

## Assignment 2 (Optional)

Total Marks: 50

### **Part A True/ False/ Uncertain Questions**

*Explain why the following statement is True, False, or Uncertain according to economic principles. Use diagrams and / or numerical examples where appropriate. Unsupported answers will receive no marks. It is the explanation that is important. Each question is worth 10 marks.*

#### **A1.**

Imposing a quantity tax on a monopolist, which faces a linear demand curve and has constant marginal costs, will cause the market price to increase by the amount of the tax. [Diagrams Required]

#### **A2.**

Entry of more firms in a monopolistically competitive market leads to a decrease in market price. [Diagrams Required]

## Part B

## Problem Solving Questions

*Read each part of the question very carefully. Show all the steps of your calculations to get full marks.*

### B1. [15 Marks]

You are the only European firm selling vacation trips to the North Pole. You know only three customers are in the market. You offer two services, round-trip airfare and a stay at the Polar Bear Hotel. It costs you 300 euros to host a traveler at the Polar Bear and 300 euros for the airfare. If you do not bundle the services, a customer might buy your airfare but not stay at the hotel. A customer could also travel to the North Pole in some other way (by private plane), but still stay at the Polar Bear. The customer has the following reservation prices for the services:

#### Reservation Prices (in euros)

Customer	Airfare	Hotel
1	100	800
2	500	500
30	800	100

- (a) If you do not bundle the hotel and airfare, what are the optimal prices for airfare ( $P_A$ ) and hotel ( $P_H$ )? What profits do you earn?
- (b) If you only sell the hotel and airfare in a bundle, what is the optimal price of the bundle ( $P_B$ ) and what profits do you earn?
- (c) If you follow a strategy of mixed bundling, what are the optimal prices of the separate hotel, the separate airfare, and the bundle ( $P_H$ ,  $P_A$ , and  $P_B$ , respectively) and what profits do you earn?

**B2. [15 Marks]**

Think of a game of discoordination in which each of two players chooses to attend 1 of 2 parties. One person (call her Sarah) wants to attend the same party as the other (call him Russell), while Russell wants to avoid Sarah (that is, Russell wants to attend the party Sarah does not attend). Figure 1 shows the payoff matrix of this game.

In this matrix, Party A means “go to the party at Amber’s house,” while Party B means “go to the party at Bob’s house.”

**Figure 1: Payoff Matrix for a Discoordination Game**

		Russell	
		Party A	Party B
Sarah	Party A	2, 0	0, 2
	Party B	0, 2	2, 0

- (a) Find the best response strategies of each player. Plot the best response curves of each player in a diagram.
- (b) Find all the Nash equilibrium (pure strategy equilibrium as well as mixed strategy equilibrium) of this game and illustrate it in a diagram.