Friday
Date : 03/06/2016

S.D.E. 30387

Time : 10.00 A.M. TO 1.00 P.M.
Max Marks : 80 Total Pages : 1

N.B.:

1) Attempt **ANY FIVE** questions from section-I and attempt **ANY TWO** questions from section-II.
2) Figures to the **RIGHT** indicate full marks.
3) Answers to both the sections must be written in **SAME** answer book.

SECTION-I

Q.1 What are the different types of flip flops? Explain any two different types of flip – flops with working and truth table. **(10)**

Q.2 Explain the IEEE- 754 standard for the representation of floating- point numbers. **(10)**

Q.3 Explain the architecture of Intel 8085 microprocessor in brief. **(10)**

Q.4 **a)** Differentiate between hardwired control and micro programmed control unit. **(05)**

b) Differentiate between CISC and RISC architecture. **(05)**

Q.5 Explain various units in the memory hierarchy with suitable block diagram. Compare the performance of the unit's w.r.t speed, capacity, reliability, bit density and cost. **(10)**

Q.6 What are the different types of registers found in the microprocessor architecture? Explain this w.r.t suitable microprocessor of your choice. **(10)**

Q.7 Write short notes on**(ANY TWO)** **(10)**

a) Multiplexers
b) Division Algorithm
c) Register Transfer

SECTION-II

Q.8 **a)** Convert the following floating-point numbers into single and double precision IEEE-754 formats: **(08)**

i) 35.869
ii) 0.003957

b) Write an assembly language program to display A to Z characters on monitor. **(07)**

Q.9 Explain the following 8085 instructions with suitable examples: **(15)**
1) RLC 2) DAA 3) PCHL 4) JPO 5) ADC

Q.10 Simplify following using K- map. **(15)**

i) $F(A, B, C, D) = \sum (3, 7, 11, 13, 14, 15)$
ii) $F(A, B, C, D) = \sum (0, 1, 2, 4, 5, 7, 11, 15)$
iii) $F(A, B, C, D) = \sum (0, 2, 4, 5, 6, 7, 8, 10, 13, 15)$

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