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CS-64

04939

BACHELOR OF COMPUTER APPLICATIONS (PRE - REVISED)

Term-End Examination

December, 2012

CS-64 : INTRODUCTION TO COMPUTER ORGANISATION

Time : 3 Hours *Maximum Marks : 75*

*Note : Question No. **1** is **compulsory.***
*Attempt any **three** questions from the rest.*

1. (a) What is a full adder ? Write the truth table for a full-adder and develop its logic diagram. 6

   (b) What is the use of addressing modes ? Describe any three addressing modes. 7

   (c) What is a Bus ? Why are buses required in the CPU ? Explain the three types of buses used in the CPU. 5

   (d) Explain the following : 12

   (i) CCDs
   (ii) Magnetic bubble memories
   (iii) Status and control Registers
   (iv) Segment registers in 8086 micro processor.
   (v) DOS function calls in 8086 microprocessor
   (vi) Flags in 8086 microprocessor.

2. (a) What are counters ? Explain the ripple counter. 5

(b) Write a program in 8086 Assembly language to convert a 2-digit BCD number into its binary equivalent. 6

(c) What are Instructions ? Explain the factors considered while deciding the instruction length. What are variable length instructions. 4

3. (a) Explain the "don't care" conditions used in k-maps. 3

(b) Why is 2s complement preferred in binary arithmetic ? 3

(c) Explain any three string instructions of 8086 microprocessor. 3

(d) Explain the general structure of the I/O module with the help of a diagram. 3

(e) Explain parity bit as an error detecting code. 3

4. (a) "Most of the semiconductor memories are packaged in chips." Explain the 2D and $2\ \frac{1}{2}$ D chip organisations. Support your answer with relevant diagrams. 6

(b) Explain how floating point numbers are represented in computer. 5

(c) Write an 8086 assembly language program to swap two numbers stored in some memory locations. 4

5. Explain the following with the help of suitable diagram, program segment, illustration 15

(a) Vertical microinstruction

(b) Machine startup

(c) Shift micro-operation

(d) Subroutine call in 8086 microprocessor

(e) TEST instruction in 8086 microprocessor
