**Assignment Questions**

Day1:

Assignment 1: explain network terminology.

Assignment 2: Draw your Home Network Topology and explain how you are accessing the RPS Lab environment.

Day2:

Assignment 1: SDLC Overview - Create a one-page infographic that outlines the SDLC phases (Requirements, Design, Implementation, Testing, Deployment), highlighting the importance of each phase and how they interconnect.

Assignment 2: Develop a case study analysing the implementation of SDLC phases in a real-world engineering project. Evaluate how Requirement Gathering, Design, Implementation, Testing, Deployment, and Maintenance contribute to project outcomes.

Assignment 3: Research and compare SDLC models suitable for engineering projects. Present findings on Waterfall, Agile, Spiral, and V-Model approaches, emphasizing their advantages, disadvantages, and applicability in different engineering contexts.

Day3:

Assignment 1: Create an infographic illustrating the Test-Driven Development (TDD) process. Highlight steps like writing tests before code, benefits such as bug reduction, and how it fosters software reliability.

Assignment 2: Produce a comparative infographic of TDD, BDD, and FDD methodologies. Illustrate their unique approaches, benefits, and suitability for different software development contexts. Use visuals to enhance understanding.

Day4:

Assignment 1: difference between scrum vs Kanban

Assignment 2: write 3 user stories with acceptance criteria.

Assignment 3: write product backlog and backlog for your project.

Assignment 4: set a Kanban board for your project.

Day5:

Assignment 1: Write 2 script for stand-up meetings

Assignment 2: Write 2 script for stand meetings

Assignment 3: Write 30 Linux commands with example.

Assignment 4: Basic task

Assignment 5: Explain absolute path and relative path.

Day6:

Assignment1: Explain the Architecture of Git.

Assignment2: Explain all the git commands.

Assignment3: Write a step to create a new branch and merge with master branch.

Assignment4: Explain fork and git clone with example.

Day7:

Assignment 1: Count the number of files and folder present in the directory. if possible, take the directory path from user.

Assignment 2: Ensure the script checks if a specific file (e.g., myfile.txt) exists in the current directory. If it exists, print "File exists", otherwise print "File not found".

Assignment 3: Write a script that reads numbers from the user until they enter '0'. The script should also print whether each number is odd or even.

Assignment 4: Create a function that takes a filename as an argument and prints the number of lines in the file. Call this function from your script with different filenames.

Day8:

Assignment1:

1. create a product table with necessary attribute.
2. write a query for table creation,
3. insert the product data into the table.
4. write a query to retrieve all the product details
5. write a query to retrieve id and product name
6. write a query to update and delete a product.

Assignment 2: Write a SQL queries to Perform DDL operation for product entity.

Perform create table, drop table, alter table, rename table queries for the product entity.

Assignment 3:

1. write a query to find the product whose category is electronics
2. find all the product whose price range is between 5000 and 10000
3. display name and price from product table.
4. display all the electronic category item which has price more than 2000
5. sort the product based on price in descending order.
6. sort the product based on name.
7. count of product based on category.
8. display all the product except electronics category.

Day9:

Assignment 1: Design a database schema for a library system, including tables, fields, and constraints like NOT NULL, UNIQUE, and CHECK. Include primary and foreign keys to establish relationships between tables.