



Sri Sai Vidya Vikas Shikshana Samithi ®

# SAI VIDYA INSTITUTE OF TECHNOLOGY

Approved by AICTE, New Delhi, affiliated to VTU, Recognized by Govt. of Karnataka

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

## DEPARTMENT OF CSE (AI & ML)

RAJANUKUNTE, BENGALURU 560 064, KARNATAKA

Phone: 080-28468191/96/97/ E-mail: [hodaiml@saividya.ac.in](mailto:hodaiml@saividya.ac.in) \* URL [www.saividya.ac.in](http://www.saividya.ac.in)



## 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-rx-- specify chmod expression required to change for the following using both relative and absolute method. **Jan/Feb 2021**
  - i. rwxrwxrwx
  - 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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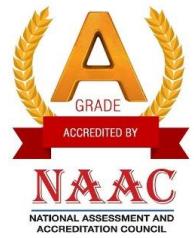
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## MODULE 3

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 Program. **Feb/ March 2022**
3. What is Daemon Process? Explain coding 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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