COMPUTER SCIENCE TRIPOS Part II – 2016 – Paper 9

11 System-on-Chip Design (DJG)

(a) Describe two key features of each of these three forms of RTL: Structural, Behavioural, Synthesisable.   [6 marks]

(b) What is the purpose of an RTL 'generate' statement and what is its equivalent in Bluespec or Chisel ?   [4 marks]

(c) Define high-level logic synthesis and high-level modelling of hardware, saying what purpose they serve.   [6 marks]

(d) Which forms of RTL or high-level model are best for estimating the performance and energy use of a hardware design and why?   [4 marks]