Comments

Overall, the exam. answers were gratifying; there is no intentional difference in standard of this paper with previous ones but the typical marks appear higher than recent years. Of the averages, a mean around 61% is less indicative than a median close to 68%.

All optional questions were attempted by a significant number of candidates.
Q2 and Q3 were less popular and most candidates opted for Q5; ironically Q2 had the highest average mark for a question and Q5 the lowest.

Most question sections were generally well answered so the details below concentrate only on particular problem areas.

Q1(i) A number of candidates confused the geometry of transistors with that of standard cells.

Q1(j) Various elements were neglected at random, but particularly the "#3;"

Q1(k) A recurring fault was "always @ (sel)", omitting response to changes ofthe data inputs. Beware!

Q3(c) No one got this exactly right. It is not a problem we exploredexplicitly but should be quite straightforward. Start (say) at thecentre point just after an A clock; there will be an unknown time before the next B clock but this will average to T_B/2; there are then two moreT_B periods before the acknowledge can happen. The other half-cycle is analogous.

Q5(b) This may have been (and should be) better understood than it wasexpressed, in a number of cases. In particular there was almost no mentions of increasing the clock frequency, without which everything suffers.

As alluded to above, there were some good answers too and evidence of applying the course material to problems which indicated some deeper understanding.