CS-64 Ⓢ

BACHELOR IN COMPUTER APPLICATIONS

Term-End Examination

June, 2007

CS-64 Ⓢ : INTRODUCTION TO COMPUTER ORGANISATION

Time : 3 hours *Maximum Marks : 75*

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

1. (a) Describe the following in the context of computer organisation and/or 8086 microprocessor, with the help of an example, if necessary : 15

(i) Use of Interrupt 21H for data string input

(ii) Characteristics of Von Neumann machine

(iii) Types of programmer visible registers

(iv) Selective complement and Insert operation

(v) Write a program to illustrate addition of two 8-bit registers in 8086 having packed BCD numbers.

(b) Discuss how floating point numbers are represented in a computer. Take suitable examples. 5

(c) Discuss the instruction fetch and execute cycles in a digital computer. 5

(d) Simplify the following boolean function : 5

$$F = \left[\overline{(\overline{A} + \overline{B}) + \overline{(A + \overline{B})}} \right]$$

2. (a) Draw and briefly explain the memory hierarchy. 6

(b) Briefly explain the terms unit of transfer and access modes for the memory system. 5

(c) Write the steps involved in the communication of I/O module with the peripheral for a read or write operation. 4

3. (a) Explain any two addressing schemes for the computer system, with suitable examples. 10

(b) Draw and explain the basic structure of CPU. 5

4. (a) Draw and explain the architecture of a microcomputer. 10

(b) What is an interrupt ? How is it processed ? 5

5. (a) Write an 8086 assembly language program to find the smallest and largest of the values in an array. *10*

(b) How are assembly language routines interfaced with high level language programs ? *5*