



Institute of Information Technology
Jahangirnagar University
Professional Masters in IT

1st Trimester Final Examination, Fall 2022

Intake: Summer & Fall, 2022

Duration: 3 Hours

Full Marks: 60

Course Code: PMIT 6111

Course Title: Software Testing & Quality Assurance

There are 07 (Seven) questions. Answer any **5 (Five)** of them.
Figures in the right margin indicate marks.

1.
 - a) Draw the sprint. What are the basic parts of Scrum? 2+2
 - b) Mention the agile manifesto. What was the motivation behind this manifesto? 4
 - c) What is sprint zero? Mention the practice of tester in agile testing. 4
2.
 - a) After modifying a code for error correction which testing you have to apply for rechecking the rest of the code? How this testing works? 3
 - b) Who should test the software? 3
 - c) Draw the Agile Testing Quadrants. 3
 - d) Draw the acceptance testing. 3
3.
 - a) Show the levels of testing. 3
 - b) Suppose you have to test all individual module of any software system. Which testing strategy you should follow? Explain with example. 4
 - c) Identify the following types of testing: 1×5=5
 - i. Testing the limits of system e.g. maximum number of users, peak demands, extended operation.
 - ii. Test the various software and hardware configurations
 - iii. Exercise all input and output parameters of each component, all components and all calls (each component is called at least once and every component is called by all possible callers.)
 - iv. Conducted at sponsor's site (developer is not present) and software gets a realistic workout in target environment.
 - v. The initial testing process exercised to check whether the software under test is ready/stable for further testing.
4.
 - a) Find out if there is any system requirement in the user requirement given below: 3
"Student Information System" should provide list of students enroll in each semester"
 - b) Why equivalence partitioning and boundary value analysis should be used together? Explain with an example. 4
 - c) Draw a state transition table for a scenario where a user tries to log in to another session while being logged into another session already. 3
 - d) When should we follow experience-based techniques testing? 2



5. a) Find the test case point form the following table. To complete the testing within 21 person months how many TCPs should be done in a month? What would be total cost if monthly cost is 50,000/-

Test Case Complexity	Number of Test Case	Adjustment Factor
Simple	50	1
Avarage	30	2
Complex	20	3

- b) Why we need business analyst in the project? 3
- c) Identify the types of risk, probability and effect of the risks: 1×5=5
- i. Organizational financial problems force reductions in the project budget.
 - ii. Key staff are ill at critical times in the project.
 - iii. Changes to requirements that require major design rework are proposed.
 - iv. The time required to develop the software is underestimated.
 - v. The code generated by software code generation tools is inefficient.
6. a) Write the quality management activities. Show how development process and quality management process works together. 2+2
- b) Mention the problems of quality management for software. For any real-time chatting software what would be the quality conflicts? 2+2
- c) Mention some product and process standard. Write core process of ISO 9001 standard. 2+2
7. a) Suppose there are 70 licensed copies of any application has installed within 3 months. Customers has reported 800 problem during this period. The FP = 40 and true defect identified is 540; total closed defects = 456, defects closed within responses time = 444. 2×4=8
- i. Find PUM.
 - ii. Find defect density
 - iii. Find BMI
 - iv. Find Percent delinquent fixes
- b) Mention the quality factors in McCall's factor model. How correctness can be calculated? 2+2