

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
M.E.- SEMESTER-I • EXAMINATION – WINTER 2013

Subject Code: 2715201

Date: 23-12-2013

Subject Name: Advanced Computer Architecture

Time: 10.30 To 13.00

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 (a) What is Amdahl's Law? Explain with example. **07**
(b) Define the computer Architecture. Explain Response time, through put, Processor clock. **07**

Q.2 (a) What is pipelining? What are the different hurdles of pipelining? Explain data hazard, briefly? **07**
(b) Explain performance of symmetric shared memory multiprocessor **07**

OR

(b) What is cache memory? Write any 3 advanced cache optimization techniques? **07**

Q.3 (a) Explain the instruction set Architecture. **07**
(b) Write a short note on IP section. Who it is useful in designing system on chip? **07**

OR

Q.3 (a) Write a note on system architecture and elements to be consider in designing system architecture? **07**
(b) What are the problems associated in integration of analog & mixed signal element integration? **07**

Q.4 (a) Distinguish between RISC and CISC systems. **07**
(b) Explain the architecture of Trimedia TM32 with suitable diagrams. **07**

OR

Q.4 (a) Give detailed system architecture of PIC Microcontroller. **07**
(b) Write a short note on SOC design. **07**

Q.5 (a) Explain the architecture of TMS320C6X multicore DSP with suitable diagrams. **07**

(b) Write a note on BUS architecture? Explain different type of buses and need for Bus arbitration scheme. **07**

OR

Q.5 (a) Explain ARM Architecture. **07**

(b) Write a note on Power PC architecture. **07**
