Examination Feedback for EEE6040– High Speed Electronic Devices
Spring Semester 2011-12

Feedback for EEE6040 Session: 2011-2012

Feedback: Please write simple statements about how well students addressed the exam paper in general and each individual question in particular including common problems/mistakes and areas of concern in the boxes provided below. Increase row height if necessary.

General Comments:

All four questions received almost equal attention. Many good scores resulting in a close distribution with few fails, but also only a few outstanding scores. Average very similar to previous years. No major common problem questions, but quite a lot of minor errors or misunderstandings which cost students some marks. Clearly some students ran out of time or failed to divide their time. Several students missed out major scoring sections of questions, some of which were relatively easy.

Question 1:

Generally answered very well. A few students did not include both MOSFET characteristics, a few did not give good explanations of impact ionization. Some poor quality diagrams. One or two errors in calculation in parts c) and d), but most students did quite well.

Question 2:

2a answered very well, although a few were not clear on the relationship to the emitter and collector currents. A few calculation errors in part b), but mainly very good. Some very good answers to c), but a few students started adding a little too much information of a inaccurate nature. Most students could not answer d) properly, making basic mistakes over the band gap of Al.5Ga5As

Question 3:

Very good answers for part a), but a few did not accurately describe all the trends. Many gave BiCMOS as a possible future technology; whilst Bipolar can be fast it is only fast at high current and power dissipation would be huge- this was not really appropriate. A few gave good suggestions here, but some gave little detail. Parts b) and c) were answered very well, but there were a few basic errors in the calculation.

Question 4:

Good answers in general to a), but sometimes lacking in detail. Some made mistakes in b) or one answer right but one wrong, which I don't understand. Very few made a correct calculation in c), but I suppose this is a little complex and prone to basic errors. Part d) suffered from some missing or poor drawings and some errors in calculation.