M 26749

Reg. No. : ....

Name : ....

I Semester M.C.A. (Reg./Sup./Imp.) Degree Examination, February 2015
(2013 and Earlier Admn.)
MCAC1.1 : COMPUTER ORGANISATION

Time : 3 Hours

Max. Marks : 80

Instructions : Answer **any five** questions.
Each question carries **equal** marks.

1. a) Explain the various data types complements for representing fixed point and floating point data with suitable examples. 8

   b) Discuss the micro operations of logic and shift techniques. 8

2. a) Explain the different addressing modes, with suitable examples. 8

   b) What are the subroutines and interrupts the micro computers organization ? 8

3. a) Explain the memory organisation of RAM. 8

   b) What are the differences between a software interrupt and a subroutine call ? 8

4. a) Explain with suitable examples various branch instructions and program interrupt. 8

   b) Explain briefly instruction formats of RISC. 8

5. a) Compare and contrast vector processing and array processing techniques. 8

   b) Draw a space-time diagram for a six segment pipeline showing the time it takes to process eight tasks. 8

6. a) Explain briefly decimal multiplication with suitable flowchart. 8

   b) Derive an algorithm for evaluating the square root of a binary fixed point number. 8

P.T.O.

7. a) Explain various properties of serial communication.

   b) What are the main differences between typical RAM chip and ROM chip, explain briefly ? **8**

8. Write short notes on : **(4×4=16)**

   a) Cache memory

   b) I/O processor

   c) Stack operation

   d) Register transfer language.