DevSecOps Test Paper

GIT:

1) Write a command to revert a commit that has already been pushed and made public.
2) Write a command to squash the last N commits into a single commit.
3) Suppose one of your teammates accidentally deleted a branch and pushed the changes to the central git repo. There are no other git repos, and none of your teammates had a local copy. How would you recover this branch? Write the steps of commands.
4) Write the commands to cherry-pick a merge commit?
5) What is a merge conflict in git and how can it be resolved? Write the appropriate commands.

PYTHON:

6) Write a function named 'format_number' that takes a non-negative number as its only parameter. Your function should convert the number to a string and add commas as a thousand separators. For example, calling format_number(1000000) should return "1,000,000".
7) Write a function in Python to parse a string such that it accepts a parameter- an encoded string. This encoded string will contain a first name, last name, and an id. You can separate the values in the string by any number of zeros. The id will not contain any zeros. The function should return a Python dictionary with the first name, last name, and id values. For example, if the input would be "John000Doe000123".

Then the function should return: { "first_name": "John", "last_name": "Doe", "id": "123" }

8) What are *args and **kwargs in Python functions?

JENKINS:

9) How is continuous integration achieved using Jenkins?
10) What is Groovy in Jenkins?
11) How do you install Jenkins?

Multiple Choice Questions

1. Which command initializes a new Git repository?

a) git new

b) git create

c) git start

d) git init

2. What does the .git directory store?

a) Configuration files

b) Source code

c) Project documentation

d) Repository metadata and version history

3. What does the HEAD in Git represent?

a) The first commit in the repository

b) The latest commit in the remote repository

c) The currently checked-out commit

d) The base of the current branch

4. How do you view the differences between the working directory and the last commit? a)

git view

b) git diff

c) git changes

d) git compare

5. Which variable contains the directory which contains logs, jobs, users and other configurations of jenkins?

a) HOME_JENKINS
b) HOME
c) JENKINS

d) JENKINS_HOME

6. How to take backup of whole jenkins setup?

a) Copy all data present in JENKINS_HOME directory to backup directory.
b) Create soft link to JENKINS_HOME directory.
c) Copy only jobs and users folder from JENKINS_HOME directory to backup directory. d) Save the Jenkinsfile in git.

7. Declarative pipeline starts with which tag?

a) stage { }
b) pipeline { }
c) node { }
d) step { }

8. What is the output of the following program :

```
print "Hello World"[::-1]
```

a) dlroW olleH
b) Hello Worl
c) d
d) Error

9. What is the output of the following code:

```
L = ['a','b','c','d']
print("".join(L))
```

a) Error
b) None
c) abcd
d) [‘a’,’b’,’c’,’d’]

10. Suppose list1 is [3, 4, 5, 20, 5, 25, 1, 3], what is list1 after list1.pop(1)?

a) [3, 4, 5, 20, 5, 25, 1, 3]
b) [1, 3, 3, 4, 5, 5, 20, 25]
c) [3, 5, 20, 5, 25, 1, 3]
d) [1, 3, 4, 5, 20, 5, 25]

11. What's the purpose of the self argument in Python class methods?

a) It's used to call other methods within the class.
b) It holds a reference to the current object.
c) It's a placeholder and has no purpose.
d) It refers to the class itself.

12. Given the following class definition:

```
class Circle:     def

__init__(self, radius):

self._radius = radius


   @property

def radius(self):

       return self._radius


   @radius.setter     def radius(self, value):        if not

isinstance(value, (int, float)) or value <= 0:

raise ValueError("positive number expected")

self._radius = value
```

Which of the following statements about the Circle class are true? (Select all that apply.)

a) The .radius attribute is a class attribute.

b) The .radius attribute is a managed attribute.
c) When creating a Circle, you can initialize .radius only to positive values.
d) After creating a Circle, you can change .radius only to positive values.