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CS-64

BACHELOR IN COMPUTER APPLICATIONS

01232

Term-End Examination

June, 2010

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) Do the following conversions. **6**

(i) $(76.25)_{10} \rightarrow (?)_2$

(ii) $(257)_8 \rightarrow (?)_2$

(iii) $(F3A)_{16} \rightarrow (?)_8$

(iv) $(110010.1010)_2 \rightarrow (?)_{16}$

(v) $(11101.10)_2 \rightarrow (?)_{10}$

(vi) $(63)_{10} \rightarrow (?)_{16}$

(b) Explain the following terms w.r.t. Modular Programming in 3086 micro-processor ? **6**

(i) For and Near Procedures

(ii) Parameter Passing

(c) Simplify the following boolean function using SOP form, using K-Map. **6**

$F(A, B, C, D) = \Sigma(5, 8, 10, 12, 13, 14)$

(d) Explain the following terms with the of an example / diagram, if needed. 8

(i) Zero and one address instruction scheme.

(ii) Hard wired control unit

(e) Write an 8086 assembly language program to count the number of characters in a string stored in the Data Segment. 4

2. (a) Explain the Hamming Error Correcting Code method for detecting and Correcting single bit error in the data, with the help of an example. 7

(b) What is an Arithmetic Processor and why is it needed ? Explain the two mechanisms for connecting arithmetic processor to the CPU. 6

(c) Explain the syntax and function of the following data transfer instructions MOVE, PUSH. 2

3. (a) What are Addressing Modes ? Explain any four addressing modes that are used for programming. 5

(b) Write a program in 8086 assembly language to find if a number is prime or not. 5

(c) What is an instruction ? Explain the format of an instruction. Explain the various categories of instructions. 5

4. Explain the following : 15

(a) Programmable Logic Array

(b) Programmer Visible Registers

(c) Interrupts

(d) Micro instruction formats

(e) 1^S and 2^S complement arithmetic

5. (a) What are counters ? Explain the two types of counters, with the help of suitable examples. 5

(b) Explain the use of interrupt INT 21_h in 5

(i) Input/Output

(ii) Exiting the program

With the help of suitable 8086 assembly programs.

(c) What is DMA ? Explain its working, the possible data transfer modes and configurations of a DMA. 5