Republic of Republic of the Philippines
SULTAN KUDARAT STATE UNIVERSITY
College of Computer Studies
Isulan Campus

Software Engineering

Midterm Examination
1st Semester
October 16- 18,2024

Name: _____ Year /Section: _____Score: _____

General Instructions:
1. Write all your answers in the space provided.
2. Write neatly and legibly.
3. Erasure or change of answer in any way is strictly not allowed

Test 1: Multiple Choice (60 points
Direction: Write the letter of your answer at the space provided.

____1. What is the primary purpose of a data flow diagram (DFD)?

a. To model the dynamic behavior of a system
b. To represent the static structure of a system
c. To visualize the flow of data in a system
d. To depict the interactions between objects in a system

_____2.Which of the following is NOT a characteristic of software?

a. Software is developed or engineered.
b. Software is typically assembled from existing components.
c. Software includes computer programs and associated documentation.
d. Software is easy to modify.

____3.What is the primary focus of the text?

a. The importance of software engineering.
b. The role of models in software development
c. The challenges of maintaining software systems.
d. The benefits of using a particular software development methodology.

_____4. Indirect measures of software quality include:

a. Lines of code and defects
b. Functionality and reliability
c. Maintainability and efficiency
d. All of the above

_____5.Which of the following is NOT a category of software metrics?

a. Product metrics
b. Process metrics
c. Project metrics
d. System metrics

___ 6. Function points are measure of

a. Size-oriented metrics
b. Function-oriented metrics
c. Object-oriented metrics
d. Use-case oriented metric

_____7.Why is software considered easy to modify?

a. It is physically assembled like hardware
b. It is made up of intangible code and documentation.
c. It is rarely customized for specific needs.
d. It is primarily assembled from existing components.

_____8.**What is the significance of "long-term value"?**

a. It refers to the immediate benefits of a software system
b. It refers to the cost-effectiveness of a software system
c. It refers to the popularity of a software system.
d. It refers to the long-lasting benefits and usefulness of a software system.

_____9.**Why is it important to maintain software systems?**

a. To ensure they continue to function as intended
b. To improve their performance
c. To add new features
d. All of the above

_____10.**A risk that threatens the quality and timeliness of software is a:**

a. Project risk
b. Business risk
c. Technical Risk
d. all of the above

____11. What is the primary role of an analyst in software engineering?

a. To design the user interface.
b. To write the code for the software
c. To analyze requirements and design the software architecture.
d. To test the software for bugs

____12. From whose perspective can software analysis be conducted?

a. Only from the developer's perspective
b. Only from the user's perspective
c. From both the developer's and the user's perspectives
d. none of the above

____13. Wh**at is the purpose of software metrics?**

a. To measure the size of software
b. To assess the quality of software
c. To predict the cost of software development
d. all of the above

_____14.**How can the use-case-oriented metrics be used to estimate software development effort?**

a. By counting the number of use cases
b. By analyzing the complexity of use cases
c. By estimating the effort required for each use case
d. all of the above

_____15. **How can you evaluate the quality of a software system?**

a. By measuring its speed and performance
b. By assessing its user experience and satisfaction
c. By analyzing its security vulnerabilities.
d. all of the above

_____16. Which of the following is NOT a typical aspect of software analysis?

a. Identifying the software's functional requirements.
b. Assessing the software's performance requirements
c. Determining the hardware specifications.
d. Analyzing the software's security needs.

_____17. **What are the key components of a risk?**

a. Probability and impact
b. Cause and Effect
c. **Severity and urgency**
d. Mitigation and Contingency

_____18. **Why is requirements engineering important in software development?**

a. It ensures that the software meets the needs of the users.
b. It helps to identify and manage risks.
c. It provides a basis for testing and quality assurance.
d. All of the above

_____19 **What is the primary purpose of a class diagram in UML?**

a. To model the dynamic behavior of a system
b. To represent the static structure of a system
c. To visualize the flow of control in a system
d. To depict the interactions between objects in a system

_____20. How many phases are there in the Spiral Model?

a. 1 **c.2**
b. 3 **d. 4**

_____21 Why is the Spiral Model considered iterative?

a. It involves repeating phases multiple times
b. It focuses on a single iteration of development
c. It is a linear sequential model.
d. It is a hybrid model combining waterfall and agile approaches

_____22. Which UML diagram is best suited for modeling the sequence of messages exchanged between objects?

a. Use Case Diagram
b. Class Diagram
c. Sequence Diagram
d. Activity Diagram

_____23. **Which UML diagram is best suited for modeling the sequence of messages exchanged between objects?**

a. Use Case Diagram
b. Class Diagram
c. Sequence Diagram
d. Activity Diagram

_____24. What are the key factors to consider when making decisions about software architecture?

a. The latest trends in technology
b. The immediate needs of the project
c. The long-term goals of the organization
d. all of the above

_____25. What are the potential advantages of using the Spiral Model for large-scale projects?

a. Reduced risk of the Project failure
b. Faster time to market
c. Lower development costs
d. All of the above

_____26. Which of the following is the main purpose of an activity diagram in UML?

a. To model the dynamic behavior of a system
b. To represent the static structure of a system
c. To visualize the flow of control in a system
d. All of the above

_____27. **How can the Spiral Model be used to manage evolving requirements?**

a. by incorporating feedbacks loops into the development process
b. by strictly adhering to the initial requirements
c. by using a waterfall approach for the initial phases
d. by ignoring changes in requirements

_____28. I**n what situations might the Spiral Model be less suitable than other software development models?**

a. For projects with well-defined requirements and low risks
b. For projects with rapidly changing requirements and high risk
c. For small-scale projects with limited resources
d. For projects with a fixed budget and timeline

29. **How can the Spiral Model be combined with other software development methodologies to improve project outcomes?**

a. By using agile methodologies for the initial phases
b. By strictly following the waterfall model for all phases
c. By ignoring the principles for other methodologies
d. By combining the Spiral Model with a chaotic approach

30. Which symbol would you use in your ER diagram to represent these entities, and why is this choice appropriate?

a. Oval, because it represents attributes
b. Diamond, because it shows relationships between data
c. Rectangle, because it is used to define entities like 'Student' or 'Course'
d. Triangle, because it shows hierarchical structure in data

Test II. Modified True or False (30 pts.)

Direction: Write True if the statement is correct, if the statement is incorrect change the underlined word/s and write the correct statement to make it correct.

1. The idea of software engineer was first proposed in 1986 at a conference held to discuss the software crisis.

_____

2. A software engineering should use appropriate tools and organized approach depending on the problems to be solved.

_____

3. An Agile Method is more focus on the code rather than the design.

_____

4. A plan driven process are planning is incremental and it is easier to change the process to reflect changing customer requirements.

_____

5. The software is developed in increments with the customers specifying the requirements to be included in each increment.

_____

6. Does the four basic process activities of specification, development, validation and evolution are organized differently in development process.

_____

7. A software product maybe developed for a particular customer or maybe developed for a general product.

_____

8. A feasibility study is defining the requirement in detail.

_____

9. A plan driven is good for dynamic, but expensive for stable environments

_____

10. A software must be usable by the users for which it was designed and it should have an appropriate user interface and enough documentation.

_____

Prepared by:

CECILIA E. GENER
Instructor

Reviewed by:

CECILIA E. GENER
BSCS, Program Chairman

Approved by:

BENEDICT A. RABUT, DIT
Dean, College of Computer