

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF APPLIED CHEMISTRY
BACHELOR OF SCIENCE HONOURS DEGREE
END OF FIRST SEMESTER EXAMINATIONS – JANUARY 2011
PROJECT DEVELOPMENT AND MANAGEMENT – SCH 4210
TIME: 3 HOURS

INSTRUCTIONS TO CANDIDATES

Answer ***any four*** questions from the five provided. Start your answers to different questions on new pages. Each question carries 25 marks.

-
1. a) Citing your income-generating project as an example, discuss the importance of SWOT analysis in strategic planning in an organization. (12 marks)
- b) How would you use the project life-cycle cash flow to select a project among a number of feasible projects? (8 marks)
- c) What pitfalls should you guard against during the formulation of the feasibility study? Make reference to your mini-project. (5 marks)
2. a) You found the following Earned Value Analysis information for a recently closed out project:
- SPI = 0.7, CPI = 1.0
- What does this tell you about the project? (5 marks)
- b) You are running a project for a customer based on a cost reimbursable contract with the following terms:
- | | |
|-----------------------|--------------|
| Target costs: | \$ 1,000,000 |
| Fixed fee: | \$ 100,000 |
| Benefit/cost sharing: | 80% / 20% |
| Price ceiling: | \$ 1,200,000 |
- Calculate the PTA (= Point of total assumption, Break point) of the project. (5 marks)

c) A project manager made 3-point estimates on a critical path and found the following results:

	Optimistic	Most likely	Pessimistic	PERT weighted average
Act. A	12	15	24	16.0
Act. B	8	9	14	9.7
Act. C	15	19	27	19.7
Act. D	10	14	28	15.7
Act. E	17	20	35	22.0
Estimate for the critical path:				83.1

(i) Draw the A-o-A network of the project. (4 marks)

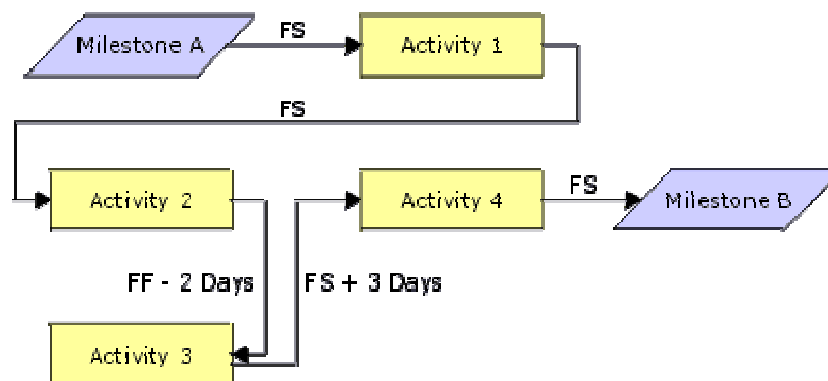
(ii) Assuming ± 3 Sigma precision level for each estimate, what is the standard deviation of the critical path? (5 marks)

(iii) If activity C takes 2 days longer to complete what is the probability of completing the project on time? (6 marks)

3. a) You are assigned as the project manager to a project which is executed for a customer under FP contract. Your customer informed you this morning that they insist on certain "refinements" of the project scope.

You agree that the requested actions make really sense to the project, but believe that they constitute a major change increasing the project scope. What should you do next? (5 marks)

b) Activity 1 has duration of 20 days, Activity 2 of 10 days, Activity 3 of 5 days and Activity 4 of 6 days.



What is the minimum total duration between the Milestones A and B?

(3 marks)

- c) Convert the A-o-N network to A-o-A Network and calculate the critical path.
(5 marks)
- d) You are project manager in a global project with a team consisting of people from various countries. What can you do to try to prevent misunderstandings due to cross-cultural differences?
(8 marks)
- e) You are assigned as the project manager to a project which had a one-time cost variance in the past caused by unexpected rework which has meanwhile been finished. You perform Earned Value Analysis and find the following results:
EV: 250,000; PV: 200,000; AC 275,000
BAC is 500,000.
Calculate the EAC. (4 marks)

4. a) A project sponsor requested Earned Value Data on two concurrent projects from the project managers. Both projects are regarded as equally important and strategically beneficial and have been finished by over 80%. He received the following information:

Project A:

PV: \$1,800,000

EV: \$2,300,000

AC: \$2,100,000

Project B:

PV: \$2,000,000

EV: \$1,500,000

AC: \$1,600,000

The sponsor considers to shift some resources from Project A to Project B to speed up the second project which is currently behind schedule.

- What is the most likely outcome of such a measure? (8 marks)
- b) 'Conflict is natural and forces a search for alternatives'. Discuss this statement in relation to project management. (8 marks)
- c) Explain *six* (6) conditions that could result in the termination of a project. (6 marks)
- d) Explain the importance of a prototype. (3 marks)

5. a) You are the manager of your company's project management office. The company is running many concurrent projects; most of them share a resource pool of technical staff. Understanding how resources are utilized across projects has been found essential to overall project performance, including cost effectiveness and profitability.

This morning you received a message that the resource pool members will be unable to perform as planned for the next months because the overall work load has grown too high and while delays are adding up, the morale of the staff is going down.

What should you do next? (9 marks)

- b) List any *eight* (8) key responsibility areas (KRA) of a project manager. For each KRA indicate the kind of qualification and experience required for successful performance.

(16 marks)

End of question Paper!!!