NAME : TRINAYAN DAS
ROLL NO: 180123051

Question no: 1

The values of alpha 1 and alpha 2 chosen are:

alpha 1 = 1, 2, 3, 4, 5
alpha 2 = 6, 7, 8, 9, 10

Question no: 2

$x^* = (\text{alpha } 1 - 1) / (\text{alpha } 1 + \text{alpha } 2) - 2$

Calculating for the five pairs :

x^* for first pair = 0 //for pair(1,6)
x^* for second pair = 0.14 //for pair(2,7)
x^* for third pair = 0.22 //for pair(3,8)
x^* for fourth pair = 0.27 //for pair(4,9)
x^* for fifth pair = 0.31 //for pair(5,10)

Question no: 3

From the five histograms the value of f(x) can be seen for each of the pairs at the point x* where it shows maximum. We observe that the graph exactly appears maximum at the point x* that we have calculated theoritically in the 2nd question.

Question no: 4

The following code can be seen in my .py file attached alongwith.

Question no: 5

The five histograms are successfully generated and i have attached it alongwith.