FINAL EXAMINATION – February 25th, 2015 – 11:00-12:30

NAME:

Exercise 1. MONITORING (8 POINTS)

Consider a pharmaceutical project to develop and launch a new drug compound by end of current year 2015. The EV report as per Dec 31st, 2014 is given in the chart below with figures expressed in $ amounts.

Based on estimates at completion, you are requested to propose a revised budget that minimizes the cost impact of current performance. Please consider that any delay of the project would result in loosing sales by as much as $50,000/month.

BCWS	sem 1, 2013	sem 2, 2013	sem 1, 2014	sem 2, 2014	sem 1, 2015	sem 2, 2015
Component identification	200,000	90,000				
Preclinical test		50,000	200,000			
Clinical program				260,000	200,000	
Launch						100,000
Marketing and legal support		10,000	30,000	50,000	100,000	
Prj mng support	30,000	30,000	30,000	30,000	30,000	30,000
Corporate overhead	100,000	100,000	100,000	100,000	100,000	100,000

ACWP	sem 1, 2013	sem 2, 2013	sem 1, 2014	sem 2, 2014	sem 1, 2015	sem 2, 2015
Component identification	190,000	130,000				
Preclinical test		60,000	220,000	40,000		
Clinical program				170,000		
Launch						
Marketing and legal support		10,000	30,000	50,000		
Prj mng support	30,000	30,000	30,000	30,000		
Corporate overhead	100,000	100,000	100,000	100,000		

BCWP	sem 1, 2013	sem 2, 2013	sem 1, 2014	sem 2, 2014	sem 1, 2015	sem 2, 2015
Component identification	180,000	110,000				
Preclinical test		40,000	180,000	30,000		
Clinical program				160,000		
Launch						
Marketing and legal support		10,000	30,000	50,000		
Prj mng support	30,000	30,000	30,000	30,000		
Corporate overhead	100,000	100,000	100,000	100,000		

Exercise 2. DECISION MAKING (6 POINTS)

Your company is considering whether to bid or not to bid on the following project. If the bidder can complete the project within 20 weeks, it will receive a bonus of $25,000. But if the project delays beyond 23 weeks, it must pay a penalty of $5,000. What would you recommend?

Task (AOA)	Optimistic duration [weeks]	Most likely	Pessimistic duration
1-2	5	11	11
1-3	10	10	10
1-4	2	5	8
2-6	1	7	13
3-6	4	4	10
3-7	4	7	16
3-5	2	2	14
4-5	0	6	12
5-7	2	8	14
6-7	1	4	7

Normal distribution table

z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
.0	.5000	.5040	.5080	.5120	.5160	.5199	.5239	.5279	.5319	.5359
.1	.5398	.5438	.5478	.5517	.5557	.5596	.5636	.5675	.5714	.5753
.2	.5793	.5832	.5871	.5910	.5948	.5987	.6026	.6064	.6103	.6141
.3	.6179	.6217	.6255	.6293	.6331	.6368	.6406	.6443	.6480	.6517
.4	.6554	.6591	.6628	.6664	.6700	.6736	.6772	.6808	.6844	.6879
.5	.6915	.6950	.6985	.7019	.7054	.7088	.7123	.7157	.7190	.7224
.6	.7257	.7291	.7324	.7357	.7389	.7422	.7454	.7486	.7517	.7549
.7	.7580	.7611	.7642	.7673	.7704	.7734	.7764	.7794	.7823	.7852
.8	.7881	.7910	.7939	.7967	.7995	.8023	.8051	.8078	.8106	.8133
.9	.8159	.8186	.8212	.8238	.8264	.8289	.8315	.8340	.8365	.8389
1.0	.8413	.8438	.8461	.8485	.8508	.8531	.8554	.8577	.8599	.8621
1.1	.8643	.8665	.8686	.8708	.8729	.8749	.8770	.8790	.8810	.8880
1.2	.8849	.8869	.8888	.8907	.8925	.8944	.8962	.8980	.8997	.9015
1.3	.9032	.9049	.9066	.9082	.9099	.9115	.9131	.9147	.9162	.9177
1.4	.9192	.9207	.9222	.9236	.9251	.9265	.9279	.9292	.9306	.9319
1.5	.9332	.9345	.9357	.9370	.9382	.9394	.9406	.9418	.9429	.9441
1.6	.9452	.9463	.9474	.9484	.9495	.9505	.9515	.9525	.9535	.9545
1.7	.9554	.9564	.9573	.9582	.9591	.9599	.9608	.9616	.9625	.9633
1.8	.9641	.9649	.9656	.9664	.9671	.9678	.9686	.9693	.9699	.9706
1.9	.9713	.9719	.9726	.9732	.9738	.9744	.9750	.9756	.9761	.9767
2.0	.9772	.9778	.9783	.9788	.9793	.9798	.9803	.9808	.9812	.9817
2.1	.9821	.9826	.9830	.9834	.9838	.9842	.9846	.9850	.9854	.9857
2.2	.9861	.9864	.9868	.9871	.9875	.9878	.9881	.9884	.9887	.9890
2.3	.9893	.9896	.9898	.9901	.9904	.9906	.9909	.9911	.9913	.9916
2.4	.9918	.9920	.9932	.9925	.9927	.9929	.9931	.9932	.9934	.9936
2.5	.9938	.9940	.9941	.9943	.9945	.9946	.9948	.9949	.9951	.9952
2.6	.9953	.9955	.9956	.9957	.9959	.9960	.9961	.9962	.9963	.9964
2.7	.9965	.9966	.9967	.9968	.9969	.9970	.9971	.9972	.9973	.9974
2.8	.9974	.9975	.9976	.9977	.9977	.9978	.9979	.9979	.9980	.9981
2.9	.9981	.9982	.9982	.9983	.9984	.9984	.9985	.9985	.9986	.9986
3.0	.9987	.9987	.9987	.9988	.9988	.9989	.9989	.9989	.9990	.9990
3.1	.9990	.9991	.9991	.9991	.9992	.9992	.9992	.9992	.9993	.9993
3.2	.9993	.9993	.9994	.9994	.9994	.9994	.9994	.9995	.9995	.9995
3.3	.9995	.9995	.9995	.9996	.9996	.9996	.9996	.9996	.9996	.9997
3.4	.9997	.9997	.9997	.9997	.9997	.9997	.9997	.9997	.9997	.9998

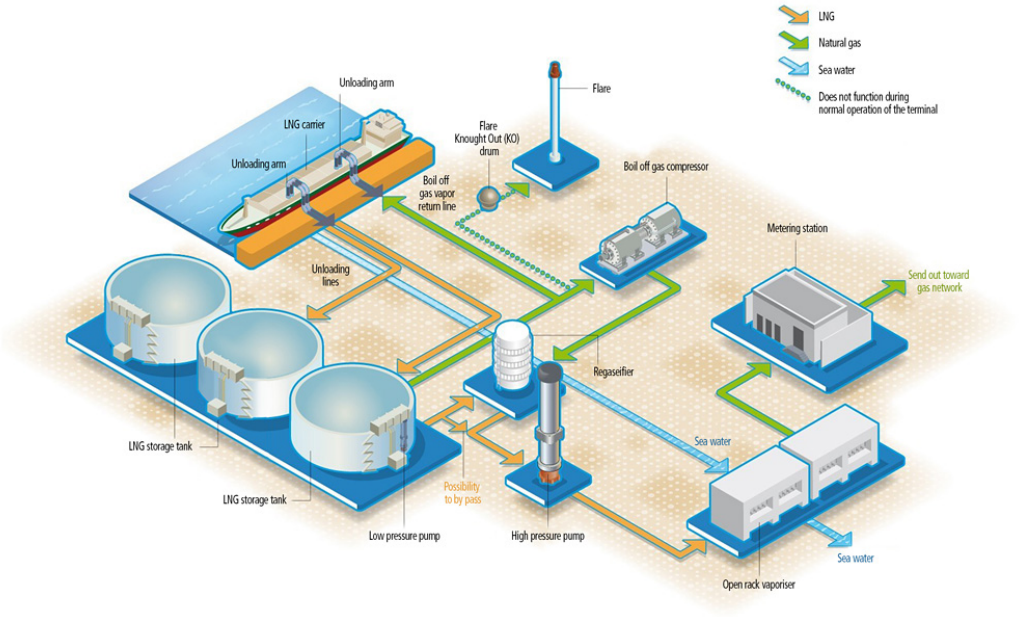
Exercise 3. SMALL PROJECT (8 POINTS)

Pretend to be the Proposal Manager charged with bidding a turn-key fixed-price tender to build a liquefied natural gas (LNG) regasification terminal, as represented in the below figure. As part of the bid documents, you are asked to provide for: 1. WBS and CBS 2. Schedule, 3. Resource graph for the "Team" assignment, 4. Assessment of a risk contingency (please consider no more than 3 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 project scope of work includes several independent components:

- One (1) unloading dock
- Three (3) LNG storage tanks
- A flare (1)
- A boil off gas compressor (1)
- A regaseifier (1)
- A high pressure pump (1)
- Two (2) open rack vaporisers
- A metering station (1)
- Lines/pipes system (all including unloading lines, sea water line, etc.) (1 system)



Below are the durations of each task, when performed by one team. You have no more than 3 teams available. All tasks can be performed by one or more teams (if you make usage of more than 1 team to perform a single task, please consider no loss of productivity. For example: 1 team takes 2 months; 2 teams take 1 month).

Task	Duration [months]	Cost [k€]
Unloading dock	6	12,000
LNG storage tank	4	5,000
Flare	5	6,000
Boil off gas compressor	4	4,500
Regasefeier	7	10,500
High pressure pump	5	9,000
Open rack vaporizer	4	3,500
Metering station	6	3,000
Lines/pipes system	12	6,000