



Republic of Rwanda
City of Kigali



GASABO DISTRICT

**END OF TERM II GASABO DISTRICT COMPREHENSIVE
ASSESSMENT 2022-2023**

Exam Title: SWDVC301 Conduct Version Control

SECTOR: ICT

RTQF LEVEL: 3

TRADE: Software Development

DATE: On /3/2023

MARKS:

/100

DURATION: 3 HOURS

INSTRUCTIONS TO CANDIDATES:

This Exam paper is composed of Three Sections (A, B, C). Follow the instructions given below, and answer the indicated questions for a total of 100 marks

Section **A**: Eleven (11) questions, all are **Compulsory** **55 marks**

Section **B**: Five (5) questions, attempt any (3) questions **30 marks**

Section **C**: Among the two (2) questions, attempt any one (1) **15 marks**

01. Answer as indicated(1mark for each)

Choose the correct answer by writing the letter that best fits

- I. What is a repository in version control?
 - A) A tool used to view the changes made to code over time
 - B) A central location where all versions of code are stored
 - C) A process used to merge changes made by different team members
 - D) A system used to track the status of bugs in code
- II. Which of the following is an example of a version control system?
 - A) Excel
 - B) Microsoft Word
 - C) Git
 - D) Adobe Photoshop
- III. What are the benefits of using a version control system?
 - A) It allows multiple developers to work on the same codebase simultaneously
 - B) It tracks changes made to code over time
 - C) It allows you to roll back to a previous version of code if needed
 - D) All of the above
- IV. What is the difference between a local repository and a remote repository?
 - A) A local repository is stored on a server, while a remote repository is stored on your local machine
 - B) A local repository is used for testing, while a remote repository is used for production
 - C) A local repository is stored on your local machine, while a remote repository is stored on a server
 - D) A local repository is used for collaboration, while a remote repository is used for individual development

V. What is a branch in version control?

- A) A separate copy of code that you can work on independently
- B) A tool used to view the changes made to code over time
- C) A process used to merge changes made by different team members
- D) A system used to track the status of bugs in code

02. Define the following terms: (5marks)

- | | |
|--------------------|-----------|
| a) Version control | d) Commit |
| b) Terminal | e) Fetch |
| c) Status | |

03. By using a graph, explain local version control (5marks)

04. After explaining GitHub, list some three(3) features of GitHub which make it so popular (5marks)

05. Briefly, differentiate Git from Mercurial (also known as "hg") as distributed version control systems (5marks)

06. Discuss about Concurrent Version System (5marks)

07. After defining SVN(subversion), mention how it works with its features. (5marks)

08. List and explain five (5) applications of Github in software development (5marks)

09. Illustrate step by step how to Create account on GitHub (5marks)

10. Explain the following various commands used when viewing a list of commits (5marks)

- | | |
|------------|----------------------|
| a) git log | b) git log --oneline |
|------------|----------------------|

11. Differentiate centralized version control system from distributed version control. (5marks)

SECTION B: Attempt any three (3) questions

(30 marks)

12. Explain Git version control system with its ten (10) explained features (10marks)

13. Discuss on all Git basic concepts as follow: (10marks)

- | | |
|---------------|---------------------------|
| a) VCS | f) Pull request |
| b) Repository | g) Remote |
| c) Commit | h) Staging |
| d) Branch | i) Git push |
| e) Merging | j) Git push origin master |

14. Indicate brief explanations and usage of the git clone and git remote commands. **(10marks)**

15. Using Git commands and brief explanations, how would you create a new branch in your Git repository? **(10marks)**

16. Step by step, guide on how to create a new Git repository for an empty project with brief explanations. **(10marks)**

SECTION C: Attempt only one (1) question (15 marks)

17. a) How do you initialize a new Git repository? **(3marks)**

b) How do you revert to a previous commit in Git? **(3marks)**

c) How do you perform code review in Git? **(3marks)**

d) What is the difference between a merge and a rebase in Git?
(3marks)

e) Why is version control important? **(3marks)**

18. AGABE Adolphe is a Senior Developer of Innovate company Ltd located at Musanze District, he assigned a project to 5 different developers to design web application that contains different forms such as: login form, Student Registration form, Entertainment form, courses registration form and book registration form, using html language and PHP, but due to Covid-19 pandemic developers were not able to work together on the given task and become difficult to control them. Senior developer decided to assign tasks to each developer respectively and remotely. He recommended them to work individually on a given task.

He told them to create their own repository related to a given task,

Task: As a one of 5 developers you are hired to choose one task from above, work on it and create Pull Request of your task to be merged on the main branch, use GitHub as version control platform. Submit Pull Request link to the senior developer **(15marks)**

END OF ASSESSMENT!