**December 2008**

Bachelor of Computer Application (BCA) Examination

**V Semester**

# Computer Organisation and Architecture

Time : 3 Hours ] [ Max. Marks : 40

**Note : Attempt all questions.**

1. (a) What is centralized and distributed bus arbitration? Explain it briefly.
   (b) Explain Van Neumann's model of computer? Also draw expanded structure of IAS components.

   **OR**

   (a) Explain how instruction set, computer technology, CPU implementation, cache and memory hierarchy affect CPU performance.
   (b) What do you mean by term `Bus'? Discuss Different Classification of bus lines.
2. Explain how redundancy is achieved in RAID system, also briefly define RAID levels.

   **OR**

   What is cache memory? Explain.
   (a) Associative Mapping
   (b) Set Associative Mapping
   (c) Direct Mapping
3. (a) What is instruction cycle? Explain.
   (b) How many types of registers can be in CPU? Also give general roles performed by CPU registers.

   **OR**

   (a) What is addressing mode? Describe direct addressing modes with example.
   (b) Define role of each of the following components in the operation of an instruction set process :
      (i) Program Counter
      (ii) Flag Register
      (iii) Slack pointer Register.





4. (a) What do you mean by Micro Operations? Explain some applications of micro–programming .
   (b) What is relationship between instruction and micro operations.

   **OR**

   (a) Define the following :
      (i) Micro Operation
      (ii) Micro Instruction
      (iii) Micro Program
      (iv) Micro Code.
   (b) Describe briefly execution of Micro Instruction.
5. Write short notes on the following : (any four)
   (a) DMA
   (b) Firewire Serial Bus
   (c) Programmed I/O
   (d) Parallel Processors
   (e) Pipelining.
   (f) Intrupt Driven I/O.

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