

CS311 - Computer Architecture - Spring 2017
Exam 2 – Review

1. Chapter 3

- (a) ALU design
- (b) Fast carry algorithm
- (c) Multiplication and division algorithms for integers
- (d) Floating point numbers
 - i. representation
 - ii. addition and multiplication steps

2. Chapter 4

- (a) Overview
- (b) Single-cycle
 - i. Datapath
 - ii. Control
 - A. what signals do
 - B. how they are set
- (c) Drawbacks of single-cycle
- (d) Overview of multi-cycle
 - i. Breakdown of instructions into steps
 - ii. Changes to datapath and control

3. Appendix C

- (a) State elements vs. combinational elements
- (b) Clocking methodologies
- (c) Latches, flip-flops
- (d) Register files
- (e) Finite state machine representation of state elements