CS-64

BACHELOR IN COMPUTER APPLICATIONS

Term-End Examination

June, 2008

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) Convert the following : *10*

(i) Decimal number 48.135 to binary

(ii) Binary number 1101111.0011 to octal

(iii) Binary number 11011101.1101 to hexadecimal

(iv) Hexadecimal number ACF02 to decimal

(b) Explain the following addressing schemes with one example for each : *10*

(i) Immediate addressing

(ii) Base addressing

(iii) Register indirect addressing

(iv) Stack addressing

(c) Explain the following Data transfer instructions of 8086 with the help of an example for each : 6

(i) XLAT

(ii) POP

(iii) LDS

(iv) MOV

(d) Map the function having four variables in a Karnaugh's map and simplify : 4

$$F(W, X, Y, Z) = \Sigma(1, 2, 3, 9, 11, 15).$$

2. (a) Design and explain a 3 × 8 decoder. 8

(b) List and explain the purpose of programmer visible registers. 7

3. (a) With the help of a block diagram, explain the Bus Interface unit and the Execution unit of 8086 CPU. 8

(b) Write an assembly language program which divides a 32-bit number by a 8-bit number. 7

4. (a) What is an Interrupt ? Explain the step-by-step procedure to process an interrupt. 7

(b) Draw the block diagram and explain the functioning of Wilkes Control Unit. 8

5. Explain the following : 5×3=15

(i) Multiplexer

(ii) Master-Slave flip flop using J-K flip flop

(iii) Direct Memory Access

(iv) Magnetic Bubble Memory

(v) Half Adder