

Written Exam for the M.Sc. in Economics 2010-I

Telecommunications Economics

Final Exam

18 December 2009

(3-hour closed book exam)

Please note that the language used in your exam paper must correspond to the language of the title for which you registered during exam registration. I.e. if you registered for the English title of the course, you must write your exam paper in English. Likewise, if you registered for the Danish title of the course or if you registered for the English title which was followed by “eksamen på dansk” in brackets, you must write your exam paper in Danish.

If you are in doubt about which title you registered for, please see the print of your exam registration from the students’ self-service system.

Answers are wanted for both questions.

A.

Describe the concepts of digital, circuit-switched technology versus packet-switched technology for fixed telephony and thereby the present ongoing change from PSTN to VoIP. Explain why more capacity is obtained in a fixed network by use of packet-switched technology. Describe the problem of delays with packet-switched technology and together with that the concept of QoS. Explain the important trade-off seen from a financial perspective to be made regarding assuring QoS in a network. Add to these explanations a description of the overall movement of telecommunications to use the IP Protocol for both voice, data and TV.

B.

Present the two different price regimes: Calling Party Pays (CPP) versus Receiving Party Pays (RPP) in relation to mobile telephony. Explain pros et cons for these two regimes that are used respectively in Europe and US/Canada. As part of this explain the connection between the choices of CPP/RPP in relation to the need for regulation of mobile termination fees. Explain also the issue of interconnection between a mobile and a fixed network compared with the interconnection between two mobile networks.