CAPSTONE PROJECT

DIGITAL TOOLS FOR SMART LEARNING

Objective

Create a small project that demonstrates your skills in presentation design, data handling, image editing, web development, and basic programming. You will use PowerPoint, Excel, GIMP, HTML, and Python to create a digital learning portfolio.

Session 1: Data Handling and Presentation Design (Excel & PowerPoint)

Activities

1. **Using Excel to Manage Data**

   - You will create a data sheet in Excel to track information such as:

     - Daily activities

     - Personal goals

     - Favourite subjects

   - You will use formulas to calculate totals and averages, apply cell referencing, and use AutoFill for consistency.

2. **Creating an Interactive PowerPoint Presentation**

   - You will create a PowerPoint presentation explaining their data (from Excel).

   - You will:

     - Apply slide transitions and animations to make the slides engaging.

     - Use action buttons for interactive navigation between slides.

Outcome for Session 1

- A well-organised Excel worksheet with formulas and basic calculations.

- An interactive PowerPoint presentation with animations and action buttons.

Session 2: Image Editing and Web Page Creation (GIMP & HTML)

Activities

1. **Designing an Image in GIMP**
   - ‹› You will create a simple design in GIMP, such as a personal logo or a poster.
   - ‹› You will:
     - ✦ Create a new file
     - ✦ Use basic painting tools
     - ✦ Save the file in an appropriate format

2. **Building a Basic Web Page Using HTML and CSS**
   - ‹› You will create a basic HTML web page that displays:
     - ✦ An introduction
     - ✦ The image created in GIMP
     - ✦ Key data points from their Excel project.
   - ‹› You will use HTML tags such as headings, paragraphs, and images and apply CSS for basic styling.

Outcome for Session 2

- ‹› A personal logo or poster created using GIMP.
- ‹› A basic HTML web page showcasing the image and information.

Session 3: Programming Smart Actions (Python)

Activities

1. **Writing a Simple Python Program**
   - ‹› You will write a Python program that:
     - ✦ Takes input (e.g., favourite subject or goal)
     - ✦ Displays a personalised message using the print() function and variables.

2. **Using Conditional Statements in Python**
   - ‹› You will modify the Python program to check conditions (e.g., if the input is a certain value, print a specific message).
   - ‹› You will apply if-else statements to automate simple decisions based on input.

Outcome for Session 3

◆ A working Python program displaying personalised messages.

◆ A program that uses if–else statements to automate decisions.

Final Deliverables

Tick (✓) the box if submitted:

◆ Excel worksheet with data and formulas

◆ Interactive PowerPoint presentation

◆ Image created using GIMP

◆ Basic HTML web page

◆ Python program using variables and conditional statements

Final Presentation Statement

This capstone project combines data management, graphic design, web development, and programming to create a digital portfolio. You will use Excel, PowerPoint, GIMP, HTML, and Python to demonstrate their ability to use these digital tools creatively and effectively.