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[5057]-259

S.E. (Comp. Engg.) (Second Semester) EXAMINATION, 2016
COMPUTER ORGANIZATION
(2012 PATTERN)

Time : Two Hours**Maximum Marks : 50**

- N.B. :-** (i) Attempt Q. No. 1 or Q. No. 2, Q. No. 3 or Q. No. 4, Q. No. 5 or Q. No. 6, Q. No. 7 or Q. No. 8.
(ii) Figures to the right indicate full marks.
(iii) Assume suitable data, if necessary.

1. (a) Using Booth's algorithm multiply the following numbers :
Multiplicand 12, Multiplier -6.
Verify result in decimal number system. [6]
(b) Differentiate RISC versus CISC. [6]

Or

2. (a) Write short note on "IEEE Floating Point Representation". [6]
(b) Explain the following addressing mode with one example each : [6]
(i) Auto Increment
(ii) Auto decrement
(iii) Register addressing
(iv) Direct addressing.
3. (a) Divide the following number using restoring division algorithm : [6]
Dividend : 1100, Divisor : 11.
(b) Draw and explain single bus organization of the CPU. [6]

P.T.O.

Or

4. (a) Differentiate between combinational and sequential ALU. [6]
 (b) What are the design methods of Hardwired control unit ?
 Explain any *one*. [6]
5. (a) What are page replacement algorithms ? Explain any *one* algorithm
 in detail. [7]
 (b) What is DMA ? Explain with block diagram in detail. [6]

Or

6. (a) Compare merits and demerits of UMA and NUMA
 architecture. [6]
 (b) What is Bus arbitration ? Explain daisy chaining and polling
 methods of bus arbitration. [7]
7. (a) Draw and explain architectural block diagram of IBM cell broadband
 Engine and list an application of it. [7]
 (b) Write a note on IA-64 architecture. [6]

Or

8. (a) Compare traditional superscalar architecture and IA-64
 architecture. [7]
 (b) Explain in detail NVIDIA GPU. [6]