

Concepts of Operating System and Software
 Development Methodologies
 Module End Lab Exam

Course Name:	PG – DAC	Batch :	Mar 2024
Module Name:	Concepts of Operating Systems and Software Development Methodologies	Date:	05/06/2024
Max. Marks:	30	Duration :	1:30 Hours

Instructions :

1. Create **new workspace (folder)** by the name **SDM_12 digit PRN** in your home directory.
2. Create a **new file** in above Folder **as per instruction given below** and **copy all commands**.
3. After Evaluation, archive your folder [named SDM_12digitPRN and upload .ZIP file on EMIS.

Points to cover	Tick Mark by student	Max Marks	Marks by Evaluator
Shell Script	<input type="checkbox"/>	10	
Git Commands	<input type="checkbox"/>	10	
Docker Service Nginx	<input type="checkbox"/>	5	
Docker Containerization Nginx	<input type="checkbox"/>	5	
	Total :	30	_____

 Signature of Student

 Signature of Evaluator

Section-A:

Linux commands and Shell Script

(10 Marks)

[Note: Create a text file with name OSC_SDM.txt in this file copy past your successfully executed GIT commands with respect to your appropriate question number]

Questions:

Write a menu-driven shell script to perform the following operations

1. Take 4 digit numbers from the user and display the sum of the digits if the number is not a palindrome.
2. You are given a list of words in file, each on a new line. Your task is to read them into an array and then you will need to transform them as follows:
The letter "n" (if present) in each element of the array should be replaced with a dot ('.').
Then, display the entire array with a space between each name.

Section-B:

Git Commands

(10 Marks)

(Note : Solve below questions in given sequence)

Questions:

1. Create a local git repository.
2. Create and Commit new file "*file1.txt*"(use VIM editor), into Current Branch and add commit message "*added by <current branch name>*".
3. Create "branch1" from current branch. Create and Commit new file "*file2.txt*"(use VIM editor), into Branch "branch1" and add commit message "*added by < current branch name>*".
4. Create "branch2" from master. Create and Commit new file "*file3.txt*" (use VIM editor), into Branch "branch2" and add commit message "*added by < current branch name>*".
5. Merge "branch1" and "branch2" into the "master" Branch.
6. From current branch show the graph of branching on the terminal.
7. Delete "branch1" and "branch2". (*Take screenshot of branch graph before deleting*). Show the graph of branching on the terminal.
8. Create a ".gitignore" file to ignore the node_modules folder.
9. Compose a command to show only the last two commits.
10. Compose a command to show the difference between two commits.

Section-C:
Docker Commands

[10 Marks]

DOCKER (Use image from private registry)

Questions:

- 1.** Create a Service to Containerize Nginx.
- 2.** Containerize Nginx and run static index.html file that contains Contact Us form: Name, Mobile No., Email Address, City, Pin