

Markets, Incentives and Ethical Management

⚠ This is a preview of the draft version of the quiz

Started: Oct 22 at 11:11am

Quiz Instructions

Quiz instructions

Please note the exam consists of two parts.

First part (Markets, Incentives):

The first part of the exam consists of 4 questions of which you will have to answer **all** questions. The maximum of points to be reached is **90**. Please use the enclosed answer sheet to answer your questions and add your student ID on its cover.

Aids: pocket calculator Casio FX-82 solar, German-English Dictionary, English-English Dictionary

Lecturers: Prof. Dr. Heiko Karle, Prof. Dr. Markus Reisinger, Prof. Dr. Frederik Schwerter

Second part (Ethical Management): The second part of the exam consists of 26 questions of which you will have to answer 26 questions. The maximum number of points to be reached is 30.

We wish you all the best for your examination!

Question 1 – General Equilibrium (16 points)

Question 1

4 pts

State the definition of competitive equilibrium in a market economy with two goods.

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Question 2

2 pts






State the definition of the First Welfare Theorem.

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Suppose that there are two consumers A and B and two products X and Y. The initial endowment is such that consumer A is endowed with $(X_A, Y_A) = (5, 3)$ and consumer B is endowed with $(X_B, Y_B) = (7, 2)$. Both consumers have standard preferences and their utility functions are









$$U_A(X_A, Y_A) = X_A Y_A \quad \text{and} \quad U_B(X_B, Y_B) = X_B Y_B.$$




Question 3

2 pts






Determine the utilities of consumers A and B at their respective initial endowment.

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Question 4

2 pts






Determine consumer A's and B's utility when consumer A gives 1 unit of good Y to consumer B.

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Question 5

3 pts

State whether the allocation in Question 3 or in Question 4 is preferred by a Rawlsian social welfare function. Explain your answer.

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Question 6

3 pts

State whether the allocation in Question 3 or in Question 4 is preferred by a Utilitarian social welfare function. Explain your answer.

Question 2 – Oligopoly (27 points)

Consider price competition between two firms (firm 1 and 2). The firms sell a homogeneous product at constant marginal costs of $c=5$ for each firm. (There are no fixed costs). Prices are set simultaneously (**Bertrand competition**). The demand function is $D(p)=10-p$ for a firm setting the lowest price alone, $D(p)/2$ for a firm setting the lowest price together with the other firm, and 0 for a firm not setting the lowest price. Assume that price differences can be infinitesimally small. Use the notation " $p-\epsilon$ " for slightly undercutting a price p of a rival firm.

Question 7

4 pts

Determine the equilibrium prices and explain briefly why they constitute a Nash equilibrium.

Question 8

1 pts

Determine the corresponding profit of firm 1 and 2.

Question 9

3 pts

Explain briefly why the Nash equilibrium in Bertrand competition cannot be determined by deriving the first-order conditions of the profit-maximizing firms.

Suppose now that only firm 1 is active in this market.

Question 10

1 pts

Determine the profit function of firm 1.

Question 11

2 pts

What is the monopoly price that firm 1 will set?

Suppose next that both firms are active in the market but firm 2 has higher marginal costs of 6, i.e., $c_1=5 < 6=c_2$.

Question 12

4 pts

Determine the equilibrium prices and explain briefly why they constitute a Nash equilibrium.

Question 13

2 pts

Determine the corresponding profit of firm 1 and 2 when ε is approximately zero.

Question 14

3 pts

Explain how the equilibrium prices are changing if firm 2's marginal costs increase further to 8, i.e., $c_1=5<8=c_2$.

Assume that the demand functions of firm 1 and 2 have changed such that

$$D_1(p_1, p_2) = 10 - p_1 - \frac{1}{2}p_2 \quad \text{and} \quad D_2(p_1, p_2) = 10 - p_2 - \frac{1}{2}p_1.$$

Question 15**3 pts**

Do the two firms sell substitutes or complements now? Briefly explain your result.

Question 16**4 pts**

Solve the game for the Nash equilibrium prices when the marginal costs of both firms are equal to 5, i.e., $c_1=c_2=5$.

Question 3 – Tacit Collusion (27 points)

Consider a situation with two firms, firm 1 and firm 2, which produce a homogenous product. The inverse demand function is $D(p) = 10 - 2p$. Production cost functions are $2q_i$, $i=1,2$, for each firm, that is, $C_1(q_1) = 2q_1$ and $C_2(q_2) = 2q_2$.

Question 17

3 pts

Suppose that firm 1 is a monopolist (that is, firm 2 does not participate in the market). Determine the monopoly price and firm 1's profit.

Question 18

3 pts

Instead of firm 1 being a monopolist, firm 1 now competes with firm 2. Competition occurs in prices (**Bertrand competition**). What are the equilibrium prices and equilibrium profits of this game?

Question 19

4 pts

Suppose that instead of competing only for one period, the two firms compete in prices repeatedly for 50 periods. Explain why the Subgame Perfect Nash equilibrium in this repeated interaction is the same as the one in one-shot (single period) competition.

Suppose now that the two firms compete for an infinite number of periods. Both firms have a common discount factor δ , which is between 0 and 1. Each firm follows a grim-trigger strategy.

Question 20

5 pts

Formulate a reasonable grim-trigger strategy that allows the firms to sustain collusion if the discount factor δ is large enough.

Question 21

3 pts

To determine the best deviation from a grim-trigger strategy, state the optimal one-period best-response of a firm, given that the competitor sets its price at the monopoly level. What is the resulting profit?

Question 22

5 pts

Determine now the critical discount factor above which firms can sustain tacit collusion when following a grim trigger strategy.

Suppose that firms would compete in quantities instead of prices. They still follow a grim-trigger strategy to sustain a collusive outcome in which each firm produces half of the monopoly quantity.

Question 23

4 pts

Explain verbally how the deviation profit of a firm differs when firms collude by setting quantities as compared to the price setting case.

Question 4 – Asymmetric Information (20 points)

Consider the following signaling situation:

There are two types of cars: one has high quality and is worth 50 to a buyer, and one has low quality and is worth 20 to a buyer. Both types are equally likely (that is, they each have a probability of 0.5).

The owner of each type of car can go to a car repair shop to implement “cosmetic” changes to the car, which do not affect the quality. However, implementing a level K of cosmetic changes is less expensive for the owner of a high-quality car than for the owner of a low-quality car. Specifically, implementing one unit of cosmetic changes costs 2 for the owner of a high-quality car but 5 for the owner of a low-quality car.

Question 24

2 pts

Suppose that implementing cosmetic changes was not possible, what is the expected value of a car to a buyer?

Consider the following constellation: Low-quality owners choose $K=0$, high-quality owners choose $K=K^*>0$, and buyers pay 50 when seeing a level $K=K^*$ but only 20 when seeing a car with $K=0$.

Question 25

5 pts

Determine for which values of K^* neither the owner of a low-quality car nor the owner of a high-quality car have an incentive to deviate from the constellation described above.

Question 26

3 pts

Out of these levels, which level of K^* is the most-efficient one for social surplus? Give a short explanation.

Question 27

4 pts

Explain verbally why signaling allows a buyer to disentangle the quality types although cosmetic changes do not improve the quality of a car.

Hidden action occurs in several economic situations.

Question 28

2 pts

State and briefly explain a situation of hidden action.

Question 29

4 pts

Consider a situation of hidden action in which both parties (i.e., the principal and the agent) are risk neutral. Describe a contract that can avoid inefficiencies in such a situation and briefly explain your result.

Ethical Management: The second part of the exam consists of 26 questions of which you will have to answer 26 questions. The maximum number of points to be reached is 30.

Question 30

1 pts

Why do business people act unethically? Select one or more answer choices.

- ☐ Rationalization
- ☐ Bad role models in the organization
- ☐ Peer pressure
- ☐ Corporate culture
- ☐ Difficulty in defining what is ethical
- ☐ Whistleblowing policy
- ☐ Pressure from superiors

Question 31

1 pts

Business ethics is the application of ethics to the special problems and opportunities experienced by business people.

☐ True

☐ False

Question 32

1 pts

One form of consequentialism is utilitarianism.

☐ True

☐ False

Question 33

1 pts

According to Kant, it is wrong to make false promises because if people did then the world would be a horrible place.

☐ True

☐ False

Question 34

1 pts

Kant believes you can never treat someone as a means to an end.

☐ True

☐ False

Jim is an explorer who stumbles upon an Indian leader who is about to execute twenty people. Jim knows nothing of their possible crimes or any other factors involved, but he is offered a difficult choice by the Indian chief who is eager to impress his foreign traveller. Jim can either shoot one of the prisoners himself and then the rest will be set free as a mark of celebration, or he can refuse the offer in which case all twenty prisoners will be executed as was planned. It is key to note that Jim does not have control of the situation in the sense that he is powerless to bargain or negotiate with anyone, and nor can he use a weapon to successfully free any prisoners. He has only the two options laid out.

Question 35

0.5 pts

It can be ethical if Jim shoots one of the prisoners himself.

☐ True

☐ False

Question 36

0.5 pts

According to utilitarianism, it matters morally whether you cause an outcome actively (i.e., by producing a certain course of actions) or passively (by refraining to act in a certain way and thus allowing it to happen).

☐ True

☐ False

Question 37

1 pts

Which of the following statements is accurate?

☐ All legal behaviour is ethical behaviour.

☐ Some ethical behaviour may be illegal.

☐ Legal standards represent the highest standard.

☐ None of the statements

Question 38

1 pts

Which formulation of the Categorical Imperative does the following statement present: "Act in such a way that you treat humanity, whether in your own person or in the person of any other, never merely as a means to an end, but always at the same time as an end."

☐ First

☐ Second

☐ Third

☐ Fourth

Question 39

1 pts

Which ethical theory/theories do not employ a universalization?

☐ Act utilitarianism

☐ Rule utilitarianism

☐ Kantian duty-based ethics

☐ Virtue ethics

☐ A and D

Question 40

1 pts

Ethics is the discipline that examines one's moral standards, or the moral standards of a society.

☐ True

☐ False

Question 41

1 pts

To evaluate the adequacy of moral reasoning, ethicists employ the following criteria:

- ☐ Moral standards must be consistent.
- ☐ Moral standards must be coherent.
- ☐ Moral standards must be consistent and coherent.

Question 42

1 pts

Which of the following statements is accurate?

- ☐ Killing can be universalized as a universal law under the first categorical imperative because if killing was universalized, everyone would be dead and no one could kill anyone else.
- ☐ Killing cannot be universalized as a universal law under the first categorical imperative because of a logical contradiction.
- ☐ Killing cannot be universalized as a universal law under the first categorical imperative because it causes harm.
- ☐ None of the statements

Question 43

1 pts

A Kantian version of the deontological perspective might be interpreted as prohibiting the sale of organs because it contradicts Kant's second formulation of the categorical imperative.

☐ True

☐ False

Question 44

1 pts

The slippery slope argument says that if we allow something relatively harmless today, we may start a trend that results in something currently unthinkable becoming accepted.

☐ True

☐ False

Question 45

1 pts

Which of the following statements is accurate?

☐ Ethics and social responsibility mean the same thing.

☐ CSR is a type of international private business self-regulation that aims to contribute to societal goals of a philanthropic, activist, or charitable nature by engaging in or supporting volunteering or ethically-oriented practices.

☐ None

Question 46

1 pts

The most basic ethical concerns have been formalized through laws and regulations that encourage conformity to society's values and norms.

-
- ☐ True
-
- ☐ False

Question 47

1 pts

There is a slight positive correlation between corporate social performance and corporate financial performance, and it is clear which way the causality goes.

-
- ☐ True
-
- ☐ False

Question 48

1 pts

What is not (!) an example of a CSR activity by companies in the coronavirus crisis?

-
- ☐ Transformation of factories to produce ventilators
-
- ☐ Providing free access to unlimited mobile data for pay monthly customers
-
- ☐ Introducing legally required social distancing measures in restaurants
-
- ☐ Supermarkets that allocate opening hours specifically for the elderly and healthcare workers

Question 49

1 pts

What is not (!) an example of a cognitive strategy to justify unethical behaviour?

- ☐ It's not unethical as long as an insurance case reviewer required or suggested it.
- ☐ It's not unethical because it contributes to the greater good.
- ☐ It's not unethical if the professional association you belong to allows it.
- ☐ It's not unethical if an ethics code never mentions the concept, term, or act.
- ☐ It's not unethical as long as no law was broken.

Question 50

1 pts

Which of the following statements is incorrect?

- ☐ A Kantian autonomous vehicle would always destroy property rather than kill or even harm a person, regardless of the property's value.
- ☐ An utilitarian autonomous vehicle would not always destroy property rather than kill a person.
- ☐ An act utilitarian autonomous vehicle given the choice between colliding with two different vehicles would select the one with the lower safety rating.

Sports Direct, the leading sporting goods retailer in the United Kingdom came under fire when employees of the warehouse began to speak out against the company. This caused the government to step in and investigate the claims made by the employees. The main issue was that Sports Direct founder Mike Ashley, was not paying temporary workers at least minimum wage. He was violating the law by not paying them enough. Other issues involved making the employees sign "zero-hours" contracts where they were never guaranteed working hours from the warehouse. This gave Sports Direct complete power over the employees. Many employees also were too afraid of losing their job so they would not call out of work sick or take vacations.

Question 51

2 pts

Sports Direct involves the following stakeholders:

- ☐ Investors
- ☐ Customers
- ☐ Government officials
- ☐ Investors and government officials
- ☐ Investors, government officials, and customers

Question 52

2 pts

Sports Direct fulfilled the following responsibilities according to CSR:

- ☐ Economic

- ☐ Legal
- ☐ Philanthropic
- ☐ Economic and philanthropic
- ☐ Economic, philanthropic, and legal

Question 53

2 pts

Sports Direct fulfilled the social responsibility of a business according to Milton Friedman.

- ☐ True
- ☐ False

Question 54

2 pts

Which of the following statements regarding the Sports Direct case is accurate?

- ☐ A utilitarian would condemn these business actions because they lead to misery and unhappiness of employees.
- ☐ A utilitarian may not condemn these business actions because they lead to profit maximization.
- ☐ A consequentialist would condemn these business actions because they lead to misery and unhappiness of employees.
- ☐ A and C
- ☐ None of the statements

Question 55

2 pts

Mike Ashley is a Homo oeconomicus.

☐ True

☐ False

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