Total No. of Questions—**8**] [Total No. of Printed Pages—**2**

Seat No.	

[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]