



CSE3001-Software Engineering

Digital Assessment 1

Name: Rajendra Agrawal

Reg. No: 17BCE2151

Slot: F1

1. Which of the following is not one of Hooker's core principles of software engineering practice?

- A) All design should be as simple as possible, but no simpler
- B) A software system exists only to provide value to its users.
- C) Pareto principle (20% of any product requires 80% of the effort)
- D) Remember that you produce others will consume

Answer: **(C) Pareto principle (20% of any product requires 80% of the effort)**

2. Software engineers collaborate with customers to define which of the following?

- A) Customer visible usage scenarios
- B) Important software features
- C) System inputs and outputs
- D) All of the above

Answer: **(D) All of the above**

3. Analysis models depict software in which three representations?

- A) Architecture, interface, component
- B) Cost, risk, schedule
- C) Information, function, behaviour.
- D) None of the above

Answer: **(C) Information, function, behaviour.**

4. A successful test is one that discovers at least one as-yet undiscovered error.

- A) True
- B) False

Answer: **(A) True**

5. Which of the following are tasks in the generic task set for construction?

- A) Build a software component
- B) Create a user interface
- C) Unit test the component
- D) Assess the quality of the component
- E) both a and c

Answer: **(E) both a and c**

6. Three things that make requirements elicitation difficult are problems of

- A) Budgeting
- B) Scope
- C) Understanding
- D) Volatility
- E) B, C and D

Answer: **(E) B, C and D**

7. The best way to conduct a requirements validation review is to

- A) Examine the system model for errors
- B) Have the customer look over the requirements
- C) Send them to the design team and see if they have any concerns
- D) Use a checklist of questions to examine each requirement.

Answer: **(D) Use a checklist of questions to examine each requirement.**

8. Which of the following is not one of the context-free questions that would be used during project inception?

- A) What will be the economic benefit from a good solution?
- B) Who is against this project?
- C) Who will pay for the work?
- D) Who will use the solution?

Answer: **(B) Who is against this project?**

9. The work products produced during requirement elicitation vary depending on the

- A) Size of the budget
- B) Size of the product being built
- C) Software process being used
- D) Stakeholders needs

Answer: **(B) Size of the product being built**

10. Which of the following is not a UML diagram used creating a system analysis model?

- A) Activity diagram
- B) Class diagram
- C) Dataflow diagram
- D) State diagram

Answer: **(C) Dataflow diagram**

11. Do you agree or disagree with the following statement: "Since we deliver multiple increments to the customer, why should we be concerned about quality in the early increments --we can fix problems in later iterations"? Explain your answer. (At least 3 points)

1. I strongly disagree with the given statement.
2. When the quality is compromised in the early phases, foundation is often of low-quality. Building further increments on low-quality foundations adds instability to our product.
3. Additionally, a low-quality product in initial phase would lead to customers and clients losing confidence about the team. They become doubtful about capabilities of the team. Due to this, following talks on project also suffer.
4. Team may lose reputation and clients, customers too.

12. Why is that many software developers don't pay enough attention to requirements engineering? Are there ever circumstances where you can skip it? (At least 3 points)

1. Requirement Engineering means understanding the requirements of a problem. It is among the most difficult tasks that a software engineer faces since requirements changes, are sometime contradictory and are often difficult to enunciate clearly.
2. Software Engineers want to begin building something quickly, so they give requirement analysis a short swift. They want to bypass requirement analysis and start with some real engineering work, which is where they commit a big mistake.
3. Without requirement analysis, needs and aspirations of users or clients cannot be known. Requirement analysis tells what a user expects from software. On basis of requirement analysis design and construction takes place. Owing to such importance, Requirement Analysis phase cannot be skipped.
4. In situations, where problem is small and well understood, an short approach may be chosen. But for complex problems with many requirements, each and every step of comprehensive requirements engineering should be performed.

13. Describe and explain any three elements of the analysis model. (At least 4 points)

1. **Scenario based element:** The system is described from the user's point of view using a scenario-based approach. Examples of scenario-based elements are use case diagram, user stories.
2. **Class based elements:** Each usage scenario implies a set of "objects" that are manipulated as an actor interacts with the system. These objects are categorized into classes — a collection of things that have similar attributes and common behaviours. Examples of class-based elements are the class diagram, collaboration diagram.
3. **Behavioural elements:** The behaviour of a computer-based system can have a profound effect on the design that is chosen and the implementation approach that is applied. Therefore, the analysis model must provide modelling elements that depict behaviour. Examples of behavioral elements are sequenced diagram, state diagram.
4. **Flow-oriented elements:** Information is transformed as it flows through a computer-based system. The system accepts input in a variety of forms; applies functions to transform it; and produces output in a variety of forms. Example of flow elements are data flow diagram, control flow diagram.