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**CSE -DEVOPS 2nd YEAR B1**

**Build and Release Management**

**ASSIGNMENT 3**

**Q1. What is the difference between Product Documentation and Process Documentation?**

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| --- | --- |
| **Product documentation** | **Process documentation** |
| Product documentation describe the item that is being created and gives guidelines on the most proficient method to perform different assignments with it. | Process documentationrepresents all  documents produced during development and maintenance that describe well. |
| In general, product documentation includes requirements, tech specifications, business logic, and manuals. | The common examples of process-related documents are standards, project documentation, such as project plans, test schedules, reports, meeting notes, or even  business correspondence. |
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**Q2. Write a short note on following**

1. **Unit Testing: -**

Unit testing is a degree of programming testing where singular units/parts of a product are tested. The reason for existing is to approve that every unit of the product proceeds as planned. A unit is the littlest testable piece of any product. It as a rule has one or a couple of sources of info and generally a solitary yield. In procedural programming, a unit might be an individual program, work, system, and so forth. In object-arranged programming, the littlest unit is a strategy, which may have a place with a base/super class, conceptual class or inferred/kid class. Unit testing systems, drivers, stubs and fake items are utilized to aid unit testing.

**# Unit Testing Tasks: -**

\*Unit Test Plan

Prepare

Review

Rework

Baseline

\*Unit Test Cases/Scripts

Prepare

Review

Rework

Baseline

\*Unit Test

Perform

1. **Black Box Testing: -**

Black-box testing is a strategy for programming testing that looks at the usefulness of an application without peering into its inward structures or operations. This technique for test can be applied for all intents and purposes to each degree of programming testing: unit, joining, framework and acknowledgment**.**

1. **Code Coverage: -**

Code Coverage is a measure which portrays the level of which the source code of the program has been tried. It is one type of white box testing which finds the territories of the program not practiced by a lot of experiments. It additionally joins that with source code data to produce a report about the test suite's code.

Here, are some reasons for using code coverage:

* It helps you to measure the efficiency of test implementation
* It offers a quantitative measurement.
* It defines the degree to which the source code has been tested.

**Q3. Write any Three majorly used open source tools for CI/CD.**

# Jenkins: -

Jenkins is the original, the venerable, de facto standard in CI/CD. If you haven't already, you need to read "Jenkins: Shifting Gears" from Kosuke, the creator of Jenkins and CTO of Cloud Bees. It sums up all of my feelings about Jenkins and the community from the last decade.

# Spinnaker: -

# Spinnaker originates from Netflix and is more centered around nonstop organization than ceaseless joining. It can incorporate with different devices, including Jenkins, to commence test and arrangement pipelines.

# GitLab CI: -

GitLab is another participant to the CD space, yet is as of now accomplished the top spot in the Forrester Wave for Continuous Integration Tools. That is a gigantic accomplishment in such a swarmed and qualified field. It likewise has a usefulness called Auto DevOps that takes into account easier ventures to have a pipeline assembled consequently with various tests worked in.

**Q4. Write Two Majorly used Source Code Management tools and their small description.**

# Git: -

# Git is a circulated rendition control framework for following changes in source code during programming advancement. It is intended for planning work among software engineers; however, it very well may be utilized to follow changes in any arrangement of records. Its objectives incorporate speed, information integrity, and support for conveyed, non-direct work processes.

# Apache Subversion: -

Apache Subversion is a product forming and amendment control framework dispersed as open source under the Apache License. Programming engineers use Subversion to keep up present and verifiable variants of records, for example, source code, site pages, and documentation.

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