

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. | 07 |
| | 1.RISC and CISC | |
| | 2. Big-endian and Little-endian. | |
| | 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 |
