APPLICATION ASSIGNMENT

Assignment Instructions

Group Work (Shared Task)

- **Group Size:** Maximum **8 students per group**
- **Task:** Each group will select and **collaboratively answer one Group Assignment Question** on each topic assigned.
- **Format:** One submission per group per chapter. Ensure all group member names and student IDs are listed.
- **Length:** 300–500 words per group response.

Individual Work

- Each group member/student must answer **the two Individual Assignment Questions** provided.
- **Task:** Answer the selected question independently, ensuring the response is **original and not copied from group work or peers.**
- **Length:** 250–400 words per question.
- **Evaluation Criteria:** Individual understanding, use of examples, clarity, and critical thinking.

QUESTIONS

Topic	Group Assignment (Shared)	Individual Question 1	Individual Question 2
1	Why are traditional QA methods insufficient for software? How does SQA address this across environments?	Why doesn't software degrade like hardware, yet still fails? Give examples.	How does human-centric development impact software quality? How can this be mitigated?
2	How do stakeholder perspectives shape software quality definitions? Why must they be balanced?	Explain the ISO/IEC 25010 model. Choose any 3 characteristics and discuss their importance.	Discuss the relationship between software errors, faults, and failures. How does this help QA?
3	Why is it important to define software quality factors early?	Compare two models of software quality factors.	Who cares about quality requirements, and why should they be involved?
4	What is the role of the SQA system architecture in quality assurance?	What is the importance of pre-project SQA components?	Describe infrastructure components for error prevention with real examples.

5	Why is the contract review process critical in SQA? Discuss its stages.	What are the objectives of a proposal draft review? How does it differ from a contract draft review?	What's unique about contract reviews for internal projects?
6	How do development and quality plans support project success?	What are the key elements of a quality plan?	Why should quality plans be adapted for small/internal projects?
7	How are QA activities integrated into different software development methodologies?	What is the role of SDLC in quality assurance?	What factors influence the scope of QA activities in a project?
8	Why are formal design reviews essential to SQA?	What preparations are needed for a design review?	Compare formal design reviews with peer reviews.
9	How do various software testing strategies ensure reliability?	Compare white-box vs. black-box testing. When is each best?	How do software test classifications help organize testing?
10	What are the key phases of software testing implementation?	What makes a good test case? Why is test case design important?	Why is selecting the right test methodology critical?
11	Why is QA during software maintenance crucial? How does risk management fit in?	What are key components of high-quality software maintenance?	How is project risk management applied during maintenance?

12	What are the risks/benefits of external participants in software projects? How does SQA manage them?	Who are the external participants in projects? What are their roles?	Discuss two SQA tools for managing external contributions.
13	How do CASE tools improve software quality and project management? Any drawbacks?	How do CASE tools support SQA procedures/work instructions?	How do CASE tools help with maintainability and productivity? Examples?