

The Open University of Sri Lanka  
Faculty of Engineering Technology  
Department of Electrical & Computer Engineering



Study Programme	: Bachelor of Software Engineering Honours
Name of the Examination	: Final Examination
Course Code and Title	: EEI5467/EEI5567 Software Testing and Quality Assurance
Academic Year	: 2020/21
Date	: 06 <sup>th</sup> February 2022
Time	: 0930 - 12300 hrs
Duration	: <b>3 hours</b>

### General Instructions

1. Read all instructions carefully before answering the questions.
  2. This question paper consists of **Four (4)** questions in **Six (6)** pages.
  3. This examination paper has two parts: **Section A** and **Section B**.
  4. Answer **all** questions in **Section A** and **Section B**, which is compulsory.
  5. Answer for each question should commence from a new page.
  6. This is a Closed Book Test (CBT).
  7. Answers should be in clear handwriting.
  8. Do not use Red colour pen.
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**SECTION A****Question 01****(40 marks)**

1) Which of the following types of testing assumes that a path of logic in a unit or program is known? (2 marks)

- A. White-box testing
- B. Black-box testing
- C. Incremental testing
- D. Thread testing

2) Which TWO of the following solutions below lists techniques that can all be categorized as Black Box design techniques? (2 marks)

- A. Equivalence Partitioning, decision tables, state transition, and boundary value.
- B. Equivalence Partitioning, decision tables, use case.
- C. Equivalence Partitioning, decision tables, checklist based, statement coverage, use case.
- D. Equivalence Partitioning, cause-effect graph, checklist based, decision coverage, use case.
- E. Equivalence Partitioning, cause-effect graph, checklist based, decision coverage and boundary value.

3) When should Regression testing be performed? (2 marks)

- A. every week
- B. after the software has changed
- C. as often as possible
- D. when the project manager says

4) Fill in the blanks with correct description (8 marks)

- A. It involves grouping of test conditions into various subjects, which are handled the same way.
- B. It involves defining and testing for a different combination of conditions.
- C. It involves the identification of various usage scenarios and then testing accordingly.
- D. It involves defining boundaries of the partitions and testing for them after.

- A) Equivalence partitioning:-----
- B) Boundary value analysis: -----
- C) Decision table testing/ graphical cause-effective technique:-----
- D) Use case test techniques:-----

- 5) What is the difference between a bug, an error, a defect, and failure? Fill in the blanks with the correct description. (8 marks)

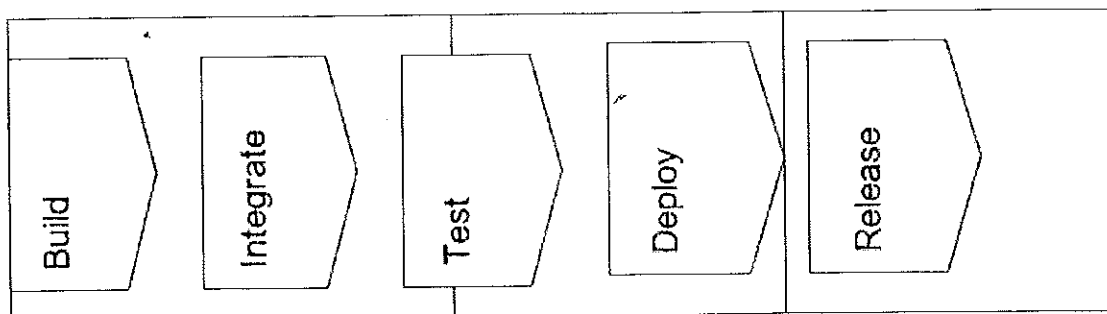
- The difference between the actual output of software and the true and correct output.
- A failure occurs when the user perceives that a software program ceases to deliver the expected services.
- It is the difference between expected and actual results in the context of testing. It is the deviation of the customer requirements.
- A programming error or incorrect status helps to run the software properly without causing the whole application to produce incorrect results.

- A) Error: -----  
 B) Detect:-----  
 C) Bug:-----  
 D) Failure: -----

- 6) The CI/CD pipeline is one of the best practices software developments and develop teams can implement, as it allows them to deliver code changes more frequently and reliably. Map the phases of CI/CD with software life cycle. (6 marks)

- A. Continuous Delivery  
 B. Continuous Integration  
 C. Continuous Deployment

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Suppose you are working as Associate Quality Engineer in ABC company and Your Quality Engineering lead assigned a task to test the following form. (12 marks)

Username  
.....  
.....

Password  
.....  
.....

Remember Me

Login

7) Write down one positive test scenario for above screen. (3 marks)

8) Write down one negative test scenario for above screen. (3 marks)

9) Suppose a password field accepts minimum 6 characters and maximum 10 characters. What are the equivalent partitions classes for the above specification? (6 marks)

**SECTION B****Question 2****(20 marks)**

1. How does "Quality" is defined in an IT product or service? (4 marks)
2. What is the difference between functional and nonfunctional testing? (4 marks)
3. Define and distinguish Retesting and Regression Testing? (4 marks)
4. Following are the major components of the quality engineering process. Write down 2 deliverable for each phase. (8 marks)
  - A) Pre-QA activities
  - B) In-QA activities
  - C) Post-QA activities

**Question 3****(20 marks)**

1. What is a risk? Define (4 marks)
2. What is contingency planning? Define. (4 marks)
3. What is different between Severity and Priority? (4 marks)
4. Define the severity of following defects. (8 marks)

- |  |
|--|
| <ul style="list-style-type: none"> <li>● <b>Critical</b></li> <li>● <b>High-severity</b></li> <li>● <b>Medium-severity</b></li> <li>● <b>Low-severity</b></li> </ul> |
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Defect	Severity
Slightly different size or color of a button.	
Application's returning a server error message after a login attempt	
Broken link in an application's Terms and Requirements section.	
An email service provider does not allow adding more than one email address to the recipient field.	

**Question 4****(20 marks)**

1. What is API Testing? (4 marks)
2. Name one API testing tool. (4 marks)
3. Following is the JSON response of GET user endpoint. (12 marks)

```
{
  "id": 1,
  "name": "Leanne Graham",
}
```

For the API testing above response needs to be verified. Test script for the verification is given below. Fill in the blanks with the given phrases.

- A) var response\_json ,
- B) pm.response.json();
- C) Pm.expect,
- D) 2,
- E) "Leanne Graham", username

```
----- = -----
pm.test("Verify the Name", function(){
  -----
  (response_json[----].-----).to.eql(-----);
});
```

-----  
END  
-----