## SUBJECT : PAPER-505 : UNIX & SHELL PROGRAMMING

## THIRD YEAR B.C.A. (SEM. V) EXAMINATION

**This pdf file contains <u>2013 to 2019</u> Years question Papers list of above subject. The question Bank will be upload in future for the students**

1. Mar / Apr – 2013
2. Mar / Apr - 2014
3. Mar / Apr - 2015
4. Mar / Apr - 2016
5. Mar / Apr - 2017
6. Mar / Apr - 2018
7. Mar / Apr – 2019
8. Oct / Nov – 2013
9. Nov / Dec – 2014
10. Oct / Nov – 2015
11. Oct / Nov – 2016-1
12. Nov / Dec – 2016-2
13. Oct / Nov – 2017
14. Nov / Dec – 2018

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## Third Year B.C.A. (Sem. V) Examination

## March / April – 2013

## Unix & Shell Programming: Paper-502

**[Time: 3 Hours ]**                                          **[ Total Marks: 70 ]**

**Instructions**

(1)

| Fill up strictly the details of signs on your answer book |
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| Name of the Examination: |
| ☐ **Third Year B.C.A. (Sem. V)** |
| Name of the Subject : |
| ☐ **Unix & Shell Programming: Paper-502** |
| Subject Code No.: **3** **7** **7** **9** |

Seat No.: ☐☐☐☐☐

Student's Signature

(2)     Figures on the right indicate marks.

(3)     Take assumption whenever necessary.

**1.   Answer in short: (Any Seven)**                                          **14**

**(1)**   What is the purpose of /bin directory of Unix file system?

**(2)**   What do you mean by a daemon? List out them. How will you kill a daemon?

**(3)**   Explain -u, -n, -r options of sort.

**(4)**   List out functions of kernel.

**(5)**   Define redirection. List out the symbols used for redirection.

**(6)**   Difference between $@ and $*.

**(7)**   When do wild cart characters lose their meaning?

**(8)**   List default file as well as directory permission when making has been set by    the command as umask 333.

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**2.** **Answer the following: (Any Two)** **14**

**(1)** Explain the directory structure of UNIX.

**(2)** Explain booting sequence with init process.

**(3)** Explain the modes of vi editor.

**3.** **Answer the following:** **14**

**(1)** Discuss Relative and Absolute File Access Permissions with example. **6**

**(2)** Write a shell script to check the entered no is palindrome or not. **5**

**OR**

**(2)** Write a shell script that accept two decimal numbers from keyboard and **5**

display their sum in hexadecimal from. Make proper validation.

**(3)** Write a shell script to check the entered no is palindrome or not. **3**

**4.** **Answer the following:** **14**

**(1)** What do you mean by link? Give the difference between soft link and **5**

hard link. Also write disadvantage when using soft link.

**OR**

**(1)** Explain Insert, Append and change command of set. **5**

**(2)** **Write commands for following: (Any Five)** **5**

**(i)** Display lines 10 to 15 from files x1.

**(ii)** Display last word of each line from a file x1.

**(iii)** To count number of characters in last line of line x1.

**(iv)** To count number of words in line 40 thought 60 of file f1.txt.

**(v)** To delete all special characters from the file x1.

**(vi)** Display all line that start with 'let', from a file x1.1, e or t may be in any case.

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**(3)    Explain any two commands from following:**                                  **4**

    **(i)**  tee

    **(ii)** ln

    **(iii)** bc

**5.    Answer the following:**                                                           **14**

**(1)    Write a command using <u>grep</u> or <u>egrep</u> for the following: (Any Five)    5**

    **(i)**    Display the lines which are not starting with 2 at the beginning.

    **(ii)**   Display lines having exactly 50 character of file $X_1$.

    **(iii)**  Count number of blank lines in file $X_1$.

    **(iv)**   Display lines having at least one * character in file $X_1$.

    **(v)**    Display lines from file $X_1$ that containing string "UNIX" or "unix" or "Unix".

    **(vi)**   Display the directory listing.

**(2)    Write a command using <u>sed</u> for the following: (Any Five)                 5**

    **(i)**    Substitute 'endif' with 'fi' on line 10 of file $X_1$.

    **(ii)**   Display two lines starting from 7th line of file $X_1$.

    **(iii)**  Display all lines before string Unix from file $X_1$.

    **(iv)**   Display all blank lines between line 20 and 30 of file $X_1$.

    **(v)**    Display lines beginning either with alphabet or digit from file $X_1$.

    **(vi)**   Display the lines that do not contain "Unix".

**(2)** Write note on pattern matching feature of **awk** utility giving example.          **4**

## Third Year B.C.A. (Sem. V) Examination

## March / April – 2014

## Unix & Shell Programming: Paper-502

[Time: 3 Hours ]                                            [ Total Marks: 70 ]

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| ☐ **Unix & Shell Programming: Paper-502** |
| Subject Code No.: **3** **7** **7** **2** |

Seat No.:

Student's Signature

(2)      Figures on the right indicate marks.

(3)      Take assumption whenever necessary.

**1.    Answer in short: (Any Seven)**                                            14

    (1)      What is major and minor number?

    (2)      Where the number of free i-nodes and data block stored?

    (3)      List out functions of kernel.

    (4)      Which process is created by Getty process?

    (5)      What happens when cd command is run without arguments?

    (6)      Explain the use of tee command.

    (7)      Explain the purpose of super block.

    (8)      What is the function of mv command?

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**2.** **Answer the following: (Any Two)** 14

(1) Explain booting sequence with init process.

(2) Explain features of Shell.

(3) Explain content of I-node block.

**3.** **Answer the following:** 14

(1) Explain command line interpretation of the Shell. 6

(2) Write a shell script to validate the name of a person accepted through the 5
Keyboard so that it does not exceed 10 chars of length.

**OR**

(2) Write a shell script to test the file is a executable file or not. 5

(3) Explain at and batch commands. 3

**4.** **Answer the following:** 14

(1) Explain commands for changing file permissions and ownership. 5

**OR**

(1) Explain expr command giving example for string manipulation. 5

(2) **Write commands for following: (Any Five)** 5

(i) Write a command to print first seven line of file.

(ii) Write a command to sort a line of file and also remove a repeated line.

(iii) Replaces all occurrences of 'SYBCA' with 'TYBCA' in 5th line of file f1.

(iv) Count all occurrences of 'TYBCA' in studlst.

(v) Replace 'kernel' with 'kernel architecture' using remember pattern of sed
utility.

(vi) To run a utility x1 at 9:00 AM.

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(3)    **Explain following commands: (Any Two)**                                    4

   (i)   shift

   (ii)  be

   (iii) ls


**5.    Answer the following:**                                                              14

(1)   **Answer the following: (Any Two)**                                               6

   **(i)**   Explain for loop with an example.

   **(ii)**  Give the significance of special parameters used by shell.

   **(iii)** Explain pattern matching features of grep utility.


(2)   **Perform following commands on file 'studlst': (Any Four)**                4

   **(i)**   Write a command to locate the 'Unix' ignoring case.

   **(ii)**  Write a command to display occurrence of string 'tybca'.

   **(iii)** Write a command to display line which start with 'The'.

   **(iv)** Write a command to display line which end with 'India'.

   **(v)**  Write a command to print first six line of file.

(3) **Write a command using awk utility: (Any Two)**                             4

   **(i)**   Print even numbers of words in each line.

   **(ii)**  Count occurrence of pattern 'Operating System' in file f1.

   **(iii)** Display those words length greater than 10 characters and consist of alphabet only.

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3

## Third Year B.C.A. (Sem. V) Examination

## March / April – 2015

## Unix & Shell Programming: Paper-502

**[Time: 3 Hours ]**                                    **[ Total Marks: 70 ]**

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(2)     Figures on the right indicate marks.

(3)     Take assumption whenever necessary.

**1.     Answer in short: (Any Seven)**                                    **14**

(1)   What is the difference between cat test and cat>test?

(2)   What is symbolic link? How it differs from Hard link?

(3)   What will be the output of the command (ls-1; who) > myfile.txt?

(4)   Which command display attributes of file?

(5)   What do you mean by redirection? List symbols that can be used as input

   redirection operator?

(6)   Give two functions of the dot (.) in vi editor?

(7)   What is the difference between the process run with & and one run with nohup?

(8)   What is the purpose of ^ in regular expression?

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**2.**    **Answer the following: (Any Two)**                                    **14**

**(1)**  Discuss the functions of kernel.
**(2)**  Write a note on different type of file permissions. How can they be changed?
**(3)**  Explain command line interpretation of the shell.

**3.**    **Answer the following:**                                             **14**

**(1)**  Explain test command with example.                                      **6**
**(2)**  Write a shell script to count files, directories and symbolic link files from current directory.    **5**

<div align="center">

**OR**

</div>

**(2)**  Write a script that accepts a string followed by one or more file name(s) from command line and display number of words and number of lines that consists of given string in each file.    **5**

**(3)**  Explain In command for hard link and soft link.                         **3**

**4.**    **Answer the following:**                                             **14**

**(1)**  **Write command using sed or grep for the following:**                  **10**

  **1)**  Display all files in current directory where the first character is numeric and the last character is not alphabetic.

  **2)**  To count number of words in line 40 thought 60 of file f1.txt.

  **3)**  To list file names consist of only 4 digits.

  **4)**  To display lines beginning with alphabets of a file X1.

  **5)**  Display all blank lines between line 20 and 30 of file X1.

  **6)**  Display lines beginning either with alphabet or digit from file X1.

  **7)**  Display the line that do not contain "UNIX".

  **8)**  Display the numbers of occurrence of the pattern 'director'.

  **9)**  Display lines having exactly 50 character of file X1.

  **10)** Write command to append a dashed line after each line of file X1.

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**(2)    Explain following commands: (Any Two)**                                                           **4**

    **(i)** at

    **(ii)** batch

    **(iii)** crontab

**5.    Answer the following:**                                                                                      **14**

**(1)   Answer the following using AWK utility: (Any Two)**                                        **6**

    **(i)**   Explain arrays with examples.

    **(ii)**  Explain Associative Array.

    **(iii)** Explain any four built-in functions.

**(2)   Write a command using awk utility:**                                                              **8**

    **1)**   Print the even numbered lines in the data file.

    **2)**   Print the sums of the fields of every line in file f1.

    **3)**   Display those words whose length greater than 10 characters and consist of digits only.

    **4)**   Write awk script to print 10 to 1 using while loop.

    **5)**   Print lines no 18 to 30 from file f1.txt.

    **6)**   Count the total no. of lines in a file.

    **7)**   Count occurrence of pattern 'UNIX Operating System' in file f1.

    **8)**   Print the last field of the last line.

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## Third Year B.C.A. (Sem. V) Examination

## March / April – 2016

## Unix & Shell Programming: Paper-502

**[Time: 3 Hours ]**                                   **[ Total Marks: 70 ]**

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| Subject Code No.: **3** **7** **7** **2** | Student's Signature |

(2)     Figures on the right indicate marks.

(3)     Take assumption whenever necessary.

**1.     Answer in short: (Any Seven)**                                   **14**

**(1)** List out functions of kernel.

**(2)** Explain -u, -n, -r options of sort.

**(3)** Define redirection. List out the symbols used for redirection.

**(4)** Differentiate between $@ and $*.

**(5)** When do wild card characters lose their meaning?

**(6)** List default file as well as directory permission when making has been set by the command as umask 333.

**(7)** Where the number of free i-nodes and data block stored?

**(8)** What do you mean by sticky bit?

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**2.**     **Answer the following: (Any Two)**        **14**

**(1)** Explain the directory structure of UNIX.

**(2)** Features of UNIX OS.

**(3)** Explain features of Shell.


**3.**     **Answer the following:**        **14**

**(1)** Which command is useful to change the file permission? Explain it giving    **6**
by example.

**(2)** Write a shell script to list, copy & rename file using select case.    **5**

**OR**

**(2)** Write a shell script to check whether entered file exists or not.    **5**


**(3)** Explain at and batch command.    **3**


**4.**     **Answer the following:**        **14**

**(1)** Write note on grep utility.    **5**

**OR**

**(1)** Explain Insert, Append and Change command of sed.    **5**


**(2)** **Write command for following.  (Any 5)**    **5**

     **(i)** To remove duplicate lines from file x1.

     **(ii)** Count number of character in first three lines of file x1.

     **(iii)** Display files of current directory whose first character is not digit.

     **(iv)** Remove a file forcibly which do not have write permission.

     **(v)** To delete all special characters from the file x1.

     **(vi)** To display number of processes.

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**(3)  Explain following commands: (Any Two)**                                    **4**

    **(i)** expr

    **(ii)** kill

    **(iii)** umask

**5.    Answer the following:**                                                  **14**

**(1)**  Explain Hash arrays with example.                                        **4**

**(2)  Answer the following using awk: (Any Two)**                                **6**

    **(i)**  Print all user/login names available in /etc/passwd.

    **(ii)** Print the fields 2, 3, 4 and 6 from test.txt file which contains the pattern 'camp'.

    **(iii)** Prints all lines containing string "for" in test.txt file.

**(3)**  Explain ps command with example.                                         **4**

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## Third Year B.C.A. (Sem. V) Examination

## March / April – 2017

## Unix & Shell Programming: Paper-502

**[Time: 3 Hours ]**                                        **[ Total Marks: 70 ]**

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| Subject Code No.: **3** **7** **7** **2** |

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Student's Signature

(2)    Figures on the right indicate marks.

(3)    Take assumption whenever necessary.

**1.    Answer in short: (Any Seven)**                                        **14**

**(1)** Which process is responsible for creating Getty process?

**(2)** Explain the use of tee command.

**(3)** State the purpose of -n option with sed.

**(4)** When do wild card characters lose their meaning?

**(5)** How can you make out whether two files are copies or links?

**(6)** Explain the three time stamps maintained in the i-node and how can we access them?

**(7)** Define internal and external command in unix? Explain any two.

**(8)** What is the use of kill command?

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**2.      Answer the following: (Any Two)                                                        14**

**(1)**   Explain features of UNIX operating system.
**(2)**   Explain device management in UNIX operating system.
**(3)**   Write detailed note on ls command with options and example.

**3.      Answer the following:                                                                     14**

**(1)**   Explain command line interpretation of the shell.                                    **6**
**(2)**   Write a shell script to print 1 to 20 nos in reverse and also calculate the sum       **5**
         of odd nos.
                              **OR**
**(2)**   Write a shell script to test the file is an executable file or not.                   **5**

**(3)**   Explain at and batch command.                                                          **3**

**4.      Answer the following:                                                                     14**

**(1)**   Write note on test command.                                                            **5**
                      **OR**
**(1)**   Explain sort command with options and example.                                         **5**

**(2)   Write command for following: (Any Five)                                                 5**

   **(i)**   Display line starting from $10^{th}$ line to the end of file X1.

   **(ii)**  Display all files in current directory where the first character is numeric and
            the last character is not alphabetic.

   **(iii)** Display the contents of last modified file.

   **(iv)**  To display contents of top 3 largest files in a working directory.

   **(v)**   To display all files of current directory whose $1^{st}$ character is not digit.

   **(vi)**  To display inode number of all files of current directory.

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**(3)   Explain following commands: (Any Two)**                                             **4**

    **(i)**  ps

    **(ii)** umask

    **(iii)** tail

**5.   Answer the following:**                                                              **14**

**(1)   Answer the following: (Any Two)**                                                    **6**

    **(i)**  Explain string comparison using expr command with example.

    **(ii)** Explain standard input, output and error files in UNIX.

    **(iii)** Explain sed command.

**(2)   Perform following commands using grep or sed: (Any Four)**                           **4**

    **(i)**  Display all files which have read and write permission for the group.

    **(ii)** Find out the number of the character '?' occur in a file f1.txt.

    **(iii)** Count number of words in line 40 thought 60 of file f1.txt.

    **(iv)** To delete all vowels from the file f1.txt.

    **(v)** Replace the word unix with UNIX in between 5$^{th}$ to 10$^{th}$ line including both.

**(3)   Write a command using awk utility: (Any Two)**                                       **4**

    **(i)**  Display those words whose length greater than 10 characters and consist of alphabet only.

    **(ii)** Print odd numbers of words in each line.

    **(iii)** Count occurrence of pattern 'Operating System' in file f1.

———————

3

## Third Year B.C.A. (Sem. V) Examination

## March / April – 2018

## Unix & Shell Programming: Paper-502

**[Time: 3 Hours ]**                                    **[ Total Marks: 70 ]**

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(2)     Figures on the right indicate marks.

(3)     Take assumption whenever necessary.

**1.     Answer in short: (Any Seven)**                                    **14**

**(1)** What is write command?

**(2)** Explain the purpose of super block.

**(3)** What is the purpose of **/etc/passwd** directory of Unix file system?

**(4)** Devise a pipeline sequence which lists three smallest files in the
current working directory.

**(5)** What is daemon? List out them. Write a command to kill a daemon.

**(6)** Explain -u, -n, -r options of sort.

**(7)** Define redirection. List out the symbols used for redirection.

**(8)** What is major and minor number?

**2.     Answer the following: (Any Two)**                                    **14**

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**(1)** Explain features of Shell.

**(2)** Explain the directory structure of UNIX.

**(3)** Explain different types of files used in Unix file system.

**3.    Answer the following:**                                                    **14**

**(1)** Which command is useful to change the file permission? Explain it            **6**
     giving by  example.

**(2)** Write a shell script to validate the name of a person accepted through the   **5**
     keyboard so that it does not exceed 8 chars of length.

**OR**

**(2)** Write a shell script to check whether the given file is empty or not.        **5**

**(3)** Explain find command.                                                        **3**

**4.    Answer the following:**                                                    **14**

**(1)** Explain expr command giving example for string manipulation.                 **5**

**OR**

**(1)** Explain Insert, Append and Change command of sed.                            **5**

**(2) Write command for following: (Any Five)**                                    **5**

   **(i)**  To remove duplicate line from a file.

   **(ii)** To count number of characters in last line of file x1.

   **(iii)** Display files of current directory whose first character is not digit.

   **(iv)** Remove a file forcibly which does not have write permission.

   **(v)** Count all occurrence of 'TYBCA' in stud.txt.

   **(vi)** Replace 'kernel' with 'kernel architecture' using remember pattern of sed utility.

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**(3)** **Explain following commands: (Any Two)** 4

    **(i)** cut

    **(ii)** paste

    **(iii)** nice

**5.** **Answer the following:** 14

**(1)** **Perform following commands using sed: (Any Four)** 4

    **(i)** Replace the word unix with UNIX in whole file.

    **(ii)** Display lines 10 to 15 from file f1.txt.

    **(iii)** To count number of words in line 10 to 20 of file f1.txt.

    **(iv)** To add .5 in the marks field of student.txt file.

    (e.g. 30 should be replaced by 30.5)

    **(v)** Write a command to replace first occurrence of 'Delhi' with 'Mumbai' in each line of dept.lst.

**(2)** **Answer the following using awk: (Any Two)** 6

    **(i)** Print all user/login names available in /etc/passwd.

    **(ii)** Print the fields 2, 3, 4 and 6 from student.txt file which contains the pattern 'TYBCA'.

    **(iii)** Print all lines containing string "for" in test.txt file.

**(3)** **Explain any two functions used in AWK with example.** 4

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# Third Year B.C.A. (Sem. V) Examination

# March / April – 2019

# Unix & Shell Programming: Paper-502

**[Time: 3 Hours ]**                                    **[ Total Marks: 70 ]**

**Instructions**

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| ☐ **Unix & Shell Programming: Paper-502** |
| Subject Code No.: **3** **5** **7** **4** |

Seat No.:

Student's Signature

(2)     Figures on the right indicate marks.

(3)     Take assumption whenever necessary.

**1.     Answer in short: (Any Seven)**                                    **14**
 **(1)** List out functions of kernel.
 **(2)** Which process is created by Getty process?
 **(3)** How can you make out whether two files are copies or links?
 **(4)** What is the purpose of write command?
 **(5)** Differentiate between $@ and $*.
 **(6)** What does it mean by zombie state of a process?
 **(7)** What is the purpose of ^ in regular expression?
 **(8)** List at least two popular shells including their default prompt.

**2.     Answer the following: (Any Two)**                                    **14**
 **(1)** Features of Unix OS.
 **(2)** List the characteristics of Unix file system.
 **(3)** Explain booting sequence with init process.

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**3.** **Answer the following:** 14

**(1)** Discuss Relative and Absolute File Access Permission with example. 6

**(2)** Write a script to perform mathematical operations using menu. 5

**OR**

**(2)** Write a shell script to test the file is an executable file or not. 5

**(3)** Explain find command. 3

**4.** **Answer the following:** 14

**(1)** Write note on grep utility. 5

**OR**

**(1)** Explain expr command giving example for string manipulation. 5

**(2)** **Write command for following: (Any Five)** 5

    **(i)** Write a command to print first three lines of file emp.txt.

    **(ii)** Write a command to sort a line of file emp.txt and also remove a repeated line.

    **(iii)** Display string in upper case of the file emp.txt.

    **(iv)** To run a utility pr 1 at 11:00 AM.

    **(v)** To display number of processes of the user TYBCA10.

    **(vi)** Replace 'kernel' with 'unix kernel' using remembered pattern of sed utility.

**(3)** **Explain following commands: (Any Two)** 4

    **(i)** mv

    **(ii)** bc

    **(iii)** expr

2

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**5.** **Answer the following:** **14**

**(1)** **Answer the following: (Any Two)** **6**

    **(i)** Explain while and do-while loop with examples.

    **(ii)** Explain special parameters used by shell.

    **(iii)** Explain pattern-matching features of grep utility.

**(2)** **Answer the following using awk: (Any Two)** **4**

    **(i)** Print all user/login names available in /etc/passwd.

    **(ii)** Print the fields 2, 3, 4 and 6 from test.txt file which contains the pattern 'comp'.

    **(iii)** Print all lines containing string "for" in test.txt file.

**(3)** Explain at and batch command with example. **4**

_____

## Third Year B.C.A. (Sem. V) Examination

## October / November – 2013

## Unix & Shell Programming: Paper-502

**[Time: 3 Hours ]**                                    **[ Total Marks: 70 ]**

**Instructions**

| Fill up strictly the details of signs on your answer book |
|---|
| Name of the Examination: |
| ☐ **Third Year B.C.A. (Sem. V)** |
| Name of the Subject : |
| ☐ **Unix & Shell Programming: Paper-502** |
| Subject Code No.: 3  7  7  2 |

Seat No.:

Student's Signature

(2)     Figures on the right indicate marks.

(3)     Take assumption whenever necessary.

**1.     Answer in short: (Any Seven)**                                                   **14**
 **(1)** Differentiate between $@ and $*.
 **(2)** What are the importance of /tmp directory?
 **(3)** List at least two popular shells including their default prompt.
 **(4)** What does it mean by zombie state of a process?
 **(5)** What chmod 615 employee command does?
 **(6)** What do you mean by command substitution?
 **(7)** What is the purpose of ^ in regular expression?
 **(8)** Devise a pipeline sequence which lists five largest files in the current working
        directory?

**2.     Answer the following: (Any Two)**                                                **4**
 **(1)** List the characteristics of Unix file system.
 **(2)** The booting process of UNIX.
 **(3)** Explain the modes of vi editor.

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**3.    Answer the following:**                                                  **14**

**(1)** Discuss Relative and Absolute File Access Permissions with example.          **6**

**(2)** Write a script to perform mathematical operations using menu.                **5**

**OR**

**(2)** Write a shell script to check whether the given file is empty or not.         **5**

**(3)** Write note on Is command with options and example.                           **3**

**4.    Answer the following:**                                                  **14**

**(1)** What does it mean by a link? Give the difference between soft link and        **6**
hard link? Also write disadvantages when using hard link.

**OR**

**(1)** Explain command line interpretation of the shell.                            **5**

**(2) Write command for following: (Any Five)**                                      **5**

   **(i)** To remove duplicate line from a file.

   **(ii)** To count number of characters in last line of file x1.

   **(iii)** Display the processes of user 'bca01'.

   **(iv)** List the user from /etc/passwd in the alphabetically sorted order.

   **(v)** Count the frequency of users who are logged in from more than one terminal.

   **(vi)** Display string in upper case of the file f1.txt.

**(3) Explain following commands: (Any Two)**                                        **4**

   **(i)** Nice

   **(ii)** Uniq

   **(iii)** Wall

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**5.** **Answer the following:** **14**

**(1)** **Write a command using grep or egrep for the following: (Any Five)** **5**

    **(i)** Write a command to print lines which contain 'Accounts'.

    **(ii)** Write a command to print lines which do not contain 'Accounts'.

    **(iii)** Write a command to print line 10 to 15.

    **(iv)** Write a command to substitute 'doshi' with 'desai'.

    **(v)** Write a command to print lines with line numbers which contain "Marketing".

    **(vi)** Write a command to display line which starts with 'The'.

**(2)** **Write a command using awk for the following: (Any Two)** **5**

    **(i)** Write awk script to display the user login ids, their home directories and login shells from the "/etc/passwd" file.

    **(ii)** Switch the first two fields in each line of a text and put the result in a new file.

    **(iii)** To only print lines wherein the first field had a numeric value of less than 20.

**(3)** Explain any two communication commands. **4**

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## Third Year B.C.A. (Sem. V) Examination

## November / December – 2014

## Unix & Shell Programming: Paper-502

**[Time: 3 Hours ]**                                    **[ Total Marks: 70 ]**

**Instructions**

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| Name of the Subject : | |
| ☐ **Unix & Shell Programming: Paper-502** | |
| Subject Code No.: **3** **7** **7** **2** | Student's Signature |

(2)     Figures on the right indicate marks.

(3)     Take assumption whenever necessary.

**1.     Answer in short: (Any Seven)**                                    **14**

**(1)** What is the exit status of a command? What is its normal value and where is the value stored?

**(2)** Differentiate between while and until loop?

**(3)** What is job? How can we suspend a foreground and background job?

**(4)** What is the difference between scheduling processes using batch command and using at command?

**(5)** What information contain by $? And $# variable?

**(6)** What happen when cd command is run without arguments?

**(7)** What does /etc/passwd contains?

**(8)** What do you mean by a daemon? List out them. How will you kill a daemon?

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**2.     Answer the following: (Any Two)**                                           **14**

**(1)**  Write a note on different role played by shell during the program execution.

**(2)**  Explain UNIX Kernel structure architecture.

**(3)**  What is the purpose of boot block? What it consist of?


**3.     Answer the following:**                                                     **14**

**(1)**  Write note on grep utility.                                                   **6**

**(2)**  Write a shell script to reverse a number.                                     **5**

               **OR**

**(2)**  Write a shell script to find smallest of three numbers that are read from keyboard    **5**


**(3)**  Explain find command.                                                         **3**

**4.     Answer the following:**                                                      **14**

(1)  **Write command using sed or grep for the following:**                            **10**

    **1)**  Display two lines starting from 7th line of file X1.

    **2)**  Display all blank lines between line 20 and 30 of file X1.

    **3)**  Display lines beginning either with alphabet or digit from file X1.

    **4)**  Display the lines that do not contain "UNIX".

    **5)**  Display the lines which are not starting with 2 at the beginning.

    **6)**  Write a command to replace 'UIX OS' on line no 5th to 10th.

    **7)**  Write a command to display all file name containing only digits in a filename.

    **8)**  To list file names consist of only 4 digits.

    **9)**  To display lines beginning with alphabets of a file X1.

    **10)** To count number of words in line 40 thought 60 of file f1.txt


(2)  **Explain following commands: (Any Two)**                                         **4**

    **(i)**  umask

    **(ii)** bc

    **(iii)** touch

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**5.     Answer the following:**                                                                   **14**

(1)  **Answer the following using AWK utility: (Any Two)**                                **6**

    **(i)**  Explain system variables.

    **(ii)**  Explain Hash Arrays.

    **(iii)**  Explain any four built-in functions.

(2)  **Write a command using awk utility:**                                                     **8**

    **1)**  Print odd numbers of words in each line.

    **2)**  Count occurrences of pattern 'unix' in file f1.

    **3)**  Display those words whose length greater than 8 characters and consist of
         alphabet only.

    **4)**  Print lines which end with 5, 6, 7 from file f1.

    **5)**  Write a script to print 1 to 10 nos.

    **6)**  Write a command to print those lines where field2 is computer
         field 3 > 15000 from sales file.

    **7)**  Print lines no 18 to 30 from file f1.txt.

    **8)**  Count the total no. of lines in a file.

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## Third Year B.C.A. (Sem. V) Examination

## October / November – 2015

## Unix & Shell Programming: Paper-502

**[Time: 3 Hours ]**                                    **[ Total Marks: 70 ]**

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| Subject Code No.: **3** **7** **7** **2** |

Seat No.:

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(2)     Figures on the right indicate marks.

(3)     Take assumption whenever necessary.

**1.    Answer in short: (Any Seven)**                                    **14**
 **(1)** Explain the purpose of super block.
 **(2)** Which command of vi editor is used to display line number before each line?
 **(3)** What is the function of mv command?
 **(4)** What do you mean by a daemon? List out them. How will you kill a daemon?
 **(5)** What is major and minor numbers?
 **(6)** Explain the use of tee command.
 **(7)** Define redirection. List out the symbols used for redirection.
 **(8)** Differentiate between $@ and $*.

**2.    Answer the following: (Any Two)**                                    **14**
 **(1)** Explain the directory structure of Unix.
 **(2)** Explain booting sequence with init process.
 **(3)** Explain the modes of vi editor.

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**3.** **Answer the following:** **14**

(1) Discuss Relative and Absolute File Access Permissions with example. **6**

(2) Write a shell script to check the entered no is palindrome or not. **5**

**OR**

(2) Write a shell script to test that the file is a readable file or not. **5**

(3) Explain find command. **3**

**4.** **Answer the following:** **14**

(1) What do you mean by link? Give the difference between soft link and hard link? Also write disadvantages when using soft link. **5**

**OR**

(1) Explain Insert, Append and change command of sed. **5**

(2) **Write command for following: (Any Five)** **5**

    **(i)** Display lines 1 to 5 from file x1.

    **(ii)** Display last word of each line from a file x1.

    **(iii)** To count number of characters in first line of file x1.

    **(iv)** To count number of words in line 40 thought 60 of file f1.txt.

    **(v)** To delete all special characters from the file x1.

    **(vi)** Display all line that start with 'let', from a file x1.

        The letters **l**, **e** or **t** may be in any case.

(3) **Explain following commands: (Any Two)** **4**

    **(i)** date

    **(ii)** ln

    **(iii)** bc

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**5.**     **Answer the following:**                                                                           **14**

**(1)**  Explain any two communications between users' commands in unix.                          **5**

**(2)**  **Write a command using sed for the following: (Any Five)**                              **5**

      **(i)**  Substitute 'endif ' with  'fi' on line 10 of file X1.

      **(ii)** Display three lines starting from 5th line of file X1.

      **(iii)** Display all lines before string "Unix" from file X1.

      **(iv)** Display all blank lines between lie 10 and 20 of file X1.

      **(v)** Display lines beginning either with alphabet or digit from file X1.

      **(vi)** Display the lines that do not contain "Unix".

**(3)**  Write note on pattern matching feature of awk utility giving example.                    **4**

<div align="center">*********</div>

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## Third Year B.C.A. (Sem. V) Examination

## October / November – 2016

## Unix & Shell Programming: Paper-502

**[Time: 3 Hours ]**                                      **[ Total Marks: 70 ]**

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| □ **Unix & Shell Programming: Paper-502** |
| Subject Code No: **3** **7** **7** **2** |

Seat No.:

Student's Signature

(2)      Figures on the right indicate marks.

(3)      Take assumption whenever necessary.

**1.      Answer in short: (Any Seven)**                                      **14**
 **(1)** What does /etc/passwd contains?
 **(2)** What is the function of mv command?
 **(3)** Define Redirection. List out the symbols used for redirection.
 **(4)** What is the use of sleep command?
 **(5)** When it is appropriate to schedule a process using at command?
 **(6)** What is ppid? Which command is used to access it?
 **(7)** What is shell? Write the functions of shell.
 **(8)** What is the difference between cat f1.txt and cat>f1.txt?

**2.      Answer the following: (Any Two)**                                      **14**
 **(1)** Explain features of Kernel.
 **(2)** Explain booting process and importance of in it process.
 **(3)** Explain the modes of vi editor.

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**3.    Answer the following:**                                                    **14**

**(1)**  Explain command line interpretation of the shell.                          **6**

**(2)**  Write a shell script to enter the records in a file from keyboard and display    **5**
         the file. Make proper validation.

                                          **OR**

**(2)**  Write a shell script to test the length of string is zero or not.          **5**


**(3)**  Explain break and continue statement with example.                         **3**


**4.    Answer the following:**                                                    **14**

**(1)**  Write note on grep utility.                                                **5**

                                          **OR**

**(1)**  Explain find command with options and examples.                            **5**


**(2)  Write command for following: (Any Five)**                                    **5**

  **(i)**   To display number of processes.

  **(ii)**  To concatenate two files f1 and f2 including some text to be inserted from
            keyboard after content of f1.

  **(iii)** To display all files having last character as digit.

  **(iv)**  Remove directory tree dir/dir2/dir3 using single command.

  **(v)**   Write a command to display system processes.

  **(vi)**  Assign value of 10th positional parameter to a variable x.


**(3)  Explain following commands: (Any Two)**                                      **4**

  **(i)**   cut

  **(ii)**  pr

  **(iii)** tr

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**5.    Answer the following:**                                                        **14**

**(1)  Answer the following: (Any Two)**                                                **6**

    **(i)**  Explain file comparison using test command with example.

    **(ii)**  Explain escape and quote mechanism with an example.

    **(iii)**  Explain links in unix.


**(2)  Perform following commands using grep or sed: (Any Four)**                       **4**

    **(i)**  Display line 10 to 15 from file X1.

    **(ii)**  Display line before a line that contains pattern xyz in f1.txt.

    **(iii)**  To display those lines in between 25 and 50 having pattern 'unix' in it.

    **(iv)**  Display the lines which are not starting with 2 at the beginning.

    **(v)**  To remove all leading space from a file f1.


**(3)  Write a command using awk utility: (Any Two)**                                   **4**

    **(i)**  Display those words whose length are greater than 10 characters and consist of alphabet only.

    **(ii)**  Print odd numbers of words in each line.

    **(iii)**  Count occurrences of pattern 'Operating System' in file f1.

*********

## Third Year B.C.A. (Sem. V) Examination

## November / December – 2016

## Unix & Shell Programming: Paper-502

**[Time: 3 Hours ]**                                    **[ Total Marks: 70 ]**

**Instructions**

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| ☐ **Unix & Shell Programming: Paper-502** |
| Subject Code No.: **3** **7** **9** **5** |

Seat No.:

Student's Signature

(2)     Figures on the right indicate marks.

(3)     Take assumption whenever necessary.

**1.     Answer in short:**                                                    **14**
 **(1)**  List out functions of kernel.
 **(2)**  Explain the purpose of super block.
 **(3)**  What is the purpose of /bin directory of Unix file system?
 **(4)**  Explain -u, -n, -r options of sort.
 **(5)**  Define redirection. List out the symbols used for redirection.
 **(6)**  What is daemon process? How a daemon process can be killed?
 **(7)**  What will be the file and directory permission when the command umask 777 is used?

**2.     Answer the following: (Any Two)**                              **14**
 **(1)**  Explain features of shell.
 **(2)**  Explain content of I-node block.
 **(3)**  Explain the modes of vi editor.

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**3.    Answer the following:**                                                                              **14**

(1)   Explain command line interpretation of the shell.                                          **6**

(2)   Write a shell script that accepts two decimal numbers from keyboard and               **5**
      display their sum in octal form. Make proper validation.

<div align="center">**OR**</div>

(2)   Write a shell script to test the file is an executable file or not.                         **5**


(3)   Explain at and batch command.                                                              **3**


**4.    Answer the following:**                                                                              **14**

(1)   Write note on grep utility.                                                                 **5**

<div align="center">**OR**</div>

(1)   Explain command for changing file permissions and ownership.                               **5**

(2)   **Write command for following: (Any Five)**                                                **5**

    (i)   To count number of words in line 40 thought 60 of file f1.txt.

    (ii)  Write a command to sort a line of file and also remove a repeated line.

    (iii) To display number of processes.

    (iv)  Write a command to print first seven lines of file.

    (v)   Replace 'kernel' with 'kernel architecture' using remember pattern of sed utility.

    (vi)  To count number of characters in last line of line x1.


(3)   **Explain following commands: (Any Two)**                                                  **4**

    (i)   ls

    (ii)  Kill

    (iii) uniq

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**5.** **Answer the following:**                                                      **14**

(1) **Answer the following: (Any Two)**                                               **6**

   **(i)** Explain test command with example.

   **(ii)** Explain for loop with an example.

   **(iii)** Explain sed command.


(2) **Perform following commands using grep or sed: (Any Four)**                       **4**

   **(i)** Display lines having exactly 50 characters of file X1.

   **(ii)** Display lines 10 to 15 from file X1.

   **(iii)** Display the directory listing.

   **(iv)** Display the lines which are not starting with 2 at the beginning.

   **(v)** To count number of words in line 40 to 60 of file f1.txt.


(3) **Write a command using awk utility: (Any Two)**                                   **4**

   **(i)** Display those words whose length greater than 10 characters and consist of

   alphabet only.

   **(ii)** Print odd numbers of words in each line.

   **(iii)** Count occurrences of pattern 'Operating System' in file f1.


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## Third Year B.C.A. (Sem. V) Examination

## October / November – 2017

## Unix & Shell Programming: Paper-502

**[Time: 3 Hours ]** **[ Total Marks: 70 ]**

**Instructions**

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| Subject Code No.: **3** **5** **7** **4** |

Seat No.:

Student's Signature

(2)   Figures on the right indicate marks.

(3)   Take assumption whenever necessary.

**1.   Answer in short: (Any Seven)**                                     **14**
 **(1)** What are the importance of /bin directory?
 **(2)** Where the number of free i-nodes and data block stored?
 **(3)** What happens when cd command is run without arguments?
 **(4)** What is the function of mv command?
 **(5)** What is sticky bit?
 **(6)** What is command substitution?
 **(7)** What command of vi editor is used to display line number before each line?
 **(8)** Differentiate between files copies and file links.

**2.   Answer the following: (Any Two)**                                     **14**
 **(1)** Explain the features of Unix OS.
 **(2)** Explain booting sequence with init process.
 **(3)** Explain content of I- node table.

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**3.   Answer the following:**                                                    **14**

**(1)** Explain command line interpretation of the shell.                          **6**

**(2)** Write a script to enter records in a studlist.txt file. The fields are Rollno,   **5**
Name and Marks.

**OR**

**(2)** Write a shell script to check whether entered file exists or not.            **5**


**(3)** Explain ls command with its options.                                      **3**


**4.   Answer the following:**                                                    **14**

**(1)** Explain chmod command using relative and absolute method.                  **5**

**OR**

**(1)** Write note on grep utility.                                                **5**


**(2)** **Write command for following: (Any Five)**                                 **5**

    **(i)** To delete all special characters from the files f1.txt.

    **(ii)** Write a command to print first ten line of file.

    **(iii)** Write a command to sort a line of file and also remove a repeated line.

    **(iv)** Replace all occurrences of 'SYBCA' with 'TYBCA' in 5th line of file f1.txt.

    **(v)** To run a utility x1 at 11:00 AM.

    **(vi)** To display number of processes.


**(3)** **Explain following commands: (Any Two)**                                   **4**

    **(i)** mv

    **(ii)** bc

    **(iii)** tr

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**5.    Answer the following:**                                                    **14**

**(1)  Answer the following: (Any Two)**                                          **6**

      **(i)**  Explain for loop with an example.

      **(ii)**  Give the significance of special parameters used by shell.

      **(iii)** Explain pattern-matching features of grep utility.

**(2)  Perform following commands on file 'student.txt': (Any Four)**            **4**

      **(i)**  Write a command to find the word 'Unix OS' ignoring case.

      **(ii)**  Write a command to display occurrence of string 'BCA'.

      **(iii)** Write a command to display line which start with '1'.

      **(iv)** Write a command to print last six lines of file.

      **(v)**  Write a command to display line which end with 'India'.

**(3)  Write a command using awk utility: (Any Two)**                           **4**

      **(i)**  Print even numbers of words in each line.

      **(ii)**  Count occurrences of pattern 'Operating System' in file f1.

      **(iii)** Display those words whose length greater than 4 characters and consist of digits only.

**\*\*\*\*\*\*\*\*\***

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## Third Year B.C.A. (Sem. V) Examination

## November / December – 2018

## Unix & Shell Programming: Paper-502

**[Time: 3 Hours ]**                                             **[ Total Marks: 70 ]**

**Instructions**

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| Name of the Examination: |
| ☐ **Third Year B.C.A. (Sem. V)** |
| Name of the Subject : |
| ☐ **Unix & Shell Programing: Paper-502** |
| Subject Code No.: **3** **5** **7** **4** |

Seat No.:

Student's Signature

(2)     Figures on the right indicate marks.

(3)     Take assumption whenever necessary.


**1.     Answer in short: (Any Seven)**                                             **14**

(1)   Where the number of free i-nodes and data block stored?

(2)   What happens when cd command is run without arguments?

(3)   Explain the use of tee command.

(4)   Explain -u, -n, -r options of sort.

(5)   Define redirection. List out the symbols used for redirection.

(6)   What are the importance of /tmp directory?

(7)   What is the function of mv command?

(8)   What do you mean by sticky bit?


**2.     Answer the following: (Any Two)**                                             **14**

(1)   Explain the modes of vi editor.

(2)   Explain the functions of Kernel.

(3)   Explain content of I- node table.

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**3.    Answer the following:**                                                        **14**

(1)  Which command is useful to change the file permission? Explain it giving       **6**
      by example.

(2)  Write a shell script to validate the name of a person accepted through the      **5**
      keyboard so that it does not exceed 10 chars of length.

**OR**

(2)  Write a shell script to check whether the given file is empty or not.            **5**


(3)  Write a note on ls command with options and example.                           3

**4.    Answer the following:**                                                        **14**

(1)  Explain Insert, Append and change command of sed.                                **5**

**OR**

(1)  Explain expr command giving example for string manipulation.                     **5**


(2)  **Write command for following: (Any Five)**                                       **5**

    **(i)**  Replace all occurrences of 'SYBCA' with 'TYBCA' in 8th line of file studlist.

    **(ii)**  Count all occurrences of 'SYBCA' in the file studlist.

    **(iii)** To count number of characters in last line of file studlist.

    **(iv)** Display the processes of user 'TYBCA101'.

    **(v)**  Count number of character in first five lines of file studlist.

    **(vi)** Display files of current directory whose first character is not digit.


(3)  **Explain following commands: (Any Two)**                                         **4**
    **(i)**  Nice

    **(ii)**  Uniq

    **(iii)** Write

2

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**5.    Answer the following:**                                                                      **14**

**(1)  Answer the following: (Any Two)**                                                     **6**

     **(i)** Explain redirection in Unix Operating System.

     **(ii)** Explain string comparison with test command.

     **(iii)** Explain case statement in unix.

**(2)  Perform following commands on file 'studlst': (Any Four)**                 **4**

     **(i)** Write a command to find the 'Operating System' ignoring case.

     **(ii)** Write a command to display occurrence of string 'Unix'.

     **(iii)** Write a command to display line which start with 'The'.

     **(iv)** Write a command to display line which end with 'India'.

     **(v)** Write a command to print first three lines of file.

**(3)  Write a command using awk utility: (Any Two)**                              **4**

     **(i)** Print odd numbers of words in each line.

     **(ii)** Count occurrences of pattern 'UNIX' in file f1.txt.

     **(iii)** Display those words whose length is greater than 5 characters and consist of digits only.

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3