Economics 380: Final Solutions

1. The scheme is like a selective wage increase for people who study.
(a) In the short term, this wage increase will decrease profits. People may put in more effort is wage increases. You may also get lower turnover. Any answer along these lines is acceptable.
(b) In the long–term, there will be a selection effect. Attract more diligent employees. Could increase profits.

2. Here are two explanations:
(a) Volvos are safe, so people drive more recklessly.
(b) Careless people know they are careless and buy Volvos.

3. Holdup problem:
(a) First best is $I = 1$. The surplus is $1/2$.
(b) With holdup, the price will be $p = 0$. Investment will be $I = 0$.
(c) If the buyer stick to agreement they get $1/2$ each period. If they defect they get 1 this period ad 0 thereafter. Hence they will not defect of $\delta \geq 1/2$. The seller is (weakly) better off by sticking to the agreement.

4. Double markup:
(a) The firms exert negative externalities on each other by increasing their price.
(b) The price will equal the vertically integrated price.
(c) Exclusive territories may increase prices and reduce the profits of the upstream firm. Of course, they may be not such a bad thing if two–part tariffs are possible.

5. (a)(i) Signalling not possible. The low types could always copy the high types. (ii) Signalling is possible if the cost of the low types is high enough.
(b)(i) Signalling is possible since high types are willing to take more education the low types for any given market beliefs. (ii) Signalling is not possible.

6. Optimal bundles:
(a) Bundle at a price of \$14.
(b) Sell separately at price of \$10 each.
(c) Bundle at a price of \$14.

7. Optimal closing time:
(a) Close at 11pm.
(b)(i) Customers arriving late may shift to earlier time slots.

(ii) But if customers are loyal could lose some for good, i.e. customer who sometime arrive at 11:30 and also sometime arrive at 8:30. Also hourly labour costs could rise since people will have shorter shifts, yet still need to travel to work.

8.(a) Invest more. This is a strategic effect: investing more means lower costs which means lower prices if entry occurs.
(b) Probably invest more. There is a direct effect: holding price fixed, more R&D means the entrant gets fewer sales. There is also a strategic effect: more investment means the quality is higher and price will be higher. For example, if may be that without investment the firms are undifferentiated and make bertrand profits, while with investment, the firms are vertically differentiated so even the lower quality firm (the entrant) make profits. In this case the incumbent should invest less.