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Guidelines for the examination paper in Telecommunications Economics. Winter 2015-201, date 10.02.2016.

Criteria for top performance in assessments of examination in 'Telecommunications Economics'.

To obtain the highest grades in the assessments of examination in 'Telecommunications Economics' the following general criteria shall be met:

The student shall

- *demonstrate knowledge of all the relevant concepts and factual items regarding the questions raised and of the relationships between these*
- *be able to design an analysis to give a thoroughly description of the problem and find possible solutions to the questions raised*
- *give a survey of the relevant economic issues regarding the questions raised*
- *explain constraints and uncertainties in the presented solutions, often in the form of trade-offs between different objectives.*

As more concrete criteria - depending on the actual questions raised in the examination - the following shall be demonstrated:

Knowledge of

- *the main trends and relationships in the ICT sectors (ICT=Information and Communication Technology) regarding demand, supply, prices, market players, technical solutions, regulation etc.*
- *the main economic and technical concepts and items used in the ICT sectors, especially for telecommunication, the Internet and supply of radio and TV channels.*

The minimum criteria for passing the examination.

The student shall demonstrate knowledge of

- *the most important concepts and factual items that are relevant for answering the questions raised*
- *the most relevant trends and relationships in the ICT sectors*
- *the possibilities and limitations of the use of relevant economic analyses.*

Acceptance of a limited amount of small and medium failures in the analysis presented, but normally no major failures can be accepted.

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Question A.

There are different ways to answer the question. It is important to show an understanding and overview of different relevant concepts and to organise the presentation in a well-structured way.

The answer shall include several of the following issues:

- Describe the present set-up and the role of ICANN.
- Describe the domain name system. How to assign participants at the different levels of domain names. IP addresses: how to update currently?
- The choice of standards and the use of English language and characters.
- IPv4 => IPv6.
- Solving conflicts for e-trade.
- Network neutrality and QoS. How to allocate in case of congestion.
- Open standards.
- Criminality: Hacking, virus, fraud, access to drugs, terrorism etc.
- Abuse of "freedom to Speech": Racism, child pornography, hate crimes and the like.
- Break of privacy.
- Censorship of content: religion and politics.
- Who shall be responsible: UN, EU, US, Russia, China etc.? The role of ISPs (Internet Service Providers) and IBPs (Internet Backbone Providers).

Question B.

There are different ways to answer the question. It is important to show an understanding and overview of different relevant concepts and to organise the presentation in a well-structured way.

The answer shall include several of the following issues:

- Competition in the area between copper, coax and fibre access for broadband access. The role of mobile broadband.
- Costs depend on the number of "homes passed", population density, apartment houses versus detached houses etc.
- Decisions about allocation keys for common and joint costs.
- Different unit costs in urban and rural areas.
- Revenue depends on number of subscribers (penetration), price differentiation for different bandwidth and applications, contribution from content providers etc.
- Revenue and costs in relation to interconnect (peering, transit).
- Time horizon, requests of pay-back and other investment criteria.
- The influence from regulation, if your company has an SMP status (Significant Market Power). Closed or open network.
- Possibility of public money involved.