

GUJARAT TECHNOLOGICAL UNIVERSITY
ME - SEMESTER- I• EXAMINATION – WINTER 2014

Subject Code: 3715201**Date: 06/01/ 2015****Subject Name: Advanced Computer Architecture****Time: 2:30 to 5:00 Pm****Total Marks: 70****Instructions:**

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

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|-----------|-----|--|----|
| Q.1 | (a) | Write a short note on Classes of Computers | 07 |
| | (b) | Explain 3 stage pipeline in ARM architecture | 07 |
| Q.2 | (a) | Explain Control Dependences in detail. | 07 |
| | (b) | Explain the below mentioned concepts and differentiate them.
1. RISC and CISC
2. Big-endian and Little-endian. | 07 |
| OR | | | |
| | (b) | Write about caches memory? Why Caches memory is required? | 07 |
| Q.3 | (a) | List advantages & disadvantages of On chip RAM | 07 |
| | (b) | What is Snoop control unit (SCU). | 07 |
| Q.3 | (a) | Draw block diagram of Unified instruction and data cache | 07 |
| | (b) | Explain about Translation Look-Aside Buffer | 07 |
| Q.4 | (a) | Explain for Bus architecture with the Architecture Diagram | 07 |
| | (b) | Draw block diagram of Harvard architecture based data and instruction caches | 07 |
| OR | | | |
| Q.4 | (a) | Write about Memory Organization in System architecture? | 07 |
| | (b) | Explain different Multi-processor architecture? | 07 |
| Q.5 | (a) | Give the difference between INTEL, ARM, Power PC architecture | 07 |
| | (b) | Explain about the SPARC and Power PC architectures | 07 |
| OR | | | |
| Q.5 | (a) | Explain about Basic VLIW Design Principles? What are Implications for Compilers design in VLIW. | 07 |
| | (b) | What is a tool chain? What are essential components of a tool chain and explain each. | 07 |
