SVKM's NMIMS
MUKESH PATEL SCHOOL OF TECHNOLOGY MANAGEMENT & ENGINEERING

Programme: MBA Tech (Computer) Year: II Semester: III

Batch: 2016-17

Academic Year: 2016-2017

Subject: Computer Organization and Architecture

Date: 1 June 2017

Marks: 70
Time: 10.00 am to 1.00 pm
Durations: 3 (hrs)
No. of Pages: 2

Re-Examination

Instructions: Candidates should read carefully the instructions printed on the question paper and on the cover of the Answer Book, which is provided for their use.

1) Question No. 1 is compulsory.
2) Out of remaining questions, attempt any 4 questions.
3) In **all 5 questions** to be attempted.
4) All questions carry equal marks.
5) Answer to **each new** question to be started on a fresh page.
6) Figures in brackets on the right hand side indicate full marks.
7) Assume Suitable data if necessary.

1 (a) Distinguish between Computer architecture and organization. [2]

(b) What are Instruction Register (IR) and Program counter (PC)? [2]

(c) Explain basic Instruction cycle. [2]

(d) Difference between half adder and full adder. [2]

(e) Differentiate between Micro programmed control and hardwired controlled. [2]

(f)Define DDR SDRAM. [2]

(g)What is an I/O Interface? [2]

2 (a) What are the functional units of a Computer? Explain. [7]

(b) Explain Flynn's classification of parallel processing Systems. [7]

3 (a) Describe the three mapping techniques used in cache memories with suitable example. [7]

(b) Explain Pipelining hazards. [7]

4 (a) Explain Micro programmed control unit in detail. [7]

(b) Given $x = 0101$ and $y = 1010$ in twos complement notation (i.e., $x=5$, $y= -6$), Compute the product $p = x * y$ with Booth's algorithm. [7]

5 (a) What are addressing modes? An address field in an instruction contains decimal value 14. Where is the corresponding operand located for
a. immediate addressing?
b. direct addressing?
c. indirect addressing?
d. register addressing?
e. register indirect addressing? [7]

(b) Describe the data transfer method using DMA. [7]

6 (a) Explain Bus arbitration techniques. [7]
(b) Explain interrupts in detail. [7]

7 (a) Explain Program driven I/O and Interrupt driven I/O. [7]
(b) Explain IEEE 754 standard for Binary floating point Representation. Convert 40.15625 to IEEE 32-bit Format. [7]
