Exam Operations Strategy 2017

Open Question 1 (4 pts)
A company produces a certain product (product 1) and then decides to launch a low-end market product (product 2). Given are the WTP curves and the MC. The company is a monopolist so there are no other players on the market.
$WTP1 = 400 - 5x$; $WTP2 = 320 - 4x$ and $c1 = 200$ and $c2 = 140$

- Calculate optimal price and profit before the launch of product 2
- Calculate optimal prices and profit after the launch of product 2 (so when both products are on the market)
- What percentage of the market is taken from product 1 by product 2?
- Do you think it is a good idea to launch product 2? Why yes/no?

Open Question 2 (5 pts)
Railway company had capacity of 200 seats on a train. $D(p)=300-2p$.

- Calculate optimal prices and revenues
- What would happen if capacity dropped to 150? You do not have to calculate this, just explain intuitively. Discuss the effects on prices and on revenue.
- Number of no shows is normally distributed with mean 10 and standard deviation 5. What is the optimal overbooking level q^*?
- What is the impact of overbooking on your revenues?

Multiple choice (11pts)

- Given theta1, theta 2, omega1, omega2 and their definition. Which statement is correct? When is an item going to be given priority and when is there overflow?
- Given is output of DEA analysis. Is this input oriented BCC, output oriented CCR or none of the above?
- Definition of badge engineering
- High demand 100 000 with probability 0.6 and low demand with probability 0.4. Margin, Ck are given, there is no penalty cost. What is K^*?
- Operational hedging: what does it reduce? Gamma or expected risk or both?
- DEA: It is possible that theta_CCR > theta_BCC OR Removing a certain DMU influences the outcome of the efficiency score
- In the concept of chaining it is important to produce negatively correlated products in the same plant OR When demand and capacity are too far from each other, chaining is not useful
- What statement is correct: lagging reduces forecast risk or statement on leading timing strategies: with leading you have excess capacity, this increases competition.