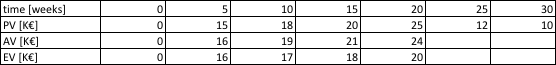
**FINAL EXAMINATION – February 15th, 2016**

## name:

# Monitoring (8 points)

Please see the following status report of a project to implement a software solution. If you consider that the overhead cost is €5,000 per week, would you recommend to take corrective actions so as to bring the project back to scheduled duration?



# Financing (6 points)

Annual forecasts for a €60million B.O.T. investment to develop a pay toll road are as follows:

* Toll revenue: €10millions
* Operations & Maintenance costs: €2millions

The concession period granted by the government is 20 years, starting after the one-year-long investment period.

Compute the expected NPV that the equity investors of the SPV company will obtain.

Consider the following assumptions:

* Tax rate 30%
* Annual cost of equity 10%
* Annual cost of debt 5%

# Scheduling (8 points)

Your company has been awarded a contract for the construction of a swimming pool. The contract is expected to net a €1million profit.

The project will start on March 1st this year and must be completed according to the following table:

|  |  |  |
| --- | --- | --- |
| *Task* | *Predecessor* | *Duration [weeks]* |
| Foundations |  | 8 |
| Pool | Foundations | 12 |
| Structures | Foundations | 12 |
| Roofing | Structures | 6 |
| Finishes | Roofing | 6 |

The contract specifies that €100,000 per week are due in case of delay (1 month = 4 weeks). Overhead cost is €50,000/week.

However, the labor agreements are about to expire by April 30th and a subsequent strike may jeopardize the expected profit of the project. There is 70% chance that a strike will happen: under such a circumstance, the strike may last one month (50% chance) or two months (50% chance).

Based on information above, you must select and justify the most suitable solution that should be taken:

1. Cut by half the duration of the Pool construction by spending additional €100,000
2. Cut down to 1/3 of the original duration the length of the Structures by spending additional €400,000
3. Reduce the duration of the Foundations: each week of reduction costs €50,000
4. Do nothing

Please also justify why the other solutions are discarded.