FINAL EXAMINATION – June 16th, 2020

## name:

# Project Plan (8 points)

Pretend to be working as a Project Manager for a construction company. You won a contract to build a cableway facility for a ski resort managing company. You are asked to prepare a Project Charter including a project plan created using a Project Planning software tool such as MSProject, ProjectLibre or other suitable packege. Please make your educated guess to provide information included in all sections of the Project Charter.

The facility will be composed of the following parts:

* A bottom departure station,
* an arrival station at the top of the hill,
* two piles erected in top of the corresponding foundations, numbered as 1 and 2;
* the engine system installed after the departure station is complete,
* the cable, which is laid down at the end after all components are installed.

2

1

Below are the durations of each individual task, when performed by one team. You have no more than 3 teams that can 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 weeks = 2 teams take 1 week).

The labor rate is 5K$/week per team. Overhead cost is 10k$/week.

|  |  |  |
| --- | --- | --- |
| **TASK NAME** | **DURATION [week]** | **MATERIAL COST [K$]** |
| Departure station | 2 | 100 |
| Arrival station | 3 | 80 |
| Foundation 1 | 1 | 10 |
| Pile 1 | 1 | 20 |
| Foundation 2 | 1 | 10 |
| Pile 2 | 2 | 20 |
| Engine system | 2 | 50 |
| Cable laying | 1 | 30 |

Expected deliverables:

1. Project Charter file in word, text, pdf or similar
2. Project Planning file (MSProject, ProjectLibre or other).

# Monitoring (5 points)

Assume you are the contractor PM of a EPC project to develop a new manufacturing facility. The project, as described in the chart below, has budgeted cost totalling $21.4mln and 7-month scheduled duration. The contract provides for the contractor to be compensated a lump-sum $29.5mln firm fixed price. A penalty worth $2mln/month is agreed upon the contract.

|  |  |  |  |
| --- | --- | --- | --- |
| **Month** | **PV** | **EV** | **AV** |
| 1 | 370,220 | 124,120 | 535,000 |
| 2 | 2,080,080 | 1,333,220 | 2,461,000 |
| 3 | 5,730,920 | 4,442,640 | 4,562,480 |
| 4 | 9,625,720 | 7,201,100 | 7,468,600 |
| 5 | 16,050,000 |  |  |
| 6 | 19,688,000 |  |  |
| 7 | 21,400,000 |  |  |

Your boss asks you to estimate the profit that your project would net at completion, based on current performance. What would you answer?

# Contracting (5 points)

Bev-Pak Inc. is planning to build in Poland a new beverage container plant with total capacity of 2 billion cans produced per year, representing approximately 40% of can consumption of mainland Europe. Bev-Pak assure long-term selling contracts with Coca-Cola and PepsiCo. to recover the initial investment over at least 5 years of operations. Upon completion, the plant will have three state-of-the-art automated production lines to produce tin-plated steel cans, which can be sold at a lower price than traditionally-manufactured aluminium cans.

Suppose to be the project manager of Bev-Pak facing the problem of defining the contract organization to build the new can production facility. What would you suggest with regard to the delivery system, payment scheme and award method? Briefly justify your decision in writing.