First year M.C.A. / PGDCS First Semester (New)

# Computer Organisation
## 1 CS 1 / 1 MCA 1

P. Pages : 4

Time : Three Hours                                    Max. Marks : 80

Note : 1. Due credit will be given to neatness and adequate dimensions.
2. Assume suitable data wherever necessary.
3. Illustrate your answer necessary with the help of neat sketches.
4. Use of pen Blue/Black ink/refill only for writing the answer book.

1. a) Explain the Generation of Computers in detail.                                              7

   b) Explain program development tools with the help of diagram.                          7

### OR

2. a) Describe the base structure of a computer.          7

   b) Draw process of block diagram. Explain the following.                                      7
      i) The processor.
      ii) The Memory unit.

**3.** a) Substract given number by using 2's complement method.   9
   i)   111000        ii) 101010       iii) 11111111
       - 000111            - 010101          - 00001111

   b) Explain how computer represent data internally.   5

**OR**

**4.** a) Describe briefly Restoring and non Restoring Algorithms.   7

   b) Draw and explain 8 bit adder using Ripple carry Propagation addition.   7

**5.** a) Describe GPR based organization and stack based organization.   7

   b) Explain instruction fetch and instruction register transfers with program counter register increment.   6

**OR**

**6.** a) Explain general features of RISC and CISC instruction set.   6

   b) Describe Arithmetic instruction, logical instruction and compare and test instruction.   7

**7.** a) Explain different pipeline Hazards.   7

   b) Describe Pipeline with forwarding paths.   6

**OR**

**8.** a) Explain the following.   6
   i)   Simple Addressing mode.
   ii)  Complex Addressing Mode.

   b) What is Parallel processing and pipelining ? Explain.   7

**9.** a) What is semiconductor ROM ? Explain ROM, PROM, EPROM, EEPROM.   7

   b) Describe hard Disk organization.   6

**OR**

**10.** a) Explain Replacement policy in caches.   6

   b) What is tag array and data array.   7

**11.** a) Explain the following.   6

   i)   Dot Matrix Printer.

   ii)  Inkjet Printer

   iii) Laser printer.

b) What are the input devices ? Explain working of keyboard.    **7**

## OR

**12.** a) Describe the process segmentation.    **7**

b) Explain bus arbitration with different methods.    **6**

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