

Feedback for EEE6008 Session: 2010-2011

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:

Questions 2 & 3 were the most popular, closely followed by Q1. Very few candidates attempted Q4. The highest average scored was for Q2. A handful of candidates scored extremely highly with excellent answers.

Question 1:

Students were generally able to discuss defects associated with fabrication process, but were unfamiliar with the effects of metal contamination. Nearly all candidates were able to sketch a SEM, however attempts at describing the techniques employed in SEM to characterize defects ranged from excellent to non-existent, probably reflecting the poor attendance in the closing weeks of the course.

Question 2:

Most coped well with the bathtub and definition of reliability, but there was some confusion over which distribution best describes each region. Ranking and plotting was of a reasonable standard (with the majority able to select the appropriate scale), but there were a surprising number of candidates were unable to apply the Arrhenius equation to the data to extract activation energy, and there were also a number of failures to extract the shape parameter correctly.

Question 3:

Most were able to describe and compare EOS/ESD, and were able to apply the human body model, although very few were able to determine the power density discharged through the diode. A large number of marks were lost in part c where candidates were generally unable to sufficiently describe the effect of high energy particles on all four components.

Question 4:

Answered by $<1/3^{\text{rd}}$ of candidates. Most were unable to describe atomic diffusion in order of energy required, and failed to discuss voids in their description of the Kirkendall effect, but were able to describe Fick's law reasonably well. Most were able to sketch electromigration sites well. Black's equation was lost on most candidates.