

Examination Feedback for EEE6223 Antennas, Propagation and Satellite Systems
Spring Semester 2014-15

Feedback for EEE6223 Session: 2014-2015

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.

Question 1:

Average mark about where I would expect it.

- (a) Some confusion between flat and spherical earth model and with incident and refracted wave angles.
- (b) Not many explicitly stated that since incident angle is zero then $f = f_c$.
- (c) Some confused critical frequency with propagation frequency.

Question 2:

Average a little low.

- (a) Not many used the input impedance of a half wave dipole $73/N$, just R_r/N instead, and some were confused between I and I_o .
- (b) Antenna gain in dBi not dB. Some did not get the correct equation for x , which is the key here.
- (c) Not many figured out the asymmetric sidelobes.

Question 3:

Lowest average.

- (a) Marks awarded for clear stages in working. Some jumped stages by quoting from memory.
- (b) Pretty obvious property comparison between antennas here.
- (c) Not many figured out the requirement for the effective aperture of the full wave dipole here, and some just multiplied incident E field by wavelength.
- (d) Appreciation of four fold reduction in effective aperture required.

Question 4:

Best and high average.

- (a) Very well answered. A couple did not draw in the ground plane and showed radiation patterns beneath it.
- (b) Most got correct answers for radiation resistance and gain. Some quoted latter in dB not dBi.
- (c) Straight numerical comparison.

Question 5:

A high average

- (a) First parts generally answered well
- (b) Marks awarded for clear stages in working.
- (c) Most problems encountered in the final part were due to not referencing where the calculation was referenced to (antenna or receiver – it should be the receiver)
- (d) Some candidates just answered a previous exam question
- (e) Mistakes were made due to a lack of a clear working methodology and illustration of the problem

Question 6:

A good average for the level of the cohort

- (a) First part generally answered well
- (b) Marks awarded for clear stages in working.
- (c) Problems encountered by not illustrating the problem and having a clear working methodology
- (d) Most could derive the expression but failed to comment on the design. This is where most candidates lost at least one mark.