

# T-110.5121 Mobile Cloud Computing

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**5/2015 Examination** The use of a calculator is ok. All other material is forbidden.

Remember to include the following information in your paper: the course name, date, student ID, name, and signature. You can answer in English, Finnish, or Swedish.

**Choose 3 of the 4 topics below** and write essays on them. Each topic has additional questions as hints on what kind of material you should include. Discuss other relevant issues as well. Remember to consider what is important and what is not when writing your essay.

In some questions you are required to state your own views. Pay attention that you also justify your opinions.

1. Cloud computing

Describe what are the key characteristics of cloud computing? How is it different from other computing paradigms? What are the key technical enablers that have made cloud computing possible? What are the pros and cons of using cloud computing?

2. Mobile cloud gaming

Discuss the role of cloud in gaming. What are the opportunities and challenges? What are the ways to overcome some of the problems? How does *mobile* gaming complicate the picture?

3. OpenStack

What is OpenStack and what are its key components? How does it work? Discuss the differences between open and closed cloud platforms.

4. Data center networking

Discuss the challenges of networking in a data center. What are the typical network configurations? What is the role of Software-defined network (SDN) in data centers?