INTERMEDIATE EXAM

(24/11/2023)

1 HOUR AND 45MIN

1. Describe briefly: [4 points]

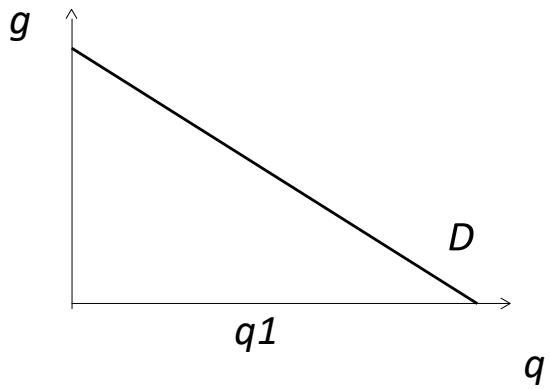
a) Concept or formulation of elasticity.

b) Formulate and solve the problem of the Individual Theory of Election for two goods, x1 and x2.

c) The concept of Economy of scale.

d) What should be the main goals of the parking pricing strategy?

2. Consider the following figure where ***g*** represents the generalized cost of using a transport service for a user, ***q*** the number of trips and ***D*** the demand curve. For a given number of trips, ***q1***, graph the consumer surplus, the producer surplus and the net social benefit. Assume that ***c*** is the producer's unit cost and ***p*** the price (ticket) charged by the producer. [2 points]



3. Road pricing: [1 point]. Let's assume a road with congestion problems. Represent graphically 1) the average cost, marginal cost, social marginal cost and the optimum level of traffic flow and user's cost to maximize the social welfare and 2) the toll (or tax) to charge to road user's in order to reach this optimal point.

4. Transport pricing [1 point]. Let's suppose that C_u, the average cost of user of using a transportation mode, p is the price (ticket) and the generalized cost is g, with g= p+ C_u g=ptc,,. Indicate examples of transportation mode where 187) dg= 0, and las < 0, where q is the number of users of the transportation mode.

5. Market organization [1 point] Provide an example of a market organization of a transportation system. Explain if the three levels of organization are integrated or not.

6. Production function [1 point]. Explain the concept of returns to scale.