Examination Feedback for EEE6035– High speed electronic circuit design

Autumn Semester 2012-13

Feedback for EEE6035 Session: 2012-2013

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:

Question 1:
(a) and (b) Have been answered correctly by most students.
(c)   Some students couldn't solve this correctly since they assumed a short length of a s.c. transmission line provides capacitive reactance, and a shorter length of an o.c. transmission line provides inductive reactance. Others, tried to prove how the characteristics impedance of a transmission line can be measured using s.c. and o.c. Lines.
(d) Although this has been derived in the lectures, most students couldn't solve it with a common mistake of deriving the reflection coefficient's equation instead of that for the VSWR.

Question 2:
(a) Few students made a mistake by explaining in details how this can be done using the Smith chart.
(b) A common mistake here was assuming the given VSWR is at the load end, while in the question it says clearly that it is at the input side of the transmission line.
(c) Almost all the students have solved this question with no problem.

Question 3:
(a)   Many students made a mistake here by describing the SFD rules.
(b) and (c) have been answered correctly by most students.
(d) Most common mistake is not deriving the correct expressions for the input impedance as well as the relation between the two terminal voltages.

Question 4:
(a) Nearly all students, who solved question 4, have answered this part correctly.
(b) Few students made mistake with using the proper gain equations.
(c) The most common mistake is trying few constant gain circles and choose a reflection coefficient the does not satisfy the maximum possible gain. Another mistake was plotting the wrong noise figure circle.