FINAL EXAMINATION – February 27th, 2013

Duration **2hrs**

## name:

# Portfolio (4 points)

List the main steps necessary in executing a Project Portfolio Management process. To this end, feel free to get inspired by the MDCM Inc. case study.

# Financing (6 points)

A PPP project to build, operate for 30 years, and transfer back a new university campus has a projected capital expenditure of 40 mln€. The SPV has expected annual revenue of 4.5mln€, annual O&M costs of 0.8mln€, annual general expenses of 0.2mln€. An initial injection of a 5mln€ public funding is made available by the granting authority. Annual interest rate on debt is 10%. Tax on income rate is 35%. The risk profile is considered as medium-low risk because of the liability offered by the granting authority to pay for the fixed granted annual fee (i.e.: the annual revenue for the SPV).

Determine the approximate suitable level of equity participation into the SPV.

# Monitoring (6 points)

Assume you are the contractor’s Project Manager of the project represented in the chart below.

The contract deadline is 12 months. The contract provides for the project to be compensated based on cost plus a 100-thousand euro fixed fee payment scheme. To provide incentive for careful cost management, any savings or cost overrun between the original budget and the actual cost must be shared 30%contractor-70%owner.

Following is the status report issued today, 7 months after the project start date:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Task name** | **Budget at completion [k€]** | **% WS** | **% WP** | **Actual value [k€]** |
| A | 20 | 100 | 100 | 24 |
| B | 100 | 100 | 70 | 90 |
| C | 40 | 100 | 60 | 30 |
| D | 120 | 50 | 60 | 80 |
| E | 80 | 0 | 20 | 30 |
| F | 90 | 0 | 0 | 0 |
| G | 30 | 0 | 0 | 0 |
| H | 120 | 0 | 0 | 0 |
| *TOTAL* | *600* |  |  | *254* |

Today you receive a call from your client that wants to be informed about the current performance status and to get a reasonable estimate of the final total price she will pay for the contract and actual completion date. What would you answer?

# Small project (6 points)

Pretend to be the proposal manager charged with bidding a turn-key fixed-price tender to construct a ski cableway facility. As part of the bid documents, you are asked to provide for: 1. WBS and Budget 2. Schedule, 3. Resource graph for the “Team” assignment, 4. Assessment of a risk contingency (please consider no more than 5 major risks), 5. Price computation

Assume that Price = 1.2\*(direct cost + overhead cost + risk contingency + interest); where overhead daily cost is 10,000€ and annual interest rate on negative bank account balance is 10% (no interest on positive balance). No advanced payment is agreed upon the contract.

The plant is composed of several components:

* a departure and an arrival station;
* two piles sustained by the corresponding foundations, numbered as 1 and 2;
* the cable;
* the engine system included in the departure station.

2

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Below are the durations of each individual task, when performed by one team. You have no more than 2 teams to be used (maximum available units). All tasks can be performed by 1 or more teams (if you make use of more than 1 team to perform a single task, please consider a no loss of productivity. For example: 1 team takes 2 months; 2 teams take 1 month).

|  |  |  |
| --- | --- | --- |
| TASK | DURATION [weeks] | DIRECT COST [k€] |
| Departure station | 6 | 150 |
| Arrival station | 8 | 200 |
| Foundation 1 | 4 | 50 |
| Pile 1 | 2 | 100 |
| Foundation 2 | 4 | 120 |
| Pile 2 | 4 | 200 |
| Engine system | 6 | 700 |
| Cable laying | 2 | 200 |

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