





- iii) In vi, **3yy** in command mode will
- a) copy current line and two lines before it for later pasting.
  - b) copy current line and two lines after it for later pasting.
  - c) delete current line and two lines before it for later pasting.
  - d) delete current line and two lines after it for later pasting.
- iv) **cat<<test** will
- a) redirect standard input from file **test**.
  - b) continue reading from the standard input till **test** is not entered as the only word in a line.
  - c) append standard input with the contents of the file **test**.
  - d) system will display an error message.
- v) **set** command cannot be used to
- a) place values into the positional parameters.
  - b) display a list of the environment variables.
  - c) act as a debugging tool for shell scripts.
  - d) change the system clock.
- vi) Which of the following commands cannot be used to take a backup of files ?
- a) cp
  - b) tar
  - c) cpio
  - d) dd.





- b) What should be the output of the following shell script
- ```
a = *  
  
echo $a  
  
echo "$a" 2
```
- c) What should be the output of the following echo statement ?
- ```
echo $$ 1
```
3. a) Write command in unix to do the following :  
To take input from the file IN and to write its sorted output to the file OUT 2
- b) What should be the output of the following shell script
- ```
a = "*"   
  
b = a  
  
echo $b 3
```
4. a) What do you mean by command substitution ? Provide example. 2
- b) What should be the output of the following script : 3
- ```
IFS = +  
  
set economists + are + seldom + right  
  
echo $3 $4 $ #
```



5. a) In which respect **crontab** command excels over **at** command ? 2
- b) What should be the output of the following script :
- ```
a = b
b = c d = c
echo $$b
echo $$$d
```
- 3
6. a) What is the difference between a wild card and regular expression ? 2
- b) What does **grep** "**^\\***" do ? Is the **\** really necessary ? 3

### GROUP - C

#### ( Long Answer Type Questions )

Answer any *three* of the following. 3 × 15 = 45

7. a) What is the difference between the following **vi** commands ? 4
- ```
:w      :q!      :wq      ZZ
```
- b) What information does a super block contain ? Why there is a memory copy and a disk copy of inode block and super block ? 2 + 2
- c) Outline the steps performed by kernel whenever we attempt to access a file. 3
- d) A unix file system has 1024 bytes block size with 32 bit address. The inode has 12 direct, one indirect, one double indirect and one triple indirect address. What is the maximum file size it can access ? 4



8. a) Interpret this command :  
grep "^[^^]" filename 2
- b) What do you mean by a daemon ? How will you kill a daemon ? Which process cannot be killed by kill command ? 3
- c) What is the function of **exec** system call ? What is the difference between a process run with **&** and run with **nohup** ? 2 + 2
- d) Write a shell script that determines the period for which a specified user is working on the system. 4
- e) How do you delete all lines beginning with a # except the line #!/bin/ksh ? 2
9. a) Produce a file "temp" which contains the modification and access time along with the filenames and permission fields. The line containing the total number of blocks should not be present in the output. 4
- b) What does a sticky bit for a directory and an executable file signify ? What is absolute assignment ? Give example. 2 + 2
- c) How can you use file command to look for files from a directory tree ? 2
- d) What is cron ? Interpret the following crontab entry  
00-10 17 \* 3,6,9,12 5 int\_connect.sh  
1 + 2
- e) Write a shell script which will make other files executable as well as execute it. 2



10. a) How can you set your own directory (/home/student/henry) in the existing **PATH** ? 2
- b) Explain \$#, \$?, \$@, \$! special parameters of shell. 2
- c) Write a shell script, which get executed the moment the user logs in. It should display the messages "Good morning" / "Good afternoon" / "Good evening" depending upon the time at which the user logs in. 4
- d) Write down a **sed** script in file f1 which will change all "chatterjee" to "chakraborty" and all "paul" to "pal". 3
- e) Write down single sort commands for the following : 4
- i) Sort a file f1 according to the second field and remove duplicate lines from it.
- ii) Sort a file f1 where the primary key is 3rd field and secondary key is 2nd field.
11. a) In what way does the kernel differentiate between device files and ordinary files ? What do you mean by password ageing ? 4
- b) Which variable is set by reading the first field of/etc/passwd ? Why was the password encryption moved from/etc/password to/etc/shadow ? 4
- c) What are the two main functions of init process ? What is the function of getty process ? 4
- d) Suppose a user has renamed some files in current directory using a command like *mv filename filename.\$\$*. Write a shell script to search all such files and rename them such that they do not contain the shell PID. 3