CVEN 4333, Spring 2010, Assignment #5, Due Thursday February 11,

at 5:00 in Cameron Bracken’s mailbox. No late papers accepted.

From the Book:

1) 3.16

P(A) = .4 P(B\_overbar) = .6

P(B) = .5 P(B\_overbar) = .5

2) 3.18

Could be many things

3) 3.19

a) P(both A and B) = P(A)P(B)=(.4)(.5)=.2

b) P(neither occur) = P(A\_overbar)P(B\_overbar)=(.6)(.5)=.3

c) P(B but NotA) = P(A\_overbar)P(B) = (.6)(.5) =.3 NOTE: answer book has this wrong in notation in answers (right numbers)

4) What is the probability that a 10 year flood will not be exceeded in any single year?

T= return period = 10

P(F)=1/T =.1

P(F\_overbar) = 1-.1 = .9

Or see eq. 3.23 P(F\_overbar)= 1- 1/T = 0.9

6) Attached is a figure (snowmodel.pdf) discussed in class Weds. Which shows a conceptual snow melt model. Snow in the most important form of precipitation on the Front range and predicting the characteristics of the spring melt is a formidable engineering problem. Through your own research indicate what each arrow in the diagram (From left to right at the snow atmosphere interface and then left to right in the snow pack interior) would look like mathematically. Explain the mathematics in one English sentence for each arrow.