1-True or False  
**Why is Testing necessary?**

1- because software is likely to have faults ( True )

2- To learn about the reliability of the software ( True )

3- To fill the time between the delivery of the

software and the release date ( False )

4- To prove that the software has no faults ( False )

5- Because testing is included in the project plan ( False )

6- Because failures can be very expensive ( True )

7- To avoid being sued by customers ( True )

8- To stay in business ( True )

|  |  |
| --- | --- |
| functional | non-functional |
| Test the functionality of the software | Tes the non-functional aspects or readiness of the software |
| It has to be done before non-functional | It will be done after functional testing |
| Easy to define | More difficult to define |
| Verify functionality | Verify performance |
| At a component level | The overall system |
| Mandatory | Non-mandatory |
| Based on business requirements | Based on customers expectations |
| Define what to test | Define how to test |

|  |  |
| --- | --- |
| Black box | White box |
| Implementation of code is not needed for black box testing | Code implementation is necessary for white box testing |
| It is mostly done by software testers | It is mostly done by software developers |
| No knowledge of implementation is needed | Knowledge of implementation is required |
| It can be referred to as outer or external software testing | It is the inner or the internal software testing |
| It is a functional test of the software | It is a structural test of the software |
| Black-box test design techniques-  1- Decision table testing  2- All-pairs testing  3- Equivalence partitioning  4- Error guessing | White-box test design techniques-  1-Control flow testing  2- Data flow testing  3- Branch testing |

3- What the SDLC ?

Software Development Life Cycle  
هو application of standard business لبناء software applications  
تنقسم من ست إلي ثماني خطوان

1- planning

2- Requirements

3- Design  
4- Build

5- Document

6- Test

7- Deploy

8- Maintain

4- Testing Levels :

1- Unit Testing

2- Integration Testing

3- System Testing

4- Acceptance Testing

5- Testing Types

It means of clearly defining the objective of a certain level for a program or project”. The tester focuses on a particular test objective during test case execution.

1- Functional Testing

2- Non-Functional Testing

3- Maintaining Testing

6- DDD&TDD&BDD

BDD : Behavioral Driven Development

is a customer-focused process. It is based on the full and clear understanding of the system or module behavior but in the terms of business/client. We can say that BDD is the implemented TDD with some aspects of DDD.

TDD: Test-Driven Development  
first come tests and then the code. The minimal piece of code is written in order to pass the designed test. In other words, it is the process of testing the code before its accrual writing. If the code passes the test, then we can proceed to its refactoring.

DDD: Domain Driven Design  
is the way of creating complex systems by developing the separate parts of it. At first, the domain (a set of functionality) is defined and described as before creating something it is necessary to understand what exactly it will be. In other words, it is the process of being informed about the domain before code writing.

7- Who Does Testing ?

It depends on the process and the associated stakeholders of the project(s). In the IT industry, large companies have a team with responsibilities to evaluate the developed software in context of the given requirements. Moreover, developers also conduct testing which is called Unit Testing. In most cases, the following professionals are involved in testing a system within their respective capacities –

1- Software Tester

2- Software Developer

3- Project Lead/Manager

4- End User