

CS5500, Fall 2005, Test 1

Chapters 1-9. Time 60min. Closed books, notes, except your minds only. Use extra paper as needed, but make sure to identify each answer. If something is not clear, state a reasonable assumption and answer the question or check with the instructor.

YOU MUST RETURN THIS PAGE. NAME _____

- 1 a) What are the major problems with the waterfall model?
b) Which of these and how are alleviated by an iterative model?
- 2 a) What is the reason to use rapid prototype?
b) Do we use rapid prototype with an iterative model? Explain carefully why not and under what circumstances we might, or why we still do use it.
- 3 A company uses 2 teams organized with classical chief programmers. The company considers employing 2 managers, for the teams, to take on the management non-technical functions. You are a consultant hired to advise the company whether they should and why or why not. They tell you their objective is money. Use cost-benefit analysis to show your options.
- 4 a) Suppose you have to deploy a product on 2 different platforms. How many variations will you have? How many revisions?
b) Does high cohesion inherently reduces coupling or these two are quite independent? Defend your answer.
- 5 List the 5 ways we can measure product quality. Which one you think is the most important and which the least and why?
- 6 You are a part of a team working on a product. Your duty is to create a library of some useful operational modules. Your manager tells you to make sure they will be highly reusable. How will you accomplish this?
- 7 Compute the number of FP adjusted function points for a product that has 3 inputs, 3 outputs, 5 Inquiries, 2 Master files, and 10 Inferences, all are average except complex interfaces and simple outputs. The technical factors have no influence on the project except for very string influence for reusability, portability, and maintenance.
- 8 Your organization has 3 teams T1, T2, and T3. T1 has very low analyst and programmer capability, T3 has them very high, while T2 is just average. Of course T1 costs you twice as much. Your company is working on 3 products P1, P2 and P3. Using Intern COCOMO you determine the products to be 100 50, and 10 person-months.
Assuming T1 gets P1, T2-P2, and T3-P3, how long will it take for each product to complete?
- 9 Assuming time to market is your objective, what would be best assignment?
- 10 Assuming cost is the objective, and you only pay for actual work, what would be the best assignment?