time : 50 minutes

Do all 4 questions. All count equally.

1. Suppose a person has strictly convex preferences, but she regards all commodities as "bads" : that is, she prefers bundles which have smaller quantities of either good. Sketch the indifference curves for such a person.

2. Could two of a person's indifference curves cross? Explain briefly.

3. What consumption bundle would a person choose if her preferences could be represented by the utility function

$$U(x_1, x_2) = x_1 + 10\sqrt{x_2}$$

if the price of good 1 were $1, if the price of good 2 were $1, and if she had an income of $125 to spend? (Here x_1 and x_2 are the quantities consumed of goods 1 and 2 respectively.)

4. How would a person's quantity demanded of food vary with her income if she consumed only food and clothing, and if she regarded food and clothing as perfect complements?