Day : Monday   Time : 11:00 AM-02:00 PM

Date : 2/1/2023   **W-20127-2022**   Max. Marks : 60

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N.B.

1) All questions are **COMPULSORY.**
2) Figures to the right indicate **FULL** marks.

Q.1   Attempt **ANY TWO** of the following: **(12)**

    a) What is grep? Explain grep expression with options and example.
    b) Define shell. Explain types of operators in detail.
    c) Illustrate awk built in string functions with example.

Q.2   Attempt **ANY TWO** of the following: **(12)**

    a) Explain file system in Linux.
    b) Explain following commands with Syntax and example.
        i)date   ii)passwd   iii) pwd   iv)cal
        v)uname   vi)who
    c) What is process? Explain creation, waiting and termination state of process.

Q.3   Attempt **ANY TWO** of the following: **(12)**

    a) Write any six file utilities command with purpose, syntax and example.
    b) Explain following signal functions:
        i)kill   ii)raise   iii)alarm   iv)pause   v) abort
        vi)sleep
    c) What is Interprocess communication? Explain two approaches in IPC.

Q.4   Attempt **ANY THREE** of the following: **(12)**

    a) Draw and explain architecture of LINUX.
    b) Explain following filter commands with example
        i) head   ii) tail   iii)sort   iv)cut
    c) Illustrate file permission and ownership command with example.
    d) Write note on Socket.

Q.5   Attempt **ANY FOUR** of the following: **(12)**
    a) Write a shell program to check maximum number between three numbers.
    b) Explain array in awk.
    c) Compare between Linux and Unix.
    d) Write note on semaphores.
    e) Define operating system? Explain features of Linux.
    f) Write awk program to print square of five numbers.

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