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**[4857]-1080**

**S.E. (Comp. Engg.) (Second Semester) EXAMINATION, 2015**

**COMPUTER ORGANIZATION**

**(2012 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) Explain Booth's multiplication algorithm. Multiply 4 and 6 by using it. [8]
- (b) Write a short note on integer and floating point data representation. [4]

*Or*

2. (a) Determine how hardware, software and architecture jointly determine performance of a computer system. [6]
- (b) Explain different addressing modes with example. Discuss drawback of relative addressing mode. [6]
3. (a) Explain with example working of multistage pipeline. [7]
- (b) Write a short note on Intel Nehalem Organization. [6]

P.T.O.

*Or*

- 4. (a) What is pipeline ? Explain how it affects speed of execution. [7]
- (b) What is classical method of control unit design ? [6]
- 5. (a) Write a short note on DDR3 memory organization. [6]
- (b) Explain in detail Direct Memory Access (DMA). [6]

*Or*

- 6. (a) What is IO mapped IO and memory mapped IO ? [4]
- (b) What is NUMA and UMA ? Explain in detail. [8]
- 7. (a) Draw block diagram and explain the role of each block of sun ultraspark T1. [6]
- (b) Write a short note on IBM Cell Broadband Engine (CBE). [7]

*Or*

- 8. (a) Explain in detail and justify features of IA-64 model. [8]
- (b) Draw block diagram of NVIDIA GPU architecture. [5]