S-72.3260 Radio Resource Management Methods 3 cr

Exam 13.12.2011

The exam consists of two parts. Part A contains two problems that need to be answered without using any background material. Part B contains four problems out of which three best will be graded. You are allowed to use any written background material in part B that you consider useful. You can decide how much time you allocate for each part within the three hour exam time. You need to first complete part A after which part B will be handed to you.

Please, provide course feedback through feedback-OODI system.

Part A: Closed book

Problem A1

Answer shortly the following two questions:

a) How does the channel characteristics - coherence time and bandwidth – impact the design of radio resource allocations schemes? (5 p)

b) Describe the different interference situations that arise in cellular systems and how they should be taken into account in the design of radio resource control schemes. (5 p)

Problem A2

Consider the scheduling problem in downlink of a cellular TDMA based system. Discuss the fairness-throughput-coverage tradeoff. What are the most suitable fairness metrics in cellular systems? (10 p)