

GUJARAT UNIVERSITY

B. E. Sem III (C.E.) (Old) Examination

Computer Architecture and Peripherals

Tuesday, 1st January, 2008]

[Time : 3 Hours

Max. Marks : 100

- Instructions :** (1) Attempt all questions.
 (2) Answer to the two sections must be written in separate answer books.
 (3) Assume suitable data if required.
 (4) Figures to the right indicate full marks.

SECTION I

- 1 Answer the following : (Any two) [16]**
 a) Write a note on parallel and distributed computing.
 b) Write a note on Cache Memory.
 c) Write a note on Virtual Memory.
- 2 Answer the following : [18]**
 a) Explain the working of a CRT monitor with diagram.
 b) Explain the following:
 1. OMR
 2. OCR
 3. MICR
 c) Write a short note on working of a mechanical mouse.
- 3 Answer the following : (Any two) [16]**
 a) Explain the different addressing modes with suitable example.
 b) Explain the design of Accumulator logic.
 c) List the characteristics of RISC and CISC.

SECTION II

- 4 Answer the following : (Any two) [16]**
 a) Explain the working of a DMA controller with appropriate diagram.
 b) Which are the different types of printers? Explain the working of an inkjet printer.
 c) Explain the following:
 1. Floppy Disk Controller
 2. Hard Disk Controller
- 5 Answer the following : (Any four) [16]**
 a) Differentiate hard wired control and micro programmed control.
 b) Which are different types of keyboard switches? Explain any one.
 c) Give an example to explain the floating point representation of numbers.
 d) Explain register reference instructions with example.
 e) Draw a diagram of connection of registers in a common bus system.
- 6 Answer the following : [18]**
 a) With flowchart explain the algorithm of addition of signed 2's complement number.
 b) Explain the different types of Interrupt.
 c) Explain Instruction pipelining with example.