Seat No.	

[5459]-189

S.E. (Computer Engineering) (II Sem.) EXAMINATION, 2018

COMPUTER ORGANIZATION

(2012/2015 PATTERN)

Time : Two Hours　　　　　　　　　　Maximum Marks : 50

N.B. :— (*i*) Neat diagrams must be drawn wherever necessary.

　　　(*ii*) Figures to the right indicate full marks.

　　　(*iii*) Assume suitable data, if necessary.

1. (*a*) Differentiate between microprocessor and microcontroller. [6]

　(*b*) Multiply the following numbers using Booth's algorithm : [6]

　　　Multiplicand = +13, Multiplier = – 6 (show steps in detail).

Or

2. (*a*) Explain IEEE 488 format for single precision and double precision floating point numbers with example. [6]

　(*b*) Explain IAS computer with suitable example. [6]

3. (*a*) Explain the working of multistage pipeline with an example. [6]

　(*b*) Divide the following number using restoring division algorithm : [7]

　　　Dividend – 1100 and Divisor – 11.

4. (*a*) Explain the communication between processor and coprocessor. [6]

(*b*) Explain the DDR3 memory organization. [7]

5. (*a*) Compare memory mapped I/O and I/O mapped I/O with merits and demerits. [6]

(*b*) Explain cache mapping techniques with example. [6]

6. (*a*) Differentiate between UMA and NUMA. [6]

(*b*) List out the page replacement algorithm. Explain any *one* algorithm in detail. [6]

7. (*a*) Explain in detail about IBM Cell Broadband Engine (CBE). [7]

(*b*) Write a short note on the following with an example : [6]

(*i*) IA-64 model

(*ii*) AMD Multi-core Opteron.

8. (*a*) What do you mean by 64-bit architectures ? What are the features of it ? [7]

(*b*) Differentiate between desktop and mobile version of i7 processor. [6]