SUMMATIVE/INTEGRATED ASSESSMENT

Assessment Details		Assessment Center Details	
SECTOR:	**ICT**		
Sub-SECTOR /TRADE:	**SOFTWARE DEVELOPMENT**		
REQF LEVEL:	**4**	**Date of Assessment:**	
QUALIFICATION TITLE:	**TVET CERTIFICATE IV IN SOFTWARE DEVELOPMENT**		

1. INTEGRATED SITUATION:

BEAUTY WAREHOUSE is located in Kigali City, Nyarugenge District. It has been handling the processes of receiving goods from suppliers and exporting goods to the customers, controlling the amount of inventory, orders, payments, recruitment and management of employees. Even though the company has skilled employees in using computers, they perform their daily activities by using papers, Microsoft Office Excel and Word. Therefore, they have a problem where information can be easily lost, time consuming in accessing information and easily accessed by unauthorized users. This makes it hard to secure information and generate reports of the warehouse. The warehouse wants to hire a web application developer to develop a web application that will facilitate the employees in their daily activities.

Task: Stock information management.

As a web application developer, you are requested to develop a stock management system that will help storekeeper to manage its information**.**

INFORMATION:

A) Create database named **STORE** with the tables below:

1. Users (UserId(PK), UserName, Password)
2. Storekeeper (StorekeeperId (PK), UserName, Password)
3. Products (ProductCode (PK), ProductName)
4. ProductIn (ProductIn_id (PK), ProductCode (FK), prIn_Date, prIn_Quantity, prIn_Unit_Price, prIn_TotalPrice)
5. ProductOut (ProductOut_id(PK), ProductCode (FK), prOut_Date, prOut_Quantity, prOut_unit_Price, prOut_TotalPrice) B) Create an account, login by using UserName and Password then logout

C) Insert, Retrieve, Update, and Delete records to the tables given above.

D) Generate the report of daily stock status for **ProductIn** table.

INSTRUCTIONS

- ✓ Your work should be saved in your real names in a folder called (FirstName_LastName_National_Practical_Exam_2024) ✓ The login is session based.
- ✓ The interface must be attractive.
- ✓ The forms must be linked to each other.
- ✓ After a successful login, the user will be able to record, update, retrieve, and delete records from a table.
- ✓ The application gives a way of displaying a report of daily stock status for ProductIn.
- ✓ The application is needed in eight (8) hours.

Note:

1. A candidate should be given an integrated situation one hour before starting the exam in order to read it and understand the instructions.

2. A candidate is allowed to go out of the examination room only if accompanied by the assessor for any special case.

2. ASSESSMENT CHECKLIST

			Leaner's Name (1)			Leaner's Name (2)			Leaner's Name (3)			Leaner's Name (4)		
		Index number	----------			----------			----------			----------		
		Time Start												
		Time End												
No	Criteria (C)	Indicator (NIE)	Y or N	Score Y/NEI	Points (P)	Y or N	Score Y/NEI	Points (P)	Y or N	Score Y/NEI	Points (P)	Y or N	Score Y/NEI	Points (P)

1	Quality of Process (QPC) **(20%)**	**Indicator 1: Tools, equipment and materials are well used**												
		1. Webserver is used												
		2. Text Editor is used												
		3. Web Browser is used												
		Indicator 2: Folder is appropriately created												
		1. Webserver is opened(WAMPP or XAMP)												
		2. Folder is opened(www or htdocs)												
		3. Folder is created												

		4. Folder is named																	
		Indicator 3: CRUD Operations are well performed																	
		1. STORE database is created																	
		2. Tables are created																	
		3. Records are inserted																	
		4. Records are displayed																	
		5. Records are updated																	
		6. Records are deleted																	
		Indicator 4: Data constraints are correctly used																	

		1. Primary keys are used															
		2. Foreign keys are used															

			Leaner's Name (1)			Leaner's Name (2)			Leaner's Name (3)			Leaner's Name (4)		
	Index number		.....			.....			.....			.....		
No	Criteria (C)	Indicator (NIE)	Y or N	Score Y/NEI	Points (P)	Y or N	Score Y/NEI	Points (P)	Y or N	Score Y/NEI	Points (P)	Y or N	Score Y/NEI	Points (P)
2	Quality of Product (QPD) **(60%)**	**Indicator 1: Front end and database are well integrated**												
		1. Login form is connected												
		2. User account form is connected												
		3. ProductIn form is connected												

		Indicator 2: CRUD operations are properly applied												
		1.Records are inserted												
		2.Records are retrieved												
		3.Records are updated												
		4. Records are deleted												
		Indicator 3: User authentication and authorization are well applied												
		1. Login form is created												
		2. User account is created												
		3. Session is established												
		4. Login is working												
		5. Logout button is created												

		6. Logout button is working															
		7. Session is destroyed															
		Indicator 4 : Attractiveness of interfaces are appropriately applied															
		1. Background color is used															
		2. Font colors are used															
		3. Contrast of colors used are not high															
		4. White spaces are added															

				Leaner's Name (1)	Leaner's Name (2)	Leaner's Name (3)	Leaner's Name (4)
				.....	.....	.....	.....
	Index number			.....	.....	.....	.....

No	Criteria (C)	Indicator (NIE)	Y or N	Score Y/NEI	Points (P)	Y or N	Score Y/NEI	Points (P)	Y or N	Score Y/NEI	Points (P)	Y or N	Score Y/NEI	Points (P)
3	Relevance (REL) **(5%)**	**Indicator 1: Instructions are well respected**												
		1. Report of daily productIn is generated												
		2. Folder is created in his/her name												
		3. Application files are saved												
		4. Task is completed within 8 hours												
		Indicator 2: Professional ethics is properly applied												

		1.Computer is not locked													
		2.Web server is not uninstalled													
		3.Text editor is not uninstalled													
		4.Web browser is not uninstalled													

			Leaner's Name (1) ……	Leaner's Name (2) ……	Leaner's Name (3) ……	Leaner's Name (4) ……
	Index number		……	……	……	……

No	Criteria (C)	Indicator (NIE)	Y or N	Score Y/NEI	Points (P)	Y or N	Score Y/NEI	Points (P)	Y or N	Score Y/NEI	Points (P)	Y or N	Score Y/NEI	Points (P)
5	Oral questions (OQ) **(10%)**	**1.Quality of process**												
		Qno1 :												
		Qno 2:												
		Qno 3:												
		2.Quality of product												
		Qno1 :												
		Qno 2:												
		Qno 3:												
		3.Relevance												
		Qno1 :												
		Qno 2:												
		Qno 3:												

3. Pre-determined conditions

The examination school center must provide the following tools before the exams:

1. Have Laptop or desktop computer with installed tools such as: XAMP or WAMP, Text editor and browser

2. Electricity or generator
3. Lightening rod
4. Safety equipment like fire extinguisher and first aids kit.
5. Computer lab/smart classroom with chairs/desks and tables
6. Enough light in the working room
7. Provide assistance for special needs
8. A school must avail the room to host the candidates during the lunch

4. Oral questioning items for each criterion

1 QUALITY OF PROCESS (Choose one question)

1. Which web server did you use?
2. What text editor did you use in designing your web application
3. Explain CRUD operations.

2. QUALITY OF PRODUCT (Choose one question)

1. Differentiate front end from back end of web application.
2. What have you done to protect your web application from unauthorized users?
3. What is the importance of your application to the **storekeeper**?

3. RELEVANCE (Choose one question)

1. Who is the user of the web application you developed?
2. Why have you saved your work in htdocs/www?
3. Where did you save your project?

4.RIGHT ATTITUDE (Choose one question)

1. How tools, materials, and equipment are handled?
2. Why is it important to maintain Software Development professional ethics at workplace?
3. Why do we need to install an antivirus on any computer?

5. Answer of Oral questions

1. QUALITY OF PROCESS (Choose one question)

1. Which web server have you used?

   Answer: Web Servers: XAMPP server or WAMP server

2. What text editor have you used in designing your web application?

   Answer: The text editor I have used is:

   - Sublime Text or
   - Notepad or
   - Notepad++ or
   - EditPlus or
   - Visual studio code or
   - Brackets

3. Explain CRUD operations.

   Answer:

   CRUD is the acronym for **CREATE**, **READ**, **UPDATE** and **DELETE**. These terms describe the four essential operations for creating and managing persistent data elements, mainly in relational and NoSQL databases.

- The **CREATE** operation adds a new record to a database.
- **READ** returns records (or documents or items) from a database table (or collection or bucket) based on some search criteria
- **UPDATE** is used to modify existing records in the database.
- **DELETE** operations allow the user to remove records from the database

2. QUALITY OF PRODUCT (Choose one question)

1. Differentiate front end from back end of web application.

Answer: The front-end of a web application refers to part of the web application that the user interacts with directly while the back-end of a web application is a part that the user can't see and interact with.

2. What have you done to protect your web application from unauthorized users? **Answer:**

   I have created a login form which allows a user to gain access to a web application by entering the username and password.

3. What is the importance of your application to a storekeeper?

Answer:

The importance of my application to the **storekeeper is to manage the information.**

3. RELEVANCE/2MARKS (Choose one question)

1. Where did you save your project files? **Answer:**
   I saved my project files htdocs/www**.**
2. Why have you saved your work in htdocs/www?

Answer:

In order to access my website

3. Where did you save your project?

Answer:

The project is saved in:

- **www** when you use WAMP server or
- **htdocs** when you use XAMP server

6. Summary of Marks per Criterion

	Criteria	**Marks**
1	Quality of Process	**(20%)**
2	Quality of Product	**(60%)**
3	Relevance	**(5%)**
4	Right Attitudes	**(5%)**
5	Oral Questioning	**(10 %)**
Result		**/100**
	Criteria	**Marks**
1	Quality of Process	**(20marks)**
2	Quality of Product	**(60marks)**
3	Relevance	**(5marks)**
4	Right Attitudes	**(5Marks)**
5	Oral Questioning	**(10 marks)**
Result		**/100**

Note:

For each criterion, marks have to be detailed basing on the number of elements of indicators in the checklist as well as on the oral questioning format given above.

7. COMPUTATION OF SCORES

FORMULA:

1. In the assessment forms, assessment criteria have specific indicators with elements to be checked. They are marked either Y or N with the following meaning:
   Y means Yes and it is equivalent to 1 point and N means No and it is equivalent to 0 point
2. Points (P) in each **criterion** (C) result is equal to the number of Y divided by the **total number of elements in all indicators** (NEI) for that criterion, multiply by the **percentage** (C%) assigned in each criterion based on the case scenario in the table above multiplied by one hundred (100). Computation of points is up to two (2) decimal places.

   $$P = Y/NEI*(C\%)* 100$$

   Eg: Y= 11/12 in QPC, 12/12 in QPD, 3/4 in REL, 8/9 in RA, 2/4 in OQ

   For QPC, $P = \frac{11}{12} * 20\% * 100 = \frac{220}{12} = 18$

   etc……. for each criterion
3. The initial result of one assessor is equal to the sum of all criteria results. Result = QPD + QPC + REL + RA + OQ
4. The final result (FR) is the average of the results from the three panel of assessors. FR is up to two (2) decimal places.
   FR = (Ass1Res + Ass2Res + Ass3Res)/3
   For more details, find appendix in rules and regulations

8. Score computation table

S/N	Criteria	Leaner's Name (1) …… **Points (P)**	Leaner's Name (2) …… **Points (P)**	Leaner's Name (3) …… **Points (P)**	Leaner's Name (4) …… **Points (P)**
1	Quality of Process (20%)				
2	Quality of Product (60%)				

3	Relevance (5%)				
4	Oral questions (10%)				
Result/100					

Assessor:

Name	Institution	Qualification	Phone	Signature

Note: All pages should have initial signature of the assessor
Done on ……, 2024 at (hour): …… Examinations center: ……