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CS-64

BACHELOR OF COMPUTER APPLICATIONS (BCA) (Pre-Revised)

Term-End Examination

01396

June, 2016

CS-64 : INTRODUCTION TO COMPUTER ORGANISATION

Time : 3 hours *Maximum Marks : 75*

Note : *Question number 1 is* ***compulsory****. Attempt any* ***three*** *questions from the rest.*

1. (a) Perform the following conversions : *10*

(i) $(82{\cdot}5)_{10}$ to Binary Number

(ii) $(1011101)_2$ to Octal Number

(iii) $(F4.2A)_{16}$ to Decimal Number

(iv) $(A2B.C)_{16}$ to Binary Number

(v) $(63)_{10}$ to Hexadecimal Number

(b) Describe the flow of control in a subroutine call with the help of a diagram. *6*

(c) Perform the following operations as stated : *4*

(i) Add 35 and -40 in binary using 7-bit register.

(ii) Add 85 and 70 in 8-bit register in signed 2's complement notation.

(d) Write a program in 8086 Assembly language that adds the values of binary numbers in an array. 7

(e) Describe the importance of the Accumulator register. 3

2. (a) What are Interrupts ? Discuss their various types. Describe the execution of Instruction Cycle with Interrupt Cycle with the help of a diagram. 8

(b) What is a Control Unit ? Depict the structure of a Microprogrammed Control Unit with the help of a diagram and explain its working. 7

3. (a) Simplify the given Boolean function

$F = \overline{\overline{(A + \overline{B})} + \overline{B}}$ and draw the logic diagram of the simplified function. 6

(b) Explain the following addressing modes in the context of 8086 microprocessor with the help of examples : 9

(i) Register Addressing

(ii) Immediate Addressing

(iii) Indexed Indirect Addressing

4. (a) Explain the functioning of 3-bit ripple counter with the help of a diagram. 7

(b) Describe the structure and working of any two high speed memories. 8

5. Explain any ***three*** of the following with the help of suitable diagrams : $3 \times 5 = 15$

(a) DMA

(b) R-S flip-flop

(c) RAID

(d) DRAM