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CS-64

01827

BACHELOR IN COMPUTER APPLICATIONS

Term-End Examination

June, 2012

CS-64 : INTRODUCTION TO COMPUTER ORGANISATION

Time : 3 Hours *Maximum Marks : 75*

Note : *Question No. **1** is **compulsory.***
*Attempt any **three** questions from the rest.*

1. (a) Describe, with the help of a diagram, the architecture of a Von Neumann machine. **5**

(b) What are Flip - flops ? Describe the R-S flip -flop and J-K flip - flop, with the help of their logic diagrams. **8**

(c) What are micro-operations ? Explain the four types of micro-operations. **7**

(d) Explain the syntax and functionality of the following Assembly instructions for 8086 microprocessor : **10**

(i) ADD (ii) MOV

(iii) CMP (iv) SAR

(v) LOOP

2. (a) What is a Multiplexer ? Draw the logic diagram for 8×1 MUX. 6

(b) What is the importance of having memory hierarchy ? Explain with the help of diagram. 4

(c) CPU Registers can be grouped into five groups according to their functionality. Describe them 5

3. (a) Do the following conversions : 10

(i) $(154.25)_{10} \rightarrow (?)_2$

(ii) $(1100.1010)_2 \rightarrow (?)_8$

(iii) $(732.24)_8 \rightarrow (?)_{10}$

(iv) $(F2)_{16} \rightarrow (?)_2$

(v) $(725)_{10} \rightarrow (?)_{16}$

Subscript represents the base of the respective number.

(b) Simplify the following Boolean expressions using K-map : 5

$f(A, B, C, D) = \sum (0, 2, 4, 6, 8, 10, 12, 14, 15)$

4. (a) Write an 8086 assembly language programme to add two 16 bit numbers. 5

(b) Explain the working of Wilkes control unit with the help of diagram. 5

(c) Draw and discuss the block diagram of 8086 microprocessor. 5

5. Explain the following with the help of a diagram/ program segment/ illustration : 15

(a) Interrupts

(b) Indexed indirect addressing in 8086 microprocessor

(c) Subroutine call in 8086 microprocessor

(d) Effective address

(e) Interleaved memory
