MASTER OF ARTS EXAMINATION, 2018

(1st Year, 1st Semester)

ECONOMICS

MICROECONOMICS-1

Full Marks: 30

Time: Two Hours

Attempt Question no. 1 and any one from the rest:

1. (a). Suppose an agent (who is an expected utility maximizer) has the following quadratic Bernoulli utility function:

$$u(x) = \beta x^2 + \gamma x$$

Show that, when comparing any two lotteries, this agent only looks at their respective means and variances. Assume x to be a continuous. (Make your own assumptions)

(4)

(b). Explain whether the following statements are True, False or Uncertain:

(i). "A Prudent individual should always exhibit Decreasing Absolute Risk Aversion (DARA)".

(ii). $u(x) = x^\alpha$ ($0 < \alpha < 1$) exhibits both DARA and CRRA at the same time.

(3+3)

(c). Consider two random variables X and Y distributed continuously on $[0,1]$. Their respective c.d.f.s are $F(.)$ and $G(.)$. Show that if X **second order stochastically dominates** Y then $E(X) \geq E(Y)$.

(5)

(2). Suppose in a production model there are 2 inputs labour (L) and land (T). With the help of the two inputs two goods X_1 and X_2 are produced. Assume X_1 to be relatively labour intensive. If there is an exogenous increase in the price of good 2 only, state and explain your conjecture about returns to both the factors? Assume fixed coefficient technology. (7)

(b). Calculate the profit maximizing supply functions of x_1 and x_2 for the production technology given by the function $f(x_1, x_2) = x_1^{a_1} x_2^{a_2}$ where $a_i > 0$. Also find the profit function of the firm.

(3+3+2)

(3). A firm has two plants with cost functions $c_1(y_1) = \frac{y_1^2}{2}$ and $c_2(y_2) = y_2$. What is the cost of producing an output y?

(6)

(b). Explain true, false or uncertain:

(i). Consider a 2 factor 2 good production model with fixed coefficient technology. Then if the factor endowment ratio is equal to the relative factor intensity ratio of good 1 and good 2 then any one of the goods shouldn't be produced.

(ii). The Walrasian budget line may or may not pass through the endowment point.

(3+3)

(c). State the 'Independence Axiom'. (3)