

CSI 518 Software Engineering
Fall 1998 Midterm Examination
October 22 Thursday 2:30 - 3:45

Q1. (10 Points): Describe the strengths and the weaknesses of Java program language in producing high quality software.

Q2 (10 points): Software quality has many representative attributes. (a) Give an example that a software (UNIX or other software) has a good representative attribute. (Explain briefly.) (b) Give an example that a software (UNIX or other software) has a poor representative attribute. (Explain briefly.)

Q3. (15 points): What is early quality prediction? Why is it desired by most software managers? Give an example of methodology/activity that can facilitate early quality prediction?

Q4 (10 points): (a) Describe the key differences between Waterfall Model and Spiral Model. (b)How would you design the process of developing a large scale life critical software?

Q5. (15 points): What types of risks are likely to be encountered in the requirement analysis phase? What risk-reducing activities can be carried out by the developer to address those risks.

Q6. (15 points): (a) Describe the structure and the uses of the SEI CMM. (b)As a manager, would you recommend the CMM level 5 as the organization's standard for all types of software development. Why or why not?

Q7. (10 points): What is software architecture and what are the three elements of an architecture?

Q8. (15 points): (a) Explain why functional independence is a key to good design. (2) What criteria are used to measure functional independence of a design? (Explain briefly.)