	Utech
Name:	
Roll No. :	Property (or Complete point Excellent)
Invigilator's Signature :	

# CS/BCA/SEM-2/BCA-201/2011

## 2011

# COMPUTER ARCHITECTURE AND SYSTEM SOFTWARE

Time Allotted: 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

#### **GROUP - A**

# ( Multiple Choice Type Questions )

- 1. Choose the correct alternatives for the following:  $10 \times 1 = 10$ 
  - i) The program that translates a high-level language program to binary is called
    - a) compiler
- b) byte code
- c) operating system
- d) none of these.
- ii) There are two major types of control organization. They are
  - a) Hardwared control and micro-programmed control
  - b) Hardware and software
  - c) Operating system and hardware
  - d) System software and application software.

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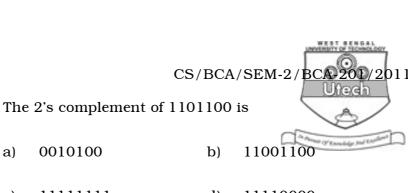
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- iii) The full form of MRI is
  - a) Memory reference instruction
  - b) Memory reference interpreter
  - c) Memory reference interrupt
  - d) None of these.
- iv) The input symbolic program is called
  - a) Source program
- b) Object-program
- c) Byte code
- d) None of these.
- v) The data register is sometimes called
  - a) Pipeline register
- b) Buffer
- c) Compiler
- d) Sequencer.
- vi) The full form of PSW is
  - a) Program status word
  - b) Password status word
  - c) Program status work
  - d) Password status work.
- vii) The full form of RISC is
  - a) Reduced Instruction Set Computer
  - b) Register Instruction Set Computer
  - c) Reduced Instruction Set Component
  - d) None of these.
- viii) 9's complement of 546700 is
  - a) 453299
- b) 483270

c) 32955

d) 669290.





11111111 c)

ix)

a)

- d) 11110000.
- The full form of MAR is X)

0010100

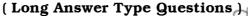
- a) Memory Address Register
- Memory Address Routine b)
- c) Memory Adder Register
- d) Multiplexer Adder Register.

# **GROUP - B** (Short Answer Type Questions)

Answer any *three* of the following.  $3 \times 5 = 15$ 

- Establish the concept of three state lens buffer 2.
- 3. Describe the working principle of binary incrementer.
- What is OP code? What is instruction code? What is 4. Assembler? 1 + 2 + 2
- 5. What locality reference ? What biased of 2 + 3exponent?
- Discuss the memory read and memory write operations.

#### **GROUP - C**



Answer any three of the following.



- 7. Describe the rules of the language? What do you mean by subroutine? What is binary adder? 9 + 3 + 3
- 8. What is parallel processing? Describe the working principle of pipelining. Explain the major characteristics of an RISC processor. 2 + 10 + 3
- 9. Write the applications of vector processing. Explain memory interleaving. 5 + 10
- 10. a) Perform the subtraction with following unsigned decimal number by taking the 10's complement of the subtrahend.

#### 5250 - 1321

b) Perform the subtraction with the following unsigned binary number by taking the 2's complement of the subtrahend.

### 11010 - 1101

- c) Explain asynchronous mode of data transfer. 5 + 5 + 5
- 11. Write short notes on any *three* of the following:  $3 \times 5$ 
  - a) Memory stack
  - b) Addressing modes
  - c) Program interrupt
  - d) Data dependency
  - e) Content Addressable Memory (CAM).

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