INSTITUTE OF TECHNOLOGY, UNIVERSITY OF MORATUWA

NATIONAL DIPLOMA IN TECHNOLOGY

IT 2408 Software Testing and Quality Controlling

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1. What is quality and how quality important in software?

   Quality means how good something is compared to other similar things.
   The totality of features and characteristics of a product or service that determines its ability to meet needs .

2. What is Software Quality Assurance?

   SQA is the process of making sure that the software meets the required quality standards during its entire development process. It involves planning, monitoring, and improving software quality.

3. “Every software project needs Software Quality Assurance Engineers.” Comment on this statement.

   SQA Engineers prevent defects rather than just finding them .They ensures the development process follows quality standards. Without QA Engineers, projects may have more bugs, higher costs, and unhappy users. They help improve productivity and reduce risk.

4. What are the steps of Software Quality Assurance Life Cycle?

   Development

   Baseline system

   Production

   Release to Market

5. Imagine you're using an app to make an online bank transaction and the app suddenly crashes. What quality aspects might have failed in this case?

   Reliability

   Usability

   Performance

6. Explain the difference between Quality Control and Testing?

Quality Control	**Testing**
Ensures product meets quality standards.	Finds defects in the software.
Focuses on the overall product quality**.**	Focuses on the functionality of the software.
Preventive and corrective process.	Defect detection process.
Includes reviews, inspections, audits.	Includes running test cases.

7. Why testing is necessary?

   Testing is part of Quality Control. It finds and fixes bugs to improve quality. It measures the software quality as well.

8. There is a saying as follows in Software Quality Assurance:

   "Too little testing is a crime --- too much testing is a sin"

(a) What is meant by "too much" in the above statement?
Spending excessive time and resources testing even after software is stable.

(b) Why it is mentioned as "too much testing is a sin" in the above statement?

Its waste time and cost . It also delays product release

9. You only have one day to test a large e-commerce website before a big sale. What three types of tests would you prioritize and why?

   Basic functionality test : Ensure the core features are working so customers can browse and buy products. If any of these fail, customers cannot complete purchases.

   - Login and account creation
   - Products searching and filtering
   - Add to cart and checkout

   Load Testing : Check if the website can handle the expected number of users at the same time. A sale event attracts high traffic, so slow pages or crashes can cause massive sales loss.

   - Simulate heavy traffic.
   - Monitor response times, page loading speed, and server stability.

   Payment Gateway Testing : Verify that payments process correctly, quickly, and securely. If payments fail, customers will abandon their carts and may lose trust in the platform.

   - Credit card, debit card, and e-wallet transactions.
   - Error handling for failed payments.
   - Confirmation email or receipt after payment.

10. Why do faults occur in software?

    Poor requirement gathering and analysis

    Programming errors

    Changes in environment (OS, hardware)

    Poor communication between team members

    Tight deadlines leading to rushed work.