

**BACHELOR IN COMPUTER
APPLICATIONS****Term-End Examination****June, 2008****CS-64 (S) : INTRODUCTION TO COMPUTER
ORGANISATION**

Time : 3 hours

Maximum Marks : 75

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

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1. (a) Find the 1's and 2's complement for the following fixed-point numbers : 6
- (i) 1100101
- (ii) 00110011
- (b) Convert the following : 4
- (i) Decimal number 56.125 to binary
- (ii) Binary number 1011.0101 to octal
- (c) What is a ripple-counter ? Design a 4-bit ripple counter using JK-flip flops and explain its functioning. 10

- (d) Using 4×1 multiplexers, design a four bit bus system and explain your design. 10
2. (a) Explain the following Arithmetic Instructions of 8086 with the help of an example for each : 6
- (i) ADC
 - (ii) DIV
 - (iii) CMP
 - (iv) DEC
- (b) Map the function having four variables in a Karnaugh's map and simplify : 4
- $$F(A, B, C, D) = \Sigma(2, 3, 5, 9, 10, 11, 12, 14, 15)$$
- (c) Define a microinstruction. Give an example. Differentiate between Branching and Non-branching microinstructions. 5
3. (a) Write an assembly language program to swap the values of two variables. 7
- (b) Use J-K flip flops to design a 3 bit counter. Explain your design. 8
4. (a) Discuss the Polling bus arbitration method. 7
- (b) Design and explain a 4×16 decoder. 8

5. Explain the following :

5×3=15

- (i) D-flip flop and its application
- (ii) Interleaved memories
- (iii) Register Indirect Addressing mode
- (iv) Fetch cycle and Execute cycle
- (v) Use of code segment register

