

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

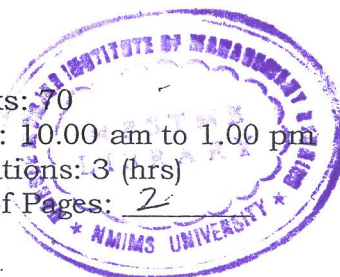
Date: 1 June 2017

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.
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- 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? [7]
 - b. direct addressing?
 - c. indirect addressing?
 - d. register addressing?
 - e. register indirect addressing?
- (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]
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