Roll No ....

CS-4002 (CBGS)

B.E. IV Semester

Examination, November 2019

Choice Based Grading System (CBGS)

Computer System Organization

Time : Three Hours

Maximum Marks : 70

Note: i)   Attempt any five questions.
      ii) All question carries equal marks.

1. a) Describe the Von Neumann Model and explain the functioning of its components.

    b) Explain various types of addressing modes with an example.

2. a) Draw and explain the Bus structure for the data transfer between register and the common bus.

    b) What is instruction cycle? Explain different phase of instruction cycle and show flow chart for instruction cycle.

3. a) Explain the working of a typical microprogrammed control unit with the help of a neat diagram.

    b) Explain how addition and subtraction are performed in Fixed point numbers.

4. a) Explain Booth's Algorithm with an example.

    b) What is Micro instruction format? Explain different field of microinstruction.

5. a) Describe the function of DMA controller in data transfer between I/O and Memory. State different modes of DMA operator.

    b) Differentiate between:

        i)   Isolated and Memory mapped I/O

        ii) Synchronous and Asynchronous serial data transfer

6. a) Draw and explain the memory hierarchy in a digital computer. What are advantages of cache memory over main memory?

    b) What is Associative memory? Explain the concept of address space and memory space in Virtual memory.

7. a) What is Paging? Explain how paging can be implemented in CPU to access virtual memory.

    b) Explain SIMD array processor along with its architectural diagram.

8. Write short notes:

    a) RISC Vs CISC

    b) Interprocessor communication

    c) Pipelining

    d) Flynn's Taxonomy

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