These are some sample questions (not limited to) for Operating system lab examination. Some addition, alteration and change may happen.

Shell scripts:

Topics: mathematical expression (integer and floating point), if-else, for and while loop, functions, recursive functions, switch case, 1D array, file handle, read-write operations on file, any number of inputs from command line arguments etc.

Write a shell script to calculate:

- 1. $x + x^2/2! + x^4/4! + ...$
- 2. $1+(x/2)^2-(x/2)^3+(x/2)^4-(x/2)^5+...$
- 3. GCD of a set of numbers.
- 4. LCM of a set of numbers.
- 5. Find out the palindrome numbers from a list
- 6. Find out the palindrome words from a file (omit . or; or, after the word)
- 7. Sort list of numbers in ascending order
- 8. Menu driven program
- 9. Show today's date (e.g 11-Nov 2022 or 11/11/2022 or 11-11-2022) and time in different format.
- 10. Show calendar for current year / a particular month of a year
- 11. Show files in current directory with their permissions.
- 12. List of Process of users
- 13. Find out the Armstrong numbers from a list. 153=1^d+5^d+3^d, where d is number of digit.
- 14. Fibonacci series .i.e. 0 1 1 2 3 5 8 13...
- 15. Display the Pascal Triangle.
- 16. Calculate a year is leap year or not.
- 17. Enter birthday in **dd/mm/yyyy** format and your age is calculated in years, months & days.
- 18. Find total no. of words, characters, lines in the given file
- 19. Show all the prime numbers between a lower and upper range.
- 20. Draw the figure where line number is provided by user. (Patterns may be different types)



21. Draw the following circle where radius is provided by user.



22. Draw a triangle where number of lines of the triangle is provided by user.



23. Determine the Grade (as per WBUT rule) of students where name, roll no and marks are taken from an input file and output will store as student name, roll no, marks and grade

format in a file.

- 24. Search an element from array.
- 25. Different array operations.
- 26. calculate the Pay-slip of all employees, assuming D.A=45% of Basic pay, H.R.A=15% of Basic pay, P.F=10% of Basic pay

Basic pay is given by user. Store Pay slip in a file with fields...

Basic pay D.A

H.R.A

P.F

Gross salary

27. Read the day_name & temperature from that file and broadcast the weather as follows.

<15	Very cold
>=15 && <25	Cold
>=25 && <35	Hot
>=35	Very hot

Temperature Weather

- 28. A shell script receives filenames as an argument and check whether every argument supplies are a file or a directory.
- i) If it is a directory then it should be appropriately displayed.
- ii) If it is a file then name of the file as well as the no. of lines present in it should be displayed.
- iii) Check the file permission for you. If you have "write" permission then withdraw the "write" permission.
- 29. Check how many files in your current directory and display the name of the largest file.
- 30. Take two directories as a input and check which directory has the highest number of files.
- 31. Take student records (Roll, Name, Marks) as an input file and delete/update one record from that file according to the user choice.

THIS IS A SUGGESTION. THE QUESTION MAY BE DIFFERENT.