

ECO 199 – GAMES OF STRATEGY
Spring Term 2004
PROBLEM SET 3 – DUE THURSDAY APRIL 15

Question 1: 10 points

Consider the genetic defect example that illustrates Bayes' Theorem in *Games of Strategy*, Chapter 9, Appendix Section 1, pp. 301-3. The probability that any one person in the population has this genetic defect is 1 percent. Suppose we want to ensure that the probability of there being no defect when the test is positive is less than 5 percent. Given that the probability that the test is negative when the defect is present is fixed at 1 percent, how low must we make the probability that the test is positive when the defect is not present? (Hint: Let x denote the probability that you are asked to find out. Then set up the conditions that enable you to solve for x .)

When this aim is achieved, what is the probability that someone whose test is negative actually has the defect?

Question 2: 30 points

Games of Strategy, Chapter 9, Exercise 7, pp. 297-8.

Question 3: 30 points

Games of Strategy, Chapter 10, Exercise 4, pp. 341.

Question 4: 15 points

Games of Strategy, Chapter 10, Exercise 5, pp. 342.

Question 5: 15 points

Each of the following statements is about a strategic move. In each case, state the purpose of the move (deterrence, compellence etc.) and its nature (threat, promise etc.), and briefly (about 100 words each) discuss what enhances or detracts from its credibility.

[a] President Kennedy, answering a press question in 1961, said: "What we hope will prevent a direct attack [on West Berlin] is Soviet awareness that we mean to defend our position [there], and that American troops, who are not numerous there, are our hostage to that intent."

[b] Sherman said about his destructive march through Georgia in 1864: "If the people [of the Confederacy] raise a howl against my barbarity and cruelty, I will answer that war is war. If they want peace, they and their relatives must stop the war."

[c] Shakespeare's Henry V at the siege of Harfleur invites its citizens to surrender the town, and says that if they do not, terrible things will happen (continued on the next page):

“If I begin the battery once again, ...
the flesh'd soldier, rough and hard of heart,
In liberty of bloody hand shall range

...

We may as bootless spend our vain command
Upon the enraged soldiers in their spoil
As send precepts to the leviathan
To come ashore. Therefore, you men of Harfleur,
Take pity of your town and of your people,
Whiles yet my soldiers are in my command ...”