Roll No ....

MCADD-201

M.C.A. (Integrated), II Semester

Examination, May 2019

Computer Architecture

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) What is meant by the 'stored-program' concept? Draw a diagram of von Neumann architecture and explain it briefly.

   b) What are the various types of operations required for instructions?

2. a) Explain any five memory reference instructions in detail.

   b) What are the main features and advantages of Booth's algorithm?

3. a) Write the Add/subtract rule for floating point numbers.

   b) Draw the full adder circuit and give the truth table.

4. a) What are the different types of addressing Modes?

   b) Specify the three types of the DMA transfer techniques?

5. Explain MIPS assembly language notation for arithmetic, Data transfer, logical, conditional branch and unconditional branch operations.

6. a) What do you mean by Associative mapping technique?

   b) Distinguish between asynchronies DRAM and synchronous RAM.

7. a) List out the methods used to improve system performance.

   b) What are the steps required for a pipelined processor to process the instruction.

8. a) Why are memories organized in hierarchy? Which are the factors to be considered while selecting a particular memory type? Draw a suitable diagram and explain briefly.

   b) With reference to control unit of an CPU architecture, explain following terms:

   i) Micro instruction,

   ii) Microprogram,

   iii) Pipeline register

******