Tentti 18.05.2006

Answers can be either in Finnish or English.

1. V-model of system engineering?

   Note: draw a figure and explain, try to cover at least following items:

   - structure, different levels, content of levels.

   - design flow in practise, i.e. how to proceed vertically and horizontally with the process.

   - **map implementation, system design, system development and system engineering in the figure.**

2. a) briefly describe the disctinction between requirements and specifications?

   b) briefly describe the distinction between specification and architecture?

   c) at what stage of the design methodology would we determine what type of CPU to use?

3. Write an essay about Use Cases as a practical tool in system engineering.

   Note that Use Cases can effectively be used in different phases of design process. Try to cover at least three (3) different places where Use Cases can be utilised.

4. Explain what is Rate Monothonic Scheduling (RMS). Summarize briefly the RMS theory.

5. Describe briefly following terms:
   - DMA
   - MMU
   - virtual memory
   - DDR SDRAM
   - cache miss
   - 2-way set associative cache memory