

Student \_\_\_\_\_

Department of Computer Science  
College of Engineering, University of Nevada, Reno

CS 425 Software Engineering

Midterm Test

October 28, 2009

**Test type:** Closed-book examination  
**Number of questions:** 12  
**Total points:** 33  
**Test weight:** 14%  
**Time:** 70 minutes  
**Notes:**

- For questions **1 to 7** indicate the correct answer (only one) on the answer sheets provided by the instructor. Each of the questions **1 to 7** has a one point value for a group total of **7** points.
- Questions **8 to 12** require that you elaborate your answers. You must also write these answers on the sheets provided by the instructor. The total value of questions **8 to 12** is **26** points.

**Questions:**

**1** Which of the following *process models* best emphasizes risk management?

- Waterfall model
- Spiral model
- Evolutionary model
- Component-based software development

[1 point]

**2** Which of the following is not a *principle* in the ACM/IEEE-CS Software Engineering Code of Ethics?

- Public
- Participation
- Management
- Self

[1 point]

**3** Which of the following is not a *project management activity*?

- Project monitoring
- Proposal writing
- System designing
- Project planning

[1 point]

**4** The *critical path* in an activity network indicates:

- The key milestones of the project
- The number of tasks that can be performed in parallel
- The maximum time required to finish the project
- The minimum time required to finish the project

[1 point]

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- 5** Which of the following can be used for *requirements specification*?
- Graphical notations
  - Gantt charts
  - Data structures
  - None of the above
- [1 point]
- 6** Which of the following are shown in a *state machine model*?
- Events
  - States
  - Transitions
  - All of the above
- [1 point]
- 7** In architectural design, which of the following is a style of *modular decomposition*?
- Use case specification
  - Interrupt-based decomposition
  - Object-oriented decomposition
  - State-chart structuring
- [1 point]
- 8** Describe the *incremental delivery* software process model. Also, indicate its advantages, disadvantages, and applicability. [6 points]
- 9** List five of the eight principles (clauses) included in the ACM/IEEE-CS Software Engineering *Code of Ethics and Professional Practices* (note that you don't have to describe the principles but only to indicate their names). Also, choose one principle and give an example that illustrates the principle. [4 points]
- 10** Consider the following types of *software project risks*: technology, people, organizational, and requirements. For each type give a concrete example of risk and indicate an appropriate management strategy for that risk. [4 points]
- 11** Describe the *repository model* for system organization used in architectural design. Also, indicate its advantages and disadvantages. [6 points]
- 12** Give an example of a *data flow model (data flow diagram)* that contains at least 6 processing activities. Explain the meaning of the data flow diagram and its main components (functional processing activities and data stores). [6 points]