

**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) Design a 4-bit Arithmetic circuit using full adders and multiplexers which is capable of performing the following actions : 9

- (i) Transferring an input data as it is to the Full adder
- (ii) Transferring 1^s complement of the input data to the Full adder
- (iii) Transferring 0 as input to the Full adder
- (iv) Transferring a 1 as input to the Full adder

- (b) Convert the octal number 577.46 to the following : 6
- (i) BCD number
 - (ii) Decimal number
 - (iii) Binary number
 - (iv) Hexadecimal number
- (c) Define the IEEE 754 floating point number standard giving the single and double precision floating point number bits layout and bias of exponent. Also, show an example each of addition and subtraction of two floating point numbers. 5
- (d) What are memory mapped I/O and I/O mapped I/O ? Explain with appropriate figures. 10
2. (a) Explain the structure and functional requirements of a control unit. 10
- (b) Explain the data processing unit of a CPU. 5
3. (a) Compare Intel 8086 with Motorola 68000 considering the various registers and interrupts used. 5
- (b) Write an 8086 assembly language program to compute the factorial of a number. 10

4. (a) Map the function having four variables in a Karnaugh's map. The function is
 $F(A, B, C, D) = \Sigma(2, 6, 10, 14)$. 9
- (b) Explain the basic characteristics of RAID disks. 6
5. (a) What are the differences between base and relative addressing schemes ? Give an example for each. 5
- (b) Write an 8086 assembly language program for adding an array of binary numbers. 10

