Examination Feedback for EEE347 – Communication Engineering
Spring Semester 2014-15

Feedback for EEE347 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.

General Comments:

Question 1:

a. Most common mistake is the explanation of PN code and spreading systems.
b. Few students did not explain the channel coding correctly.
c. Answered correctly by most students
d. Few students derived the expression for the AM DSB SC instead of AM DSB LC.

Question 2:

a. A common mistake here is explaining the principles of run length coding.
b. Answered correctly by most students.
c. Many student made common mistakes in combining the contributions from different branches in the system. Other students have just calculated the probabilities of error and correct transmissions.
d. Answered correctly by most students.

Question 3:

a. Many students made a mistake by explaining the operation of integrate and dump matched filter.
b. Answered correctly by most students.
c. Answered correctly by most students.
d. The most common mistake is using *g(t)* to work out the tap weights instead of *h(t).*

Question 4:

a. Many students have just listed one or two advantages.
b. Most common mistake is in defining the length of the maximal length PN code. In addition, few students have presented examples of non-maximal length PN codes.
c. Few students went wrong in performing the correct modulo-2 additions, and hence they got the wrong PN code.
d. Answered correctly by most students, but few were mixed-up between orthogonal and non-orthogonal schemes.

Question 5:

Generally well answered:
Part a:Main mistakes were not identifying the use of the complex conjugate
Part b: Most people got this wrong. Main problems seemed to be a lack of understanding of how aperture size effects beamwidth and how aperture shaping can reduce sidelobe levels.
Part c: No general problems
Part d: Some integration errors such as using the wrong limits or simple maths mistakes

Question 6:

Generally well answered:
Part a: Main uncertainty seemed to be in effective area
Part b: No obvious problems
Part c: Some people could not recall the derivation and so did poorly on this question
Part d: Some people forgot to use aperture efficiency

Question 7:

Quite a poorly answered question
Part a: Most people derived the mon-static equation
Part b: Almost nobody could do this. There seemed to be a lack of understanding of how objects scatter as a function of angle.
Part c: No general problems here, some maths errors but nothing major

Question 8:

Generally well answered
Part a: No major problems
Part b: Main problem was forgetting the equation for SJR and not being able to derive from first principles.
Part c:No major problems here