Part I: Multiple Choice Questions (1.5pts each)

1. What is the primary purpose of a traceability matrix in requirements management?
   A. To track changes in requirements
   B. To ensure all requirements are testable
   C. To map requirements to design elements
   D. To document user feedback
2. What is the purpose of a feasibility study in the context of requirements analysis?
   A. To determine if the proposed system is technically possible.
   B. To estimate the total cost of the project.
   C. To identify potential risks and challenges.
   D. All of the above.
3. Why is It essential to involve stakeholders in the requirements elicitation process?
   A. To assign blame if the project fails.
   B. To ensure all stakeholders are equally represented.
   C. To gather accurate and complete requirements.
   D. To limit the number of change requests.
4. What role does a prototype play in the requirements engineering process?
   A. It serves as the final version of the software.
   B. It helps validate and clarify requirements through a tangible representation.
   C. It replaces the need for a requirements document.
   D. It is only relevant for large-scale projects.
5. Which phase of the software development life cycle is primarily associated with requirements engineering?
   A. Implementation
   B. Requirements Analysis
   C. Testing
   D. Maintenance
6. In the context of model validation, what does it mean when a model is said to be "consistent"?
   A. The model accurately reflects the real-world system.
   B. The model has no errors or discrepancies.
   C. The model is easy to understand by stakeholders.
   D. The model aligns with industry standards.

7. What is the main advantage of using automated acceptance tests?
   A. They are more cost-effective than manual testing.
   B. They provide a subjective evaluation of the software.
   C. They are only applicable to small-scale projects.
   D. They cannot be executed in parallel.
8. In the context of requirements traceability, what does it mean for a requirement to be "verifiable"?
   A. It can be traced back to its source.
   B. It is testable, and its satisfaction can be objectively assessed.
   C. It is included in the prototype.
   D. It aligns with stakeholder expectations.
9. During requirements review, what role does a validation team typically play?
   A. Identifying defects in the code
   B. Ensuring that requirements are complete, consistent, and verifiable
   C. Developing the prototype
   D. Conducting user acceptance testing
10. During the architectural design phase, what does the term "scalability" refer to?
   A. The ability of the system to handle a growing amount of work
   B. The size of each subsystem in the system
   C. The cost-effectiveness of the architectural design
   D. The speed at which the system can be deployed
11. What is the primary goal of conceptual modelling in software requirements engineering?
   A. To create a high-level design of the system
   B. To capture and represent user requirements in an abstract form
   C. To generate code automatically
   D. To conduct user acceptance testing
12. What is the purpose of a Requirements Allocation process in systems engineering?
   A. To assign requirements to specific components or subsystems
   B. To eliminate unnecessary requirements
   C. To prioritize requirements based on stakeholder preferences
   D. To document user feedback

2. Review requirement document is very expensive because they involve a number of people spending time reading and checking the requirements document. Explain the solution how can be reduce this expense? [3pts.]

3. What is the main difference between Requirements validation and Requirements Analysis? **[3pts.]**

4. Why prototyping very essential for requirements validation and list prototyping activities for requirements validation? [3pts.]

5. Write four questions which should be answered when Planning process improvements? **[4pts.]** ***1pt. each***

6. In requirement development, process improvement is concerned with modifying processes in order to meet some improvement objectives. List 3 main process improvement objectives? [3pts.] *1pt each.*

7. What is change Management Process? Write the key successful steps of an effective change management process strategy? **4pts.**

8. Explain about user and system documentation? **3pts.**