B09S0061 Software Engineering Assignment 1

True/False Questions (10 pts)

1. The primary goal of software testing is to ensure that the system meets client requirements and functions correctly. ( )
2. A feasibility study in software development only assesses the technical aspects of a project and does not consider costs or risks. ( )
3. Stakeholders in a software project include clients, developers, customers, and users. ( )
4. The software development process always follows a linear sequence and cannot be iterative. ( )
5. In software engineering, user interface and user experience (UI/UX) design should prioritize technology over user needs. ( )
6. The Waterfall model allows for iterative refinement and frequent revisions during development. ( )
7. In Spiral development, the system remains untested until all components are fully developed. ( )
8. In heavyweight processes, detailed specifications are created and carefully checked by both clients and developers, which can be a contractual document and used for acceptance testing. ( )
9. In lightweight processes, detailed documentation is created during each sprint to ensure clarity of requirements. ( )
10. The modified Waterfall model is an example of a lightweight development process. ( )

Multiple Choice Questions (10 pts, one correct choice for each question)

1. **Which of the following is NOT a phase of the software development process?**A. Feasibility study  
   B. System design  
   C. Marketing strategy  
   D. Program development
2. **What is the main purpose of acceptance testing?**A. To evaluate if the software meets the client’s requirements  
   B. To ensure the code is well-documented  
   C. To optimize the performance of the software  
   D. To test only the user interface
3. **Which stakeholder is primarily responsible for proposing software requirements and setting requirement priority**?  
   A. Developer  
   B. Client  
   C. End-user  
   D. Tester
4. **What is the key benefit of using short development cycles in software engineering?**A. Reducing the cost of hardware  
   B. Increasing project visibility and minimizing risk  
   C. Eliminating the need for stakeholder feedback  
   D. Avoiding software updates
5. **What are the three key trade-offs in software project management?**A. Cost, security, and scalability  
   B. Function, time, and cost  
   C. User interface, user experience, and security  
   D. Team size, technology, and performance
6. **Which of the following best describes Agile development?**A. Completing each process step before beginning the next with full documentation.  
   B. Developing small increments of software in a sequence of sprints, each producing deployable code.  
   C. Quickly creating a rough system and then repeating steps to improve it.  
   D. Adding new and updated components to the system as they are completed.
7. **Which of the following is NOT a characteristic of lightweight processes in software development?**A. Minimal documentation during the sprint  
   B. Full documentation for future maintainers  
   C. Detailed specifications created upfront  
   D. Working code used for checking requirements
8. **In the context of requirements analysis, what is the primary goal of distinguishing between features of the old system that are needed in the new system and those that are not?**A. To reduce development costs  
   B. To ensure compatibility with legacy systems  
   C. To identify unnecessary functionalities that can be removed  
   D. To increase the complexity of the new system
9. **Which of the following is NOT a cause of failed software projects according to the Standish Group?**A. Excessive use of agile methodologies  
   B. Lack of user involvement  
   C. Incomplete requirements  
   D. Unrealistic expectations
10. **In the context of requirements analysis, what is the primary purpose of conducting stakeholder analysis?**A. To identify who will be using the system  
    B. To understand the technical requirements of the system  
    C. To determine the financial budget for the project  
    D. To analyze the system from the viewpoint of each group of stakeholders

Short-Answer Questions (10 pts, you can answer the questions in either CN or EN)

**Please briefly answer the following questions related to requirement analysis and requirement modeling.**

1. How to lower development risks?

2. Explain the main differences between the Waterfall Model and Agile Development.

3. When to use <<extends>> relations and when to use <<includes>> relations?

4. Name the four key components of a Data Flow Diagram and briefly describe their roles.

5. Describe the purpose of a use case diagram in software engineering and provide an example of a simple use case diagram element