Code No: 55021 **R09**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech III Year I Semester Examinations, December - 2014
COMPUTER ORGANIZATION
(Common to ECE & ETM)

Time: 3 hours **Max. Marks: 75**

Answer any five questions
All questions carry equal marks
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1.a) Explain sign magnitude 1's complement and 2's complement representation of numbers. Explain why 2's complement method is in wide use.
b) Represent $(1259.125)_{10}$ in single precision and double precision IEEE 754 standards.

2.a) Explain various arithmetic micro-operations.
b) Discuss about stack organization.

3.a) Explain various branching techniques used in micro programmed control unit.
b) Draw and explain the micro programmed control unit with next address generation.

4.a) Perform 2's complement multiplication for the following numbers using Booth's algorithm: Multiplicand : 0111 and Multiplier: 1101.
b) Draw and explain the flowchart for floating point multiplication.

5.a) Draw and explain fully associative cache organization.
b) What is cache memory? Explain its applications.
c) What is data stripping?

6.a) What is meant by serial communication? Briefly explain the serial communication standards.
b) Compare and contrast between programmed I/O, interrupt-driven I/O and DMA.

7.a) What is pipeline processing? Explain the basic structure of pipeline processor.
b) What is vector processing?
c) What are conflicts?

8.a) Give the comparison between interconnection structures.
b) Explain the distributed shared memory architecture with a neat diagram.

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