



Sri Sai Vidya Vikas Shikshana Samithi ®

# SAI VIDYA INSTITUTE OF TECHNOLOGY

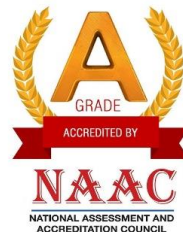
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Accredited by NBA, New Delhi (CSE, ECE, ISE, MECH & CIVIL), NAAC – “A” Grade

DEPARTMENT OF CSE (AI & ML)

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## MODULE 1

1. Explain salient features of the Unix Operating System What are different types of files in a unix os? Explain briefly. **July/Aug 2022, Jan/Feb 2021**
2. Explain basic file types in Unix Explain briefly about absolute & relative pathname. **Jan/Feb 2021, Jan/Feb 2023**
3. Difference between Internal & External commands. July/Aug 2022, **Jan/Feb 2021, Jan/Feb 2023**
4. What is Parent child relationship? With the help of neat diagram, explain Unix File System **Jan/Feb 2021, Jan/Feb 2023**
5. Define Shell Script. Write menu driven shell script which displays- **June/ July 2023**
  - i. Current user of system
  - ii. List of files
  - iii. Today's date
  - iv. Contents of file
6. Explain the following commands. **June/ July 2023**
  - i. printf
  - ii. who
  - iii. date
  - iv. cat
  - v. od
7. Write the output for the following commands. **Jan/ Feb 2023**

**i. cal 10 2021 ii. date + “%D%T” iii. type echo iv. passwd v. who**
8. Explain any 5 file related commands with an example. **Jan/ Feb 2021**

## MODULE 2

1. Interpret the significance of `ls -l` command redirection. **July/Aug 2022, Jan/Feb 2021, Jan/Feb 2023, Feb/March 2022.**
2. Explain for and while control system in shell script with example. **July/Aug 2022**
3. Explain the Looping statements with syntax. **Jan/Feb 2023**
4. With the help of an example, explain `grep` command with its option. **Jan/Feb 2021, July/Aug 2022, Jan/Feb 2023, June/July 2023**
5. File current permission are `rw-r-xr--` specify `chmod` expression required to change for the following using both relative and absolute method. **Jan/Feb 2021**
  - i. `rw-rwxrwx`
  - ii. `r--r-----`
  - iii. `-----`
  - iv. `---r--r--`
  - v. `-----x-w-`
6. What is the output for the following: **Jan/Feb 2021, Jan/Feb 2023**
  - i. `ls[ijk]*doc`
  - ii. `[A-Z]????*`
  - iii. `*.[!s][!h]`
  - iv. `*[!0-9]`
  - v. `cp????progs`
  - vi. `rm chap*`
  - vii. `mv *![C][!P][!P]`
  - viii. `cat *.txt | wc-c`
  - ix. `cp chap\[0-1\]`
7. What is Shell. Briefly explain shell interpretive cycle. **Jan/Feb 2021, July/Aug 2022**
8. Explain three standard file and redirection in unix. **July/Aug 2022, Jan/Feb 2021, June/July 2023.**
9. Write the output of the following commands: **Jan/Feb 2023**
  - i. `grep "Anil" std ls || echo "pattern not found"`
  - ii. `test $x -gt $y`
  - iii. `[-z $stg]`
  - iv. `[-r $file]`
  - v. `[! -n $stg]`



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### MODULE 3

1. Differentiate between Hard link & symbolic link. Explain the following API Open, read , write, create, lseek, fcntl. **July/Aug 2022, Jan/Feb 2023**
2. Describe the Memory Layout of C program with a neat diagram and explain Memory Allocation API's with their prototype. **July/Aug 2022, Jan/Feb 2021, Jan/Feb 2023**
3. Explain getrlimit() and setrlimit() functions with an example C program. **July/Aug 2022, Jan/Feb 2021**
4. Discuss how C program is started and terminated in various ways along with suitable diagram. **June/July 2023**
5. Write C program using setjmp and longjmp to show there effects on various variables. **Feb/March 2022,**
6. Explain exec function with program. **Feb/March 2022**
7. Explain setuid and setgid functions with example and expalin various ways to change user ids. **June/July 2023, Jan/Feb 2021.**
8. Explain setjmp and longjmp functions with example. **Jan/Feb 2023**

### MODULE 4

1. What is FIFO? Explain Client-Server communication using FIFO. **July/Aug 2022**
2. Explain and differentiate between fork and vfork system call with an example C program. **July/Aug 2022**
3. What are pipes, Write a program to send data from parent to child using pipe API and also list its limitations. **July/Aug 2022, Jan/Feb 2023, June/July 2023**
4. Define semaphores and explain how the IPC is implemented using various semaphores API. **Jan/Feb 2022, Jan/Feb 2023**
5. What is FIFO? Explain Client-Server communication using FIFO. **July/Aug 2022, Jan/Feb 2021,**
6. Explain wait() and waitpid() API with their prototype. Mention the difference between wait and waitpid API. **June/July 2023**
7. Explain popen and pclose function with example.
8. Explain the implementation of shared memory IPC mechanism with all its API and their prototypes. **Jan/Feb 2023**
9. Define Message Queue. Discuss how it is useful in IPC. **Feb/March 2022**

## **MODULE 5**

- 1.** Discuss how error logging is done by daemon process with suitable example. **Feb/ March 2022, June/ July 2023**
- 2.** Discuss the working of sigprocmask API. Explain all parameters of API with Progra. **Feb/ March 2022**
- 3.** What is Daemon Process? Explain codeing rules and error logging. **Feb/ March 2022**
- 4.** Explain the prototype of following APIs: **Feb/ March 2022**
  - i.** Signal **ii.** Kill **iii.** alarm **iv.** sigaction.
- 5.** Explain how kill API is used for sending a signal to a process and explain the implementation of sleep API using alarm API. **Jan/Feb 2023**
- 6.** Explain kill and alarm API. **July/Aug 2022**
- 7.** Define signal. Explain Sigaction API with demonstrating program. **July/Aug 2022**
- 8.** Explain sigsetjmp and siglongjmp API functions with an example. **Jan/Feb 2021**



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