Subject Code : 81656   Subject Name : Operating System - II

1) Explain Architecture of UNIX system.
2) Write a note on Sample File System Tree.
3) What are the User perspective in UNIX system?
4) What are the Operating system services?
5) Explain the Assumptions about Hardware.
6) Write short note on Processor Execution levels.
7) Write short note on Interrupts , Exceptions and Memory management.
8) Write a note on Building Block Primitives.
9) Explain Processing Environment in UNIX system.
10)   Write code & Explain Program to Copy a file.
11)   Describe The Architecture of the UNIX operating system with neat diagram.
12)   Explain An Overview of the File subsystem.
13)   Write a note on Processes.
14)   Explain with diagram the User and Kernel stack for COPY program.
15)   Explain Data structure for Processes.
16)   Write a note on Context of the Process and process states.
17)   Explain Sleep and Wakeup state of process.
18)   Write a note on Kernel Data structure.
19)   Explain in brief System Architecture.
20)   What should happen if the kernel attempts to awaken all processes sleeping on an event, but no processes are asleep on the event at the time of the wakeup?
21)   Describe Buffer headers with neat diagram.
22)   Explain structure of Buffer pool.
23)   Write a note on Hash queue.
24)   Explain Scenario 1 in finding a buffer: Buffer on hash queue.
25)   Explain Second Scenario for Buffer Allocation.
26)   Explain Third Scenario for Buffer Allocation.

27)   Explain Fourth Scenario for Allocating Buffer.
28)   Explain fifth Scenario for Buffer Allocation .
29)   Write and explain Algorithm for Reading a Disk Block.
30)   Write and explain Algorithm for Writing a Disk Block.
31)   What are the Advantages and Disadvantages of the Buffer Cache.
32)   Write a short note on File system algorithms.
33)   What is INODES ? Explain Sample Disk Inode.
34)   Explain Structure of a regular file.
35)   Write a note on Directories.
36)   Explain with algorithm for Conversion of a Path Name to an Inode.
37)   What is Superblock?
38)   Explain race condition in Assigning Inodes.
39)   Explain algorithm for freeing Inode.
40)   Explain in brief Inode assignment to a new file.
41)   Explain with diagram Allocation of Disk blocks.
42)   Explain OPEN System call in brief.
43)   Write algorithm for Reading a file.
44)   Write a note on WRITE system call.
45)   Write and explain algorithm for Making new node.
46)   Write note on Creation of Special files.
47)   Explain in brief PIPES.
48)   Draw the diagram for file system tree before and after mount and describe mounting file systems.
49)   Write a note on LINK system call.
50)   Write note on File system abstraction.
51)   Explain with diagram Process states and transitions.
52)   Describe Mapping virtual addresses to Physical Addresses.
53)   Explain in brief The Context of a Process.
54)   Write short note on Context switch.
55)   What is Manipulation of the process address space?
56)   Explain with diagram Loading of Region.
57)   Explain algorithm for Process termination.
58)   Write a note on Process scheduling.
59)   Explain in brief Swapping.
60)   Write a note on Data structure for Demand paging.

61)   What are the Driver interfaces?

62)   Write a note on Disk drivers.

63)   Explain Removing characters from Clist with the help of diagram.

OBJECTIVE QUESTIONS

1) The Unix shell is both _____ and _____ language.
   a)   scripting,   interpreter
   b)   high   level,   low   level
   c)   interactive,   responsive
   d) interpreter, executing

2) In   which   language   UNIX   is   written?
   a)   C++
   b)   C
   c)   JAVA
   d) Python

3) Which   of   the   following   is   the   first   UNIX   editor?
   a)   vi
   b)   emacs
   c)   ex
   d) ed

4) Which   of   the   following   is   not   a   feature   of   Unix?
   a)   multiuser
   b)   easy   to   use
   c)   multitasking
   d) portability

5) Which   of   the   following   is   not   true   about   Unix?
   a)   UNIX   was   not   written   in   'C'   language
   b)   Linux   is   also   known   as   a   version   of   UNIX
   c) A user can run multiple programs at the same time; hence UNIX is called   a   multitasking   environment
   d) Many people can use a UNIX based computer at the same time; hence UNIX is called as a multiuser system

6) Which   editor   is   used   by   the   Unix   system   to   edit   files?
   a)   word
   b)   notepad++

c)   vi

d) notepad

7) Which of the following is not a part of all the versions of Unix?

a)   System   Calls

b)   Graphical   user   interface

c)   Kernel   and   Shell

d) Commands and utilities

8) Which part of the Unix operating system interacts with the hardware?

a)   Application   program

b)   Vi   editor

c)   Shell

d) Kernel

9) Which command is used for printing the current working directory?

a)   dir

b)   HOME

c)   cd

d) pwd

10)   Which symbol is used with the tail command to print the file

from   the   selected   line?

a)   %%

b)   ^

c)   +

d) −

11)   echo   command   is   used   for   _____

a)   displaying   diagnostic   messages

b)   displaying   date   and   time

c)   displaying   errors

d) displaying operating system details

12)   What   is   the   function   of   cp   command   in   Unix?

a)   delete   a   given   file

b)   change   the   directory

c)   list   all   the   available   files   in   the   current   directory

d) cp is a command used for copying files and directories

13)   Which   command   is   used   for   comparing   two   files?

a)   comp

b)   cmp

c)   comm

d) diff

14)   In UNIX, which command is used to change the permissions of

a   file?

a)   chown

b)   chgrp

c)   chmod

d) ch

15)   Which symbol is used to change permissions for hidden files in

Unix?

a)   *

b) $

c)   &

d) .

16)   How can we escape to the UNIX shell without quitting vi

editor?

a)   using   ':sh'   command   and   using   ctrl-Z

b)   using   ':sh'   command

c)   using   ctrl-Z

d) using ctrl-D

17)   For creating and removing directories, which of the following

system   calls   are   used?

a)   mkdir   and   rmdir

b)   rmdir   and   chown

c)   chdir   and   chown

d)   mkdir   and   chdir

18)   Which of the following files are known as special files in Unix?

a)   /dev/null

b)   sample.txt

c)   /dev/null   and   /dev/tty

d) /dev/tty

19)   In Unix, for what purpose bc command is used?

a)   for   copying   files

b) as a process table viewer

c) as an editor

d) as a calculator

20) Which process is immediately set up by the kernel when we log on to a Unix system?

a) System

b) bash

c) shell

d) parent

21) Which of the following system call is used for creating a new process in Unix?

a) new

b) wait

c) read

d) fork

22) Which of the following command is used to create a child shell?

a) sh

b) env

c) wait

d) fork

23) Which Unix command is used for locating files?

a) type

b) loc

c) find

d) search

24) Which command is used for sorting a file on specified fields?

a) pr

b) cut

c) tail

d) sort

25) Which Unix command is used for locating repeated and non-repeated lines?

a) cut

b) paste

c)   uniq

d) sort

26)   Which of the following command will be used for searching "director" in emp.lst?

a)   grep   "director"   emp.lst

b)   grep   -director   emp.lst

c)   grep   -v   "director"   emp.lst

d) grep "director"

27)   Which of the following command is used for searching for a pattern in one or more file(s)?

a)   paste

b)   grep

c)   cd

d) cp

28)   What   is   a   shell   script?

a)   group   of   functions

b)   a   file   containing   a   series   of   commands

c)   a   file   containing   special   symbols

d) group of commands

29)   To run the script, we should make it executable first by using _____

a)   chmod   +w

b)   chmod   +rwx

c)   chmod   +x

d) chmod +r

30)   Which command is used to find out the consumption of a specific directory?

a)   mem

b)   dv

c)   du

d) df

31)   Which filter apart from perl, is the most powerful?

a)   awk

b)   grep

c)   cut

d) sed

32)   For running a Unix command within awk, we've to use _____ function.

a)   split

b)   system

c)   substr

d) length

33)   To extract specific columns from a file _____ command is used.

a)   cut

b)   pr

c)   head

d) tail

34)   Which of the following cannot be performed by cat command?

a)   appending   files

b)   deleting   files

c)   creating   files

d) displaying files

35)   Which of the following is not an internal command used by mailx?

a)   d

b)   N

c)   a

d) q

36)   The collection of memory locations that the process can access is   called   _____

a)   process   table

b)   process   space

c)   virtual   address   space

d) virtual space

37)   The virtual address space consists of _____ segments.

a)   4

b)   5

c)   3

d) 2

38) The segment representing the constants, globals and static variables is called:

a) text segment

b) data segment

c) stack

d) heap

39) The stack stores the _____

a) arguments and local variables

b) address to return to

c) global variables

d) arguments and local variables and address to return

40) The attributes of every process are stored in ____

a) data table

b) inode table

c) process table

d) heap

41) The entire process life cycle is built around ___ system calls.

a) 3

b) 4

c) 2

d) 5

42) Which of the following system call is used for replicating a process?

a) fork

b) exec

c) wait

d) _exit

43) Which of the following functions is used for handling environment variables of a process?

a) getenv

b) setenv

c) letenv

d) getenv and setenv

44) The parent process picks up the exit status of a child using ___ system call.
a) wait
b) waitp
c) exec
d) kill

45) Which of the following system call is more powerful (in waiting mechanism) than wait system call?
a) waitp
b) waitpid
c) kill
d) run

46) If the child dies first but the entry of that child in the process table is still present, then that process is called ____
a) orphan
b) zombie
c) termin
d) daemon

47) Unix OS was first developed by
a. dennis ritchie
b. bjarne stroustrup
c. ken thompson
d. brian Kernighan

48)Unix OS was first developed at

a. microsoft corp. usa

B. at & t bell labs, usa

c. ibm, usa

d. borland international, usa

49)Unix is a

a. single user, single tasking os

B. single user, multi-tasking os

c. multi-user, multi- tasking os

d. none

50)Which of the following is a command for searching a pattern in a file?

a. find

b. group

 c.look up.

d. none

51) WhicBh shell offers a command history feature

a. c shell

B. visual shell

c. bourne shell

d. korn shell

52) The minimum number of links for any directory file are

a. 3

B. 4

c. 1

d. 2

53) Binary executable required for system administration is usually placed in _____ directory.

a. letc

B. lusr

c. ldev

d. none

54) All user directories are usually placed in _____ directory.

a. letc

B. lusr

c. ldev

d. none

55) After typing the contents of file test created by you by giving the command cat>test you save the contents by

a. pressing the keys ctrl-c

B. typing save and pressing enter

c. pressing esc key

d. pressing ctrl-d

56)The file for which we do not have write permission can be deleted using the command

a. rm-i file

B. rm-i file

c. rm-r-file

d. rm-f-file

57) A Sticky bit applies to a file would mean that

a. no one can remove it

B. it would stick around in memory even when its execution is over

c. next time you login it would get executed on its own

d. none of the above

58) The command pwd gives

a. present working directory

B. password in encrypted form

c. password in decrypted form

d. none

59) Which of the following is not a unix command

a. cd

B. rm

c. pwd

d. del

60) The size of any block in the unix file system is

a. 512 bytes

B. 1024 bytes

c. 2048 bytes

d. any of the above