Examination Feedback for EEE6011 Antennas and Propagation
Spring Semester 2009-10

# Feedback for EEE6011 Session: 2009-2010

**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:**

The paper average is was what I would have expected. The first question was well answered, with the remaining having reasonable averages. The fourth question was least popular.

**Question 1**:

A well answered question.

(a) This part was bookwork, and since the answer was already given marks were awarded for clearly showing the relevant stages of the derivation. There was a slight tendency to skip the explicit factorization term $e^{j\frac{\Psi}{2}}$.

(b) In the third calculation, no one realized that a beam shift of $30^o$ from broadside could go either way, and most assumed $\theta = 60^o$ only.

(c) Most calculated the beam shift correctly.

**Question 2**:

A reasonably answered question.

(a) Some people did not clearly indicate the incident and refracted angles between the ionospheric layers when using Snell's law.

(b) Most correctly calculated the values, but some did not specifically make clear that with an ionosonde $i_o = 0^0$ when explaining their working.

(c) Some used the sine rule here, which wasn't necessary since we have a right angled triangle because the elevation angle is zero.

(d) Most people figured propagation would cease below the critical frequency, but not all described the shortened skip distance below 24MHz.

**Question 3**:

Another reasonably answered question.

(a) Most people calculated the correct value for the radiation resistance.

(b) No one figured that the insulated dipole would have a longer electrical length, thereby making its input impedance inductive.

(c) Some gave confused reasoning for their answers here.

(d) Most got this right.

**Question 4**:

Only a few people attempted this question. I guess it appeared the most challenging, since it involved a moment method triangular basis function. However, parts (b) and (c) were really quite simple, the latter requiring Ohm's law.