

COMPUTER SCIENCE TRIPOS Part IB – 2012 – Paper 5

3 Computer Design (SWM)

- (a) What are the differences and similarities between a branch, a software exception (SYSCALL on MIPS, SWI on ARM), an exception and an interrupt? [6 marks]
- (b) What is the difference between precise and imprecise exceptions? [4 marks]
- (c) What does a TLB do and how does it do it? [5 marks]
- (d) TLB misses can be handled in hardware or software. If misses are handled purely in software, how are they made transparent to the user code? [5 marks]