Examination Question Paper

Module Name : Concepts of Programming, OS Concepts

DATE: 31 /05/2021   **Duration: 2.5hrs.**   **Max. Marks: 30**

Instructions:
- All Questions are compulsory.
- Create two separate folders rename it as COP_Lab_Exam_Backup and OS_Lab_Exam_Backup for COP and OS questions.
- Create one folder on your machine rename it with your PRN (Pls use complete PRN)
- Copy both the folders (COP_Lab_Exam_Backup and OS_Lab_Exam_Backup) in the above created folder
- After copying both the folders right click on main folder select option "Add to Archieve" and click on radio button infront of zip option.
- It will create zip folder of your PRN. This will be your final folder to upload.
- Please note before uploading zip folder make sure you have copied all your relevant files in the respective folders. Once you upload the final folder you will not be able to re upload it.
- Kindly ensure before creating zip file, make sure all the required files should be closed to avoid any corruption of the zip file.
- Zip File should be renamed with FULL PRN No. of the candidate. (For example: 210540181001.zip)

Concepts of Programming::

Instructions:
1. **Each question is of 5 Mark.**
2. **Full marks will be given for complete program and expected output**
3. **In case of program not competed or output is not correct then marks will be given based on approach**

1. Write a java program to find volume and surface area of a sphere using multiple classes?
Notes:
- Surface Area of Sphere = 4 * Math.PI * radius* radius
- Volume of Sphere = 4/3 * Math.PI * radius * radius * radius
- Use constructor to set radius
- User Scanner to take user input

2. Write a java program to print the following patterns -

```
7 6 5 4 3 2 1

6 5 4 3 2 1

5 4 3 2 1

4 3 2 1

3 2 1

2 1

1
```

3. There is an array of numbers in which some number appears more than once. Write a program to create another array which will contain all

unique numbers from the first array?
Example:
Input: [1, 2, 3, 2, 3, 3, 4]
Output: [1, 2, 3, 4]

OS Concepts ::

Note:
   a) **All questions are compulsory.**
   b) **Total marks : 15 marks**
   c) **Question 1 and 2 is of 2.5 marks each**
   d) **Question 3 and 4 is of 5 marks each**
   e) **For Q1 and Q2 save commands in text files as a backup for evaluation**
   f) **For Q3 and Q4 submit shell script files and screen shots of output as a backup for evaluation**

1. Write a command to print all process ppid,pid and process name
2. Write a command to copy all files ending with .conf in etc directory to home directory

Note: Mark distribution for question 3 and 4 scripts:

   a) **1 mark for comment**
   b) **2 mark for Syntax**
   c) **2 mark for output**

3. Write a script to print all files(only file) in home directory including hidden files.

4. Write a script to create calculator. Use function. (Functionality : addition, subtraction, multiplication)

---------------------------------ALL THE BEST!!!!! ----------------------------------