

# T-111.2400 Basics of Digital Media

Exam 31.5.2012

Please, write the course name, date, and your name and student number in each answer paper. Maximum for each answer is six points.

## 1. Media Services

Define the following concepts in few lines:

1. Open Innovation
2. Long Tail of Content
3. Lock-in

## 2. Video

Are the following claims true or false? Right answer gives +1 point, but wrong answer gives -1 point. Unanswered claim equals 0 points. Total points can be 0-6 points.

1. In Zig-zag order, low frequencies come before high frequencies
2. Huffman coding remove extra noise from the picture
3. Interlacing helps removing flickering from television picture
4. In motion estimation, moving persons, objects, etc. are extracted from the picture and their movements are predicted
5. Television uses summing color system
6. YUV color system has one chrominance and two luminance signals

## 3. Graphics Architecture

What are the four phases of graphics pipeline and what happens in each stage?

## 4. Linked Data

Compare 303 URI and Hash URI. How the RDF information is references in both URIs? What are the communication steps between client and server? Which use cases each URI fits better?

## 5. Streaming Protocols

Internet streaming uses RTP, RTCP, and RTSP protocols. Please, tell the following items from each protocol:

- What is the full name of the protocol?
- What is the main purpose of the protocol?
- What other functions does the protocol have?
- What other protocol is commonly used with the protocol?