5ᵗʰ Semester Regular / Back Examination 2015-16
COMPUTER ORGANIZATION

BRANCH: CSE/IT
Time: 3 Hours
Max marks: 70

Q.CODE: T161
Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1   Answer the following questions: **(2 x 10)**
   a) What are the basic components of a central Processing Unit?
   b) Why Wait for Memory Function Complete is required?
   c) What is the magnitude of multiplying two binary numbers having each magnitude of n-bits?
   d) What is addressing mode? Why it is required?
   e) Explain the disadvantages of write back policy.
   f) What is thrashing? Why it is occurred?
   g) What is the use of Denouncing circuit in a key-board?
   h) What is the address range of a memory if the system is using 9 address lines?
   i) What is the Seek Time of a Hard Disk?
   j) Why Data-In and Data-out registers are used by the Input Output Processor?

Q2 **a)** Explain the Hardware structure for an Add/Subtract circuit. Show how (+15) + (-13) by using that circuit.   **(5)**
      b) Explain with the suitable diagram for a Von-Neumann machine structure.   **(5)**

Q3 **a)** What is an addressing mode? Explain different types of addressing modes with a suitable example from each.   **(5)**
      b) Explain about the RISC processor. What are its advantages over the CISC processor?   **(5)**

Q4 **a)** What is a micro instruction? Write the micro instructions for transferring a date from the memory to the CPU register.   **(5)**
      b) Differentiate between the Single bus and the multiple bus organization.   **(5)**

Q5 a) Explain about the FIFO page replacement algorithms. Show whether it **(5)** is affected by the Belady's Anomaly for the string :- 1   2   3   4
1   2   5   1   2   3   4   5
by taking 3 frames and 4 frames for this page replacement algorithm.

b) Explain about the Memory Management Requirements. **(5)**

Q6 a) Draw a block diagram for a sequence of execution of a complete **(5)** instruction.

b) Explain about the multiplication of two floating point numbers. **(5)**

Q7 a) Explain the Hardware control unit of a processor. What are its **(5)** advantages over micro programmed control unit?

b) Show the Bus structure connecting to the Memory, CPU and I/O **(5)** devices.

Q8 Write short notes on any two: **(5 x 2)**
a) Cache memory
b) Basic Input/output operations
c) Rounding of the numbers