Practical No : 1	Enrollment No <u>:</u>	Group : <u>A</u>	
Practical Problem	Write a <i>date</i> command to display date in following format:		
	(Consider current date as 4 th January 2014)		
	1. dd/mm/yy hh:mm:ss		
	2. Today's date is: 01/04/14. Current time is: 14:50:03 04th		
	January 2014		
	3. 2014-02-04		
	Sat Jan 4 2014 5 PM		
Objective(s)	Students will be able to learn <i>date</i> co	•	
Pre-requisite	Use putty software to run commands	& usage of date command.	
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in	•	
	application along with analytical, prol	<u> </u>	
	communication skill for life-long learn	ning in chosen field.	
	PEO2 : To provide quality practical skill of tools and technologies to solve		
	industry problems.		
PO(s) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary		
	for software development.		
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.		
	CO2: Understand and use utilities to	work with LINUX/UNIX	
	environment.		
Solution must contain	Command & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R.,	UNIX and Shell Programming,	
	Thomson		
	ii. Das S., UNIX aoncepts and Ap		
Post Laboratory	1. What is the syntax of date command?		
questions	List out different options of date command.		
	List out different formats of date command.		
	4. How can you display date after 10 months from today?		
	Assessment		
	Solution achieves the desired	Viva	
Out of Marks	objective(s) 10	5	
Secured by the student	10	3	
Signature			
Data			
Date			

Practical No : 2	Enrollment No:	Group : <u>A</u>
Practical Problem	Write a <i>cal</i> command to do following:	
	1. To display calendar of this month.	
	2. Display calendar for single month and Monday as the first day of	
	week.	
Objective(s)	Students will be able to learn <i>cal</i> com	<u> </u>
Pre-requisite	Use putty software to run commands	& usage of <i>cal</i> command.
Duration for completion	30 minutes	
PEO(s) to be achieved	PEO1 : To provide sound foundation in the fundamentals of computer	
	application along with analytical, prob	<u> </u>
	communication skill for life-long learr	ing in chosen field.
	PEOC To mandala mandita anno di callal di	
	PEO2 : To provide quality practical skil	l of tools and technologies to solve
PO(s) to be achieved	industry problems. PO6: Ability to use the techniques, skills and modern tools as necessary	
1 O(3) to be achieved	for software development.	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.	
.,	CO2: Understand and use utilities to work with LINUX/UNIX	
	environment.	
Solution must contain	Command & output.	
Nature of submission	Handwritten	
References for solving	Book:	
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,	
	Thomson	
	ii. Das S., UNIX aoncepts and Ap	
Post Laboratory	1. What is the syntax of cal com	
questions	2. List out different options of cal command.	
	3. List two different ways to display calendar of current month.	
	4. How can you display calendar	oj year 1800?
-	Assessment	\rac{1}{2}
	Solution achieves the desired	Viva
Out of Marks	objective(s) 10	5
Secured by the student	10	5
Signature		
Date		

Practical No : 3	Enrollment No:	Group : <u>A</u>
Practical Problem	Solve following using <i>echo</i> command:	
	1. Write the output of a command:	
	\$echo "Today's date is `date`" (`` is back quote)	
	2. Write an interpretation of a command:	
	\$echo Welcome to the LINUX's world.	
Objective(s)	Student shall learn <i>echo</i> command wi	th options & escape sequences.
Pre-requisite	Use putty software to run commands, usage of <i>echo</i> command &	
	meaning of back quote (``) character.	
Duration for completion	30 minutes	
PEO(s) to be achieved	PEO1: To provide sound foundation in	n the fundamentals of computer
	application along with analytical, prol	olem-solving, design and
	communication skill for life-long learr	ning in chosen field.
	PEO2 : To provide quality practical skill of tools and technologies to solve	
	industry problems.	
PO(s) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary	
/.	for software development.	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.	
	CO2 : Understand and use utilities to v	work with LINUX/UNIX
Solution must contain	environment. Command, output & interpretation.	
Nature of submission	Handwritten	
References for solving	Book:	
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,	
	Thomson	
<u> </u>	ii. Das S., UNIX aoncepts and Applications, McGraw Hill	
Post Laboratory	1. What is the syntax of echo command?	
questions	2. List out different options of echo command.	
	3. List out different types of escape sequences of echo command.4. How can you remove effect of escape sequence to be printed in	
	output?	
Assessment		
	Solution achieves the desired	Viva
	objective(s)	
Out of Marks	10	5
Secured by the student		
Signature		
Date		

Practical No : 4	Enrollment No:	Group : <u>A</u>	
Practical Problem	Write bc command for following:		
	1. To eveluate "21/2". Answer should contain 5 decimal places.		
	2. To convert 42 from decimal to hexadecimal.		
	3. Print "false" if number is 1, pr	int "true" otherwise.	
	(Use if statement, store value in variable)		
	4. To print digits from 1 to 10 us		
Objective(s)	Student shall learn bc command with	-	
Pre-requisite	Usage of bc command, use of 'banch	calculator' in interactive mode.	
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in	·	
	application along with analytical, prol	<u> </u>	
	communication skill for life-long learr	ning in chosen field.	
	PEO2: To provide quality practical skil	Il of tools and technologies to solve	
DO(-) to be called and	industry problems.		
PO(s) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary		
CO(s) to be ashiound	for software development.	ant and its need	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX		
	environment.	WOLK WITH FINOX ONLY	
Solution must contain	Command & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R.,	LINIX and Shell Programming	
the problem	Thomson	onix and shell i rogramming,	
	ii. Das S., UNIX aoncepts and Ap	plications, McGraw Hill	
Post Laboratory	1. What is the purpose of bc con		
questions	2. Give two full forms of "bc"?		
4	3. What is the syntax of bc command.		
	4. How can you use loops in bc calculator?		
	Assessment		
	Solution achieves the desired	Viva	
	objective(s)		
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Practical No : 5	Enrollment No:	Group : <u>A</u>
Practical Problem	Write output and interpretation of following commands:	
	1. echo "1 == 2" bc	
-11 11 11	2. echo "2+(3*4)" bc	
Objective(s)	Student shall be able to get an idea of using bc command with piping	
	mechanism.	
Pre-requisite	Usage of <i>echo</i> command and pipe.	
Duration for completion	30 minutes	
PEO(s) to be achieved	PEO1 : To provide sound foundation in the fundamentals of computer	
	application along with analytical, prol	G. G
	communication skill for life-long learr	ning in chosen field.
	DEGG. To manyida avvalitu varanti vali di	
	PEO2 : To provide quality practical skill of tools and technologies to solve	
PO(s) to be achieved	industry problems. PO6 : Ability to use the techniques, skills and modern tools as necessary	
1 O(3) to be defined a	for software development.	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.	
	CO2: Understand and use utilities to work with LINUX/UNIX	
	environment.	
Solution must contain	Command & output.	
Nature of submission	Handwritten	
References for solving	Book:	
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,	
	Thomson	
	ii. Das S., UNIX aoncepts and Ap	plications, McGraw Hill
Post Laboratory	1. What is pipe ?	
questions	2. What are the different types of operator used in bc command?	
	3. In which order expressions are evaluated?	
	4. How can you use file in bc command?	
	Assessment	\rangle .
	Solution achieves the desired	Viva
Out of Marks	objective(s) 10	5
Secured by the student	10	3
Signature		
Date		

Practical No : 6	Enrollment No:	Group : <u>A</u>	
Practical Problem	Write <i>Is</i> command for following:		
	 Display all files names including hidden files. 		
	2. Display all files names including hidden files but do not display		
	"." and "" files.		
Objective(s)	Student shall learn <i>Is</i> command with o	·	
Pre-requisite	Usage of <i>Is</i> command, meaning of all	options.	
Duration for completion	30 minutes		
PEO(s) to be achieved	•	PEO1 : To provide sound foundation in the fundamentals of computer	
	application along with analytical, prol	<u>.</u>	
	communication skill for life-long learr	ning in chosen field.	
	PEO2 : To provide quality practical skill of tools and technologies to solve		
PO(s) to be achieved	industry problems. PO6 : Ability to use the techniques, sk	ills and modern tools as necessary	
PO(s) to be achieved	for software development.	ills and modern tools as necessary	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.		
co(s) to be define ved	CO2: Understand and use utilities to work with LINUX/UNIX		
	environment.		
Solution must contain	Command & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R.,	UNIX and Shell Programming,	
	Thomson		
	ii. Das S., UNIX aoncepts and Ap		
Post Laboratory	1. What is the syntax of Is command?		
questions	List out different options of Is command.		
	3. Which fields are displayed in output of " Is –I" command?		
	4. What are the hidden files?		
	Assessment		
	Solution achieves the desired	Viva	
Out of Moules	objective(s)		
Out of Marks Secured by the student	10	5	
Signature			
Jigilatule			
Date			

Pre-requisite Duration for completion PEO(s) to be achieved File r 1 2 3 4 Objective(s) Stud them Pre-requisite Usag Duration for completion PEO(s) to be achieved PEO(s)	Having only uppercase letters. First 2 characters are number. Having 3 consecutive alphabe ent shall understand meaning of a to match files in group. The of <i>Is</i> & <i>echo</i> command and meaninutes The provide sound foundation in cation along with analytical, prolumnication skill for life-long learn along with practical skillstry problems. Ability to use the techniques, skillstry problems.	rs & remaining may be anything. ets. each patterns & effective use of aning of different meta characters. In the fundamentals of computer blem-solving, design and
Objective(s) Stud them Pre-requisite Usag Duration for completion PEO(s) to be achieved PEO: appli	Having 3 consecutive digits. Having only uppercase letters. First 2 characters are number. Having 3 consecutive alphabers and meaning of a to match files in group. The of <i>Is</i> & <i>echo</i> command and meaning of a to provide sound foundation in cation along with analytical, prolumnication skill for life-long learns. To provide quality practical skillstry problems. Ability to use the techniques, skillstry problems.	ets. each patterns & effective use of aning of different meta characters. In the fundamentals of computer blem-solving, design and hing in chosen field. Il of tools and technologies to solve
Duration for completion PEO(s) to be achieved 2 3 4 Objective(s) Stud them Usag Duration for completion PEO(s) to be achieved application	Having only uppercase letters First 2 characters are number Having 3 consecutive alphabe ent shall understand meaning of to match files in group. The of <i>Is</i> & <i>echo</i> command and meaning of the cation along with analytical, prolumination skill for life-long learn The provide quality practical skillstry problems. Ability to use the techniques, sk	ets. each patterns & effective use of aning of different meta characters. In the fundamentals of computer blem-solving, design and hing in chosen field. Il of tools and technologies to solve
Objective(s) Stud them Pre-requisite Usag Duration for completion PEO(s) to be achieved PEO: appli	Having 3 consecutive alphabe ent shall understand meaning of a to match files in group. e of <i>Is</i> & <i>echo</i> command and meaning of a to provide sound foundation in cation along with analytical, prolation along with gractical skills for provide quality practical skills try problems. Ability to use the techniques, skills	ets. each patterns & effective use of aning of different meta characters. In the fundamentals of computer blem-solving, design and hing in chosen field. Il of tools and technologies to solve
Objective(s) Stud them Pre-requisite Usag Duration for completion PEO(s) to be achieved PEO(application)	Having 3 consecutive alphabe ent shall understand meaning of a to match files in group. The of <i>Is</i> & <i>echo</i> command and meaninutes To provide sound foundation in cation along with analytical, prolamunication skill for life-long learn along with the consecution of the consecutio	ets. each patterns & effective use of aning of different meta characters. In the fundamentals of computer blem-solving, design and ning in chosen field. Il of tools and technologies to solve
Objective(s) Stud them Pre-requisite Usag Duration for completion PEO(s) to be achieved PEO: appli comm	ent shall understand meaning of a to match files in group. The of <i>Is</i> & <i>echo</i> command and meaning of a second foundation in the cation along with analytical, prolation along with analytical, prolation skill for life-long learn a provide quality practical skillstry problems. Ability to use the techniques, skillstry problems.	each patterns & effective use of aning of different meta characters. In the fundamentals of computer blem-solving, design and ning in chosen field. Il of tools and technologies to solve
Pre-requisite Usage Duration for completion 30 m PEO(s) to be achieved PEO: applic completion completion applications are set to the mean of the mean	to match files in group. The of <i>Is</i> & <i>echo</i> command and meninutes The provide sound foundation in cation along with analytical, problemunication skill for life-long learns The provide quality practical skills try problems. Ability to use the techniques, skills	aning of different meta characters. In the fundamentals of computer blem-solving, design and hing in chosen field. Il of tools and technologies to solve
Pre-requisite Usage Duration for completion 30 m PEO(s) to be achieved PEO: applicomm	e of <i>Is</i> & <i>echo</i> command and medinutes I: To provide sound foundation in cation along with analytical, prolamunication skill for life-long learn I: To provide quality practical skillstry problems. Ability to use the techniques, sk	n the fundamentals of computer blem-solving, design and ning in chosen field.
PEO(s) to be achieved PEO: application application PEO: a	inutes L: To provide sound foundation in cation along with analytical, prolongication skill for life-long learn L: To provide quality practical skill stry problems. Ability to use the techniques, sk	n the fundamentals of computer blem-solving, design and ning in chosen field.
PEO(s) to be achieved PEO: appli comi	L: To provide sound foundation in cation along with analytical, prol munication skill for life-long learn 2: To provide quality practical skill stry problems. Ability to use the techniques, sk	blem-solving, design and ning in chosen field. Il of tools and technologies to solve
appli	cation along with analytical, prol munication skill for life-long learn 2: To provide quality practical skil stry problems. Ability to use the techniques, sk	blem-solving, design and ning in chosen field. Il of tools and technologies to solve
comi	munication skill for life-long learn 2: To provide quality practical skilstry problems. Ability to use the techniques, sk	ning in chosen field. Il of tools and technologies to solve
	2: To provide quality practical skil stry problems. Ability to use the techniques, sk	II of tools and technologies to solve
DEC.	stry problems. Ability to use the techniques, sk	-
	stry problems. Ability to use the techniques, sk	-
	Ability to use the techniques, sk	ills and modern tools as necessary
	•	ins and modern tools as necessary
3 7	for software development.	
	CO1: Study of LINUX/UNIX environment and its need.	
· · ·	Understand and use utilities to	
	onment.	·
Solution must contain Com	Command & output	
Nature of submission Hand	Handwritten	
References for solving Book	::	
the problem i.	Forouzan B. A., Gilberg R. R.,	UNIX and Shell Programming,
	Thomson	
ii	Das S., UNIX aoncepts and Ap	pplications, McGraw Hill
Post Laboratory	. What are meta characters?	
questions	2. List out different meta characters.	
	3. What will be the effect of " rm *" command?	
	Assessment	
Se	olution achieves the desired	Viva
	objective(s)	_
Out of Marks	10	5
Secured by the student		
Signature		
Date		

Practical No : 8	Enrollment No <u>:</u>	Group : <u>A</u>
Practical Problem	Write <i>chmod</i> command for following	
	octal code either for file or directory:	
	i. rwxrwxrwx	
	iirw- 	
	iii. r-xr-xr-x	
	ivww-	
Objective(s)	Student shall understand use of chmo	od command for granting and
	revoking of permissions to files as we	ll as directories using symbolic
	code and octal values for user, group & others.	
Pre-requisite	Usage of <i>chmod</i> command and mean	ing of all set of permissions.
Duration for completion	30 minutes	
PEO(s) to be achieved	PEO1 : To provide sound foundation in	n the fundamentals of computer
	application along with analytical, prol	<u> </u>
	communication skill for life-long learr	ning in chosen field.
	PEGG. To associate associate associated alcilloss to the state of the description.	
	PEO2 : To provide quality practical skill of tools and technologies to solve industry problems.	
PO(s) to be achieved	PO6: Ability to use the techniques, skills and modern tools as necessary	
10(3) to be define ved	for software development.	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.	
	CO2: Understand and use utilities to	
	environment.	
Solution must contain	Command & rwx triplets	
Nature of submission	Handwritten	
References for solving	Book:	
the problem	i. Forouzan B. A., Gilberg R. R.,	UNIX and Shell Programming,
	Thomson	
	ii. Muster J., UNIX made easy, McGraw Hill	
Post Laboratory	1. What is the syntax of chmod command?	
questions	2. List out different symbolic codes with their meaning.	
	3. List out different octal values with permissions. 4. What is the difference between use of symbolic code & octal	
	4. What is the difference between use of symbolic code & octal values for granting/revoking permissions?	
	Assessment	
	Solution achieves the desired	Viva
	objective(s)	
Out of Marks	10	5
Secured by the student		
Signature		
Date		

Practical No : 9	Enrollment No <u>:</u>	Group : <u>A</u>	
Practical Problem	Write rwx triplets for file "Linux.txt" k i. \$chmod 000 Linux.txt ii. \$chmod u+rwx Linux.txt iii. \$chmod +rwx Linux.txt	pased on following command:	
Ohio ativa (a)	iv. \$chmod -r+w Linux.txt		
Objective(s)	Student shall understand concept of a into rwx triplets for file.	converting particular permission	
Pre-requisite	Usage of <i>chmod</i> command and mean	ing of all set of permissions.	
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems.		
PO(s) to be achieved	PO6: Ability to use the techniques, skills and modern tools as necessary		
00(): 1	for software development.		
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment.		
Solution must contain	Command & rwx triplets		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., Thomson ii. Muster J., UNIX made easy, N	-	
Post Laboratory	1. List available permissions for		
questions	2. List available operations for granting & revoking permissions.		
	3. List different users' categories.		
	Assessment		
	Solution achieves the desired	Viva	
	objective(s)	_	
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Practical No : 10	Enrollment No:	Group : <u>A</u>
Practical Problem	Write rwx triplets for directory "MSCI i. \$chmod -r+w mscit ii. \$chmod a= mscit iii. \$chmod ug=rw,o=r- mscit	T" based on following command:
Objective(s)	Student shall understand concept of converting particular permission into rwx triplets for directory.	
Pre-requisite	Usage of <i>chmod</i> command and mean	ing of all set of permissions.
Duration for completion	30 minutes	
PEO(s) to be achieved	PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems.	
PO(s) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary for software development.	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment.	
Solution must contain	Command & rwx triplets.	
Nature of submission	Handwritten	
References for solving	Book:	
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,Thomsonii. Muster J., UNIX made easy, McGraw Hill	
Post Laboratory	1. What are the three levels of security in LINUX?	
questions	 What permission is needed in directory to list the content of a directory? What type of permission is needed to delete a file from a directory? What permission is needed in directory so that owner of a directory can copy a file into that directory? Assessment	
	Solution achieves the desired	Viva
	objective(s)	viva
Out of Marks	10	5
Secured by the student		-
Signature		
Date		

Practical No : 11	Enrollment No <u>:</u>	Group : <u>A</u>
Practical Problem	User issues the following <i>umask</i> com	<u> </u>
	files and directories created after this command.	
	i. \$umask 777	
	ii. \$umask 000	
	iii. \$umask 022	
	iv. \$umask 111	
	v. \$umask 2	
Objective(s)	vi. \$umask 512 Student shall understand use of <i>umask</i> command for setting default	
Objective(s)	permissions for files as well as directories & convert it into rwx triplets .	
Due ve evitette	·	
Pre-requisite	Usage of <i>umask</i> command and mean	ing of all set of permissions.
Duration for completion	1 Hour	
PEO(s) to be achieved	PEO1 : To provide sound foundation in	
	application along with analytical, procommunication skill for life-long learn	<u>. </u>
	Communication skill for life-long learn	illig ili chosen neid.
	PFO2 : To provide quality practical ski	II of tools and technologies to solve
	PEO2 : To provide quality practical skill of tools and technologies to solve industry problems.	
PO(s) to be achieved	PO6 : Ability to use the techniques, sk	ills and modern tools as necessary
(0)	for software development.	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.	
	CO2 : Understand and use utilities to	work with LINUX/UNIX
	environment.	
Solution must contain	Command & rwx triplets.	
Nature of submission	Handwritten	
References for solving	Book:	
the problem	i. Forouzan B. A., Gilberg R. R.,	UNIX and Shell Programming,
	Thomson	_
	ii. Muster J., UNIX made easy, N	
Post Laboratory	1. What is the syntax of umask command?	
questions	2. What is the difference between use of chmod & umask	
	command for granting and revoking permissions? What is the system default permission for file? Write rwy triplets	
	3. What is the system default permission for file? Write rwx triplets as well as octal code for the same.	
	4. What is the system default permission for directory? Write rwx	
	triplets as well as octal code j	
	Assessment	
	Solution achieves the desired	Viva
	objective(s)	
Out of Marks	10	5
Secured by the student		
Signature		
Date		

Practical No : 12	Enrollment No <u>:</u>	Group : <u>A</u>
Practical Problem	i. Write command to send your cu	rrent process in background.
	ii. Write a command to bring lastly suspended job in forground.	
	iii. Write command that bring second job from background to	
	foreground.	
	iv. Write two different ways to tern	
	v. What will be the effect of following command? A. \$fg	
	B. \$fg %%	
	vi. What will be the output of ps command? Describe all columns in	
	brief.	
	vii. What will be the output of jobs o	command? Give detailed of all
	columns.	
Objective(s)	Student shall understand use of Job S	
Pre-requisite	Usage and concept of job scheduling	commands.
Duration for completion	1 Hour	
PEO(s) to be achieved	PEO1 : To provide sound foundation in	•
	application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field.	
	commendation skill for the long learning in chosen field.	
	PEO2: To provide quality practical ski	ll of tools and technologies to solve
	industry problems.	
PO(s) to be achieved	PO6 : Ability to use the techniques, sk	ills and modern tools as necessary
	for software development.	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environme	
	co2 : Understand and use utilities to venvironment.	WORK WITH LINUX/ONIX
Solution must contain	Command, output & description.	
Nature of submission	Handwritten	
References for solving	Book:	
the problem	Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson	
Post Laboratory	1. What is foreground job?	
questions	2. What is background job?	
-	3. What is the meaning of "+"(plus) and "-(minus)" sign in output	
	of "jobs" command?	
	4. What are the six different sta	tes of job?
	Assessment	V:
	Solution achieves the desired objective(s)	Viva
Out of Marks	10	5
Secured by the student		
Signature		
Date		

Practical No : 13	Enrollment No <u>:</u>	Group : <u>A</u>
Practical Problem	i. Write command for followings:	
	A. Copy contents of ABC.txt into XYZ.txt without using cp	
	command.	
	B. Display total number of current login users.	
	i. What will be interpretation of following command? Write with	
	output or errors if possible:	
	A. wc < sample	
	B. wc > sample < sample	
	C. wc sample*	
Ohio etimo (a)	D. Is –I t* tee user.lst	a like wedinestion wining energial
Objective(s)	Student shall understand Shell featur	e like, redirection, piping, special
Pre-requisite	file, tee command etc. Usage of redirection and piping.	
•	, , ,	
Duration for completion	1 Hour	
PEO(s) to be achieved	PEO1 : To provide sound foundation in th	·
	application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field.	
	skii for ine-long learning in chosen held.	
	PEO2 : To provide quality practical skill of tools and technologies to solve	
	industry problems.	toolo ana toomiologico to conte
PO(s) to be achieved	PO6: Ability to use the techniques, skills	and modern tools as necessary for
	software development.	
CO(s) to be achieved	CO3: Understand and use Shell features	
Calutian must cantain	commands, joining commands and running jobs.	
Solution must contain	Command, output & description.	
Nature of submission	Handwritten	
References for solving	Book:	
the problem		, UNIX and Shell Programming,
	Thomson	
5 1	ii. Das S., UNIX Concepts and A	Applications, McGraw Hill
Post Laboratory	i. What is Redirection ?	
questions	ii. What is trash file ? iii. What is terminal file ?	
	•	command?
	iv. What is the purpose of tee of Assessment	tommunu:
	Solution achieves the desired	Viva
	objective(s)	viva
Out of Marks	10	5
Secured by the student	10	
•		
Signature		
Signature Date		

Practical No : 14	Enrollment No <u>:</u>	Group : <u>A</u>
Practical Problem	What does after executing following	commands?
	(Output or error, describe it properly.)	
	i. A='file1'	
	echo \$A	
	ii. echo \\\\a	
	iii. echo 'This is My "Birth date" '	
	iv. Msg=" BVPATEL"	
	echo \${Msg}	
	v. A=10	
	B=A	
	echo \$\$B	
	echo \\$\$B	
	eval echo \\$\$B	
Objective(s)	Student shall understand use of varia	
Duo nomuicito	command substitution, <i>eval</i> comman	ia, etc.
Pre-requisite	Usage of job scheduling commands.	
Duration for completion	1 Hour	
PEO(s) to be achieved	PEO1 : To provide sound foundation in th	•
	application along with analytical, probler	n-solving, design and communication
	skill for life-long learning in chosen field.	
	PEO2 : To provide quality practical skill of tools and technologies to solve	
	industry problems.	
PO(s) to be achieved	PO6 : Ability to use the techniques, skills	and modern tools as necessary for
(0)	software development.	•
CO(s) to be achieved	CO3: Understand and use Shell features	of redirection, pipe, grouping
	commands, joining commands and running jobs.	
Solution must contain	Command, output & description.	
Nature of submission	Handwritten	
References for solving	Book:	
the problem	i. Forouzan B. A., Gilberg R. R.,	UNIX and Shell Programming,
	Thomson	
	ii. Das S., UNIX Concepts and Applications, McGraw Hill	
Post Laboratory	i. What are rules for defining v	
questions	ii. What is command substitution ?	
	iii. What are different types of command execution?	
	iv. What is the purpose of eval o	rommand?
	Assessment	T
	Solution achieves the desired	Viva
0 : 600 :	objective(s)	_
Out of Marks	10	5
Secured by the student		
Signature		
Date		

Practical No : 15	Enrollment No <u>:</u>	Group:
Practical Problem	(next page)	
Objective(s)	Students will be able to understand the concept of Filtering utilities.	
Pre-requisite	Concepts of redirection, piping & commands like head, tail, cut, paste,	
	uniq, sort, tr etc.	
Duration for completion	90 minutes	
PEO(s) to be achieved	PEO1 : To provide sound foundation in	n the fundamentals of computer
	application along with analytical, prol	G. G
	communication skill for life-long learr	ning in chosen field.
	PEGG To the State of the constitution of the	
	PEO2 : To provide quality practical skill industry problems.	ii or tools and technologies to solve
PO(s) to be achieved	PO6 : Ability to use the techniques, sk	ills and modern tools as necessary
	for software development.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
CO(s) to be achieved	CO3: Understand and use Shell featur	res of redirection, pipe, grouping
	commands, joining commands and ru	nning jobs.
Solution must contain	Command, output & interpretation if asked.	
Nature of submission	Handwritten	
References for solving	Book:	
the problem	iii. Forouzan B. A., Gilberg R. R.,	UNIX and Shell Programming,
	Thomson	
	iv. Das S., UNIX aoncepts and Ap	
Post Laboratory	5. What is the purpose of tr cor	
questions	6. List out different options of uniq command.	
	7. List out different formats of sort command.	
	8. How can we remove multiple blanks from a file?	
	Assessment	
	Solution achieves the desired	Viva
0.1.600.3	objective(s)	_
Out of Marks	10	5
Secured by the student		
Signature		
Date		

Definition:

- Create file "ABC.txt" and "PQR.txt" with at least 10 lines. Apply following on them.
- 1. Write a command to store contents of file "ABC.txt" and "PQR.txt" into file "New.txt".
- 2. Write command for following:
 - a. Display first 3 lines.
 - b. Display last 7 lines.
 - c. Display all lines rather than last 1 line.
 - d. Display lines from 6 to 10.
 - e. Display last to 3rd line.
 - f. Display only second line.
- 3. Write command to translate all capital characters into small characters and vice versa in file "ABC.txt".
- 4. Sort long listing of current directory by "size" column in ascending order.
- 5. Lists the five largest files in the current directory.
- 6. How these two commands are similar and different?
 - \$ Sort -u "Abc.txt"
 - \$ uniq "Abc.txt"
- 7. Extract the name of only user from file /etc/passwd.
- 8. Write command to count total number of words from file without using wc command.
- 9. Write sort command to sort long listing of current directories firstly name wise and secondly their size wise using single **sort** command.
- 10. Write command to extract second and third fields from file PQR.txt vertically.
- 11. Write command to concatenate two file name ABC.txt and PQR.txt vertically.
- 12. Write command to merge two sorted file in single file.
- 13. What happen with following commands? Give comments on interpretation of following commands.
 - \$ tr "AB" "BA" < myfile
 - \$ cat myfile
- 14. What happen with following commands? Give comments on interpretation of following commands.
 - \$ tr '[a-z]' '[A-Z]' < file1
- 15. What happen with following commands? Give comments on interpretation of following commands.
 - \$ tr -s ' ' < file1
- 16. What happen with following commands? Give comments on interpretation of following commands.
 - \$ tr -cd '[a-zA-Z]' < file1
- 17. Write command to add today's date and time to the end of a given file.

Practical No : 16	Enrollment No:	Group : <u>A</u>	
Practical Problem	Write a shell script to find smallest nu	Write a shell script to find smallest number amongst three numbers that	
	are read from the keyboard as well as from command line.		
Objective(s)	Student shall be able to apply knowledge of commands to develop shell		
	script.		
Pre-requisite	Purpose and syntax of all commands	as well as different shell script	
	constructs.		
Duration for completion	1 Hour		
PEO(s) to be achieved	PEO1 : To provide sound foundation in the	•	
	application along with analytical, problen	n-solving, design and communication	
	skill for life-long learning in chosen field.		
	DEGG. To manyide availth, and stind skill of		
	PEO2 : To provide quality practical skill of industry problems.	tools and technologies to solve	
PO(s) to be achieved	PO6 : Ability to use the techniques, skills a	and modern tools as necessary for	
	software development.		
CO(s) to be achieved	CO3: Understand an use Shell features of		
	commands, joining commands and running jobs.		
Calutian mont santain	CO4: Develop, debug & execute Shell script to carry out routine task.		
Solution must contain	Shell script code & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	iii. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,		
	Thomson	and and an analysis of the state of the stat	
Dont Labourtous	iv. Das S., UNIX Concepts and Ap	plications, McGraw Hill	
Post Laboratory	 What is shell script? How will you take input from user in shell script? 		
questions	· · ·	•	
	3. What is the difference between using if statement for numeric and string values?		
	Assessment		
	Solution achieves the desired Viva		
	objective(s)	3.10	
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Practical No : 17	Enrollment No:	Group : <u>A</u>
Practical Problem	Write a shell script to count total number of directories under the	
	current directory.	
Objective(s)	Student shall understand use of differ	rent operators used in shell script.
Pre-requisite	Purpose and syntax of different shell	script constructs.
Duration for completion	1 Hour	
PEO(s) to be achieved	PEO1 : To provide sound foundation in the	·
	application along with analytical, problen	n-solving, design and communication
	skill for life-long learning in chosen field.	
	PEO2: To provide quality practical skill of	tools and technologies to solve
	industry problems.	tools and technologies to solve
PO(s) to be achieved	PO6 : Ability to use the techniques, skills a	and modern tools as necessary for
	software development.	
CO(s) to be achieved	CO3: Understand an use Shell features of redirection, pipe, grouping	
	commands, joining commands and running jobs.	
Calutian must santain	CO4: Develop, debug & execute Shell script to carry out routine task.	
Solution must contain	Shell script code & output.	
Nature of submission	Handwritten	
References for solving	Book:	
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,	
	Thomson	
	ii. Das S., UNIX Concepts and Applications, McGraw Hill	
Post Laboratory	 What are different types of file operators? 	
questions	2. What are positional parameters?	
	3. What is the purpose of let command?	
Assessment		
	Solution achieves the desired	Viva
Out of Moules	objective(s)	
Out of Marks	10	5
Secured by the student		
Signature		
Date		

Practical No : 18	Enrollment No <u>:</u>	Group : A
Practical Problem	Write a shell script to input a number and display following pattern up	
	to inputted number.	
	If inputted number is 5 then pattern will be:	
	*	
	* * *	
	* * * *	
	* * * *	
	(Use only one loop)	
Objective(s)	Student shall understand use of differ	rent looping constructs.
Pre-requisite	Purpose and syntax different shell scr	ipt constructs.
Duration for completion	1 Hour	
PEO(s) to be achieved	PEO1 : To provide sound foundation in the	•
	application along with analytical, problem skill for life-long learning in chosen field.	n-solving, design and communication
	skiii for life-forig learning in chosen field.	
	PEO2 : To provide quality practical skill of tools and technologies to solve	
	industry problems.	
PO(s) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary for	
/.	software development.	
CO(s) to be achieved	CO3: Understand an use Shell features of redirection, pipe, grouping commands, joining commands and running jobs.	
	CO4: Develop, debug & execute Shell scri	
Solution must contain	Shell script code & output.	
Nature of submission	Handwritten	
References for solving	Book:	
the problem	i. Forouzan B. A., Gilberg R.	R., UNIX and Shell Programming,
•	Thomson	
		Applications, McGraw Hill
Post Laboratory	1. What is a loop ?	
questions	2. What are different types o	
		ween while loop & until loop?
	4. What is the difference between List controlled loop &	
	Command controlled loop	?
	Assessment Solution achieves the desired	Viva
	objective(s)	Viva
Out of Marks	10	5
Secured by the student	-	
Signature		
Date		

Practical No : 19	Enrollment No <u>:</u>	Group : <u>A</u>
Practical Problem	Write shell script that accept a filename as an argument and display the	
	last modification time if the file exists and suitable message if it doesn't.	
Objective(s)	Student shall understand use of commands inside shell script and file	
	operations.	
Pre-requisite	Purpose and syntax of all commands	as well as different shell script
	constructs.	
Duration for completion	1 Hour	
PEO(s) to be achieved	PEO1: To provide sound foundation in the	e fundamentals of computer
	application along with analytical, problem	n-solving, design and communication
	skill for life-long learning in chosen field.	
	PEO2 : To provide quality practical skill of industry problems.	tools and technologies to solve
PO(s) to be achieved	PO6 : Ability to use the techniques, skills a	and modern tools as necessary for
	software development.	,
CO(s) to be achieved	CO3: Understand an use Shell features of redirection, pipe, grouping	
	commands, joining commands and running jobs.	
	CO4: Develop, debug & execute Shell script to carry out routine task.	
Solution must contain	Shell script code & output.	
Nature of submission	Handwritten	
References for solving	Book:	
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,	
	Thomson	
	ii. Das S., UNIX Concepts and Ap	
Post Laboratory	How will you sort files according to modification time?	
questions	2. What is argument validation?	
	3. What is the purpose of shift command?	
	4. What is the use of \$@ and \$* parameters?	
	Assessment	
	Solution achieves the desired objective(s)	Viva
Out of Marks	10	5
Secured by the student	10	3
Signature		
Date		

Practical No : 20	Enrollment No:	Group : <u>A</u>	
Practical Problem	Write shell script to create a menu that displays the list of files, the		
	number of current users, contents of	·	
	of the system based on the user choice.		
Objective(s)	Student shall understand use of case	and select loop constructs.	
Pre-requisite	Usage of commands inside shell scrip	t.	
Duration for completion	1 Hour		
PEO(s) to be achieved	PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems.		
PO(s) to be achieved	PO6 : Ability to use the techniques, skills a software development.	and modern tools as necessary for	
CO(s) to be achieved	CO3: Understand an use Shell features of redirection, pipe, grouping commands, joining commands and running jobs. CO4: Develop, debug & execute Shell script to carry out routine task.		
Solution must contain	Shell script code & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,Thomsonii. Das S., UNIX Concepts and Applications, McGraw Hill		
Post Laboratory	Which construct is used to perform multi-way selection?		
questions	2. What is the syntax of select loop ?		
•	3. What is the use of \$# and \$0 parameters?		
	Assessment		
	Solution achieves the desired objective(s)	Viva	
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Practical No : 1	Enrollment No <u>:</u>	Group : <u>B</u>
Practical Problem	Write a <i>date</i> command to display dat	
	(Consider current date as 4 th January 2014)	
	1. yyyy-mm-dd hh-mm	
	2. Yesterday's date is: 01/03/14.	
	3. Sat, 04 Jan 2014 15:19:32 +0530	
	4. 2013-01-04	
	Saturday January 04 2014 09	
Objective(s)	Students will be able to learn <i>date</i> co	<u>'</u>
Pre-requisite	Use putty software to run commands	& usage of date command.
Duration for completion	30 minutes	
PEO(s) to be achieved	PEO1 : To provide sound foundation in	· · · · · · · · · · · · · · · · · · ·
	application along with analytical, prol	-
	communication skill for life-long learr	ning in chosen field.
	DEG2. To provide available properties leti	
	PEO2 : To provide quality practical skill of tools and technologies to solve	
PO(s) to be achieved	industry problems.	ills and madern tools as necessary
PO(s) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary for software development.	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.	
CO(3) to be achieved	CO2: Understand and use utilities to work with LINUX/UNIX	
	environment.	WORK WITH EINON, GIVIN
Solution must contain	Command & output.	
Nature of submission	Handwritten	
References for solving	Book:	
the problem	i. Forouzan B. A., Gilberg R. R.	, UNIX and Shell Programming,
р. от	Thomson	,,
	ii. Das S., UNIX aoncepts and A	applications, McGraw Hill
Post Laboratory	1. What is the syntax of date co	
questions	2. List out different options of a	late command.
•	3. List out different formats of c	date command.
	4. How can you display date after 10 months from today?	
	Assessment	
	Solution achieves the desired	Viva
	objective(s)	
Out of Marks	10	5
Secured by the student		
Signature		
Date		

Practical No : 2	Enrollment No <u>:</u>	Group : <u>B</u>
Practical Problem	Write a <i>cal</i> command to do following:	
	1. Display calendar of three months.	
	2. Display dates of the Julian calendar of Feb-2014.	
Objective(s)	Students will be able to learn <i>cal</i> com	mand with options.
Pre-requisite	Use putty software to run commands	& usage of <i>cal</i> command.
Duration for completion	30 minutes	
PEO(s) to be achieved	PEO1 : To provide sound foundation in	•
	application along with analytical, prol	G. G
	communication skill for life-long learr	ning in chosen field.
	PEO2: To provide quality practical skil	I of tools and technologies to solve
	industry problems.	
PO(s) to be achieved	PO6: Ability to use the techniques, sk	ills and modern tools as necessary
	for software development.	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environme	
	CO2: Understand and use utilities to work with LINUX/UNIX	
	environment.	
Solution must contain	Command & output.	
Nature of submission	Handwritten	
References for solving	Book:	
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,	
	Thomson	
	ii. Das S., UNIX aoncepts and Applications, McGraw Hill	
Post Laboratory	1. What is the syntax of cal command?	
questions	2. List out different options of cal command.	
	3. List two different ways to display calendar of current month.	
	4. How can you display calendar of year 1800?	
	Assessment	
	Solution achieves the desired	Viva
Out of Marks	objective(s) 10	5
Secured by the student	10	3
Signature		
Date		

Practical No : 3	Enrollment No <u>:</u>	Group : <u>B</u>
Practical Problem	Solve following using <i>echo</i> command:	
	1. Write the output of a command: echo {one,two,red,blue}fish	
	Write an interpretation of a command: echo -e "Welcome to the LINUX \cworld."	
Objective(s)	Student shall learn <i>echo</i> command wi	th options & escape sequences.
Pre-requisite	Use putty software to run commands	, usage of <i>echo</i> command &
	meaning of back quote (``) character.	
Duration for completion	30 minutes	
PEO(s) to be achieved	PEO1 : To provide sound foundation in application along with analytical, prob	· · · · · · · · · · · · · · · · · · ·
	communication skill for life-long learn	ing in chosen field.
	PEO2 : To provide quality practical skil industry problems.	I of tools and technologies to solve
PO(s) to be achieved	PO6: Ability to use the techniques, ski	ills and modern tools as necessary
	for software development.	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.	
	CO2: Understand and use utilities to work with LINUX/UNIX	
Solution must contain	environment. Command, output & interpretation.	
Nature of submission	Handwritten	
	Book:	
References for solving		LINUX and Chall Dragge garages
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson	
	ii. Das S., UNIX aoncepts and Applications, McGraw Hill	
Post Laboratory	1. What is the syntax of echo command?	
questions	2. List out different options of echo command.	
4	3. List out different types of escape sequences of echo command.	
	4. How can you remove effect of escape sequence to be printed in	
	output?	
	Assessment	
	Solution achieves the desired	Viva
Out of Marks	objective(s) 10	5
Secured by the student	10	3
Signature		
Date		

Practical No : 4	Enrollment No:	Group : <u>B</u>	
Practical Problem	Write bc command for following:		
	1. To find square root of 30 with 10 decimal places.		
	2. To convert 1100 from binary to decimal.		
	3. Print "Even Number" if number is even, print "Odd Number"		
	otherwise. (Use if statement, store value in variable)		
	4. To print digits from 11 to 20 t		
Objective(s)	Student shall learn bc command with	•	
Pre-requisite	Usage of bc command, use of 'banch	calculator' in interactive mode.	
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in	n the fundamentals of computer	
	application along with analytical, prol	olem-solving, design and	
	communication skill for life-long learn	ning in chosen field.	
	PEO2 : To provide quality practical ski	ll of tools and technologies to solve	
20/) : 1 1 1 1	industry problems.		
PO(s) to be achieved	PO6 : Ability to use the techniques, sk	ills and modern tools as necessary	
CO(s) to be achieved	for software development.		
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX		
	environment.		
Solution must contain	Command & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R.,	UNIX and Shell Programming,	
•	Thomson	3,	
	ii. Das S., UNIX aoncepts and Ap	plications, McGraw Hill	
Post Laboratory	1. What is the purpose of bc command?		
questions	2. Give two full forms of "bc"?		
•	3. What is the syntax of bc com	mand.	
	4. How can you use loops in bc calculator?		
	Assessment		
	Solution achieves the desired	Viva	
	objective(s)	_	
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Practical No : 5	Enrollment No: Group : B		
Practical Problem	Write output and interpretation of following commands:		
	1. echo "4 && 10" bc		
	2. echo "2+3*4" bc		
Objective(s)	Student shall be able to get an idea of	using bc command with piping	
	mechanism.		
Pre-requisite	Usage of <i>echo</i> command and pipe.		
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in	·	
	application along with analytical, prob		
	communication skill for life-long learr	ning in chosen field.	
	PEO2 : To provide quality practical skil industry problems.	or tools and technologies to solve	
PO(s) to be achieved	PO6 : Ability to use the techniques, sk	ills and modern tools as necessary	
PO(3) to be achieved	for software development.	ilis and modern tools as necessary	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environme	ent and its need.	
(0) 10 10 10 10 10 10 10 10 10 10 10 10 10	CO2 : Understand and use utilities to		
	environment.		
Solution must contain	Command & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,		
	Thomson		
	ii. Das S., UNIX aoncepts and Applications, McGraw Hill		
Post Laboratory	1. What is pipe ?		
questions	2. What are the different types of operator used in bc command?		
	3. In which order expressions are evaluated?		
	4. How can you use file in bc command?		
	Assessment		
	Solution achieves the desired	Viva	
Out of Marks	objective(s) 10	5	
Secured by the student	10	5	
Signature			
Date			

Practical No : 6	Enrollment No:	Group : <u>B</u>	
Practical Problem	Write <i>Is</i> command for following:		
	 Display current working directory name. 		
	2. Display all file names in one column.		
Objective(s)	Student shall learn <i>Is</i> command with o	options.	
Pre-requisite	Usage of <i>Is</i> command, meaning of all	options.	
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1: To provide sound foundation in	the fundamentals of computer	
	application along with analytical, prob	<u>.</u>	
	communication skill for life-long learr	ing in chosen field.	
	PEO2 : To provide quality practical skil	l of tools and technologies to solve	
PO(s) to be achieved	industry problems. PO6 : Ability to use the techniques, sk	ills and modern tools as necessary	
PO(3) to be achieved	for software development.	ilis and modern tools as necessary	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environme	ent and its need.	
	CO2 : Understand and use utilities to		
	environment.		
Solution must contain	Command & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,		
	Thomson		
	ii. Das S., UNIX aoncepts and Applications, McGraw Hill		
Post Laboratory	1. What is the syntax of ls command?		
questions	2. List out different options of Is		
	3. Which fields are displayed in a	output of " Is –I " command?	
	4. What are the hidden files?		
	Assessment		
	Solution achieves the desired	Viva	
Out of Marks	objective(s) 10	5	
Secured by the student	10	3	
Signature			
Date			

Practical No : 7	Enrollment No: Group : B			
Practical Problem	Write <i>Is</i> & <i>echo</i> command to display following list of files:			
	File names :			
	1. Having only lowercase letters.			
	2. Having "?" and "*" characters.			
	3. Minimum length is 4 characte	ers.		
	1	ercase or lowercase & second		
	character must in uppercase.			
Objective(s)	Student shall understand meaning of	each patterns & effective use of		
	them to match files in group.			
Pre-requisite	Usage of <i>Is</i> & <i>echo</i> command and mea	aning of different meta characters.		
Duration for completion	30 minutes			
PEO(s) to be achieved	PEO1 : To provide sound foundation in	•		
	application along with analytical, prob	<u> </u>		
	communication skill for life-long learr	ning in chosen field.		
	PEO2 : To provide quality practical skil	ll of tools and technologies to solve		
	industry problems.			
PO(s) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary			
CO(a) to be cabioused	for software development.			
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX			
	environment.	WORK WILL LINOX/ONIX		
Solution must contain	Command & output			
Nature of submission	Handwritten			
References for solving	Book:			
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,			
	Thomson			
Doct Lobovotowy	ii. Das S., UNIX aoncepts and Applications, McGraw Hill			
Post Laboratory	1. What are meta characters? 2. List out different meta characters.			
questions	 List out different meta characters. What will be the effect of "rm *" command? 			
	Assessment			
	Solution achieves the desired	Viva		
	objective(s)	V100		
Out of Marks	10	5		
Secured by the student	-			
Signature				
Date				

Practical No : 8	Enrollment No:	Group : <u>B</u>	
Practical Problem	Write <i>chmod</i> command for following rwx triplets using <u>symbolic code</u> &		
	octal value:		
	i. rr		
	iiwx-w-		
	iiiwx—xr		
	iv. rw-rw-		
Objective(s)	Student shall understand use of <i>chmo</i>	od command for granting and	
	revoking of permissions to files as we	ll as directories using symbolic	
	code and octal values for user, group	& others.	
Pre-requisite	Usage of <i>chmod</i> command and mean	ing of all set of permissions.	
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in	•	
	application along with analytical, prol		
	communication skill for life-long learr	ning in chosen field.	
	PEO2: To provide quality practical skil	I of tools and technologies to solve	
	industry problems.	if of tools and technologies to solve	
PO(s) to be achieved	PO6 : Ability to use the techniques, sk	ills and modern tools as necessary	
1 O(5) to be defined a	for software development.	inis and modern tools as necessary	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.		
	CO2: Understand and use utilities to		
	environment.		
Solution must contain	Command & rwx triplets		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,		
	Thomson		
	ii. Muster J., UNIX made easy, N	1cGraw Hill	
Post Laboratory	 What is the syntax of chmod command? 		
questions	List out different symbolic codes with their meaning.		
	3. List out different octal values with permissions.		
	4. What is the difference between use of symbolic code & octal		
	values for granting/revoking permissions?		
	Assessment		
	Solution achieves the desired	Viva	
Out of Marks	objective(s) 10	5	
Secured by the student	10		
Signature			
Date			

Practical No : 9	Enrollment No: Group : B			
Practical Problem	Write rwx triplets based on following command:			
	i. \$chmod 5 Linux.txt			
	ii. \$chmod a+rwx Linux.txt			
	iii. \$chmod +r Linux.txt			
	iv. \$chmod +w-x Linux.txt			
Objective(s)	Student shall understand concept of o	converting particular permission		
	into rwx triplets for file.			
Pre-requisite	Usage of <i>chmod</i> command and mean	ing of all set of permissions.		
Duration for completion	30 minutes			
PEO(s) to be achieved	PEO1 : To provide sound foundation in	n the fundamentals of computer		
	application along with analytical, prol			
	communication skill for life-long learr	ning in chosen field.		
	PEO2 : To provide quality practical skill	ll of tools and technologies to solve		
20/1: 1 1: 1	industry problems.			
PO(s) to be achieved	PO6 : Ability to use the techniques, sk	ills and modern tools as necessary		
CO(a) to be askiswed	for software development.			
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX			
	environment.	WOLK WITH FINOS/ONIX		
Solution must contain	Command & rwx triplets			
Nature of submission	Handwritten			
References for solving	Book:			
•		LINIV and Chall Duagramania		
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,			
	Thomson ii Muster I HNIX made easy McGraw Hill			
Post Laboratory	ii. Muster J., UNIX made easy, McGraw Hill1. List available permissions for file and directory?			
questions	 List available operations for granting & revoking permissions. 			
questions	3. List different users' categories.			
	Assessment			
	Solution achieves the desired	Viva		
	objective(s)			
Out of Marks	10	5		
Secured by the student				
Signature				
Date				

Practical No : 10	Enrollment No <u>:</u>	Group : <u>B</u>	
Practical Problem	Write rwx triplets based on following command: i. \$chmod u=rwx mscit ii. \$chmod,g=rx,o=r mscit		
	iii. \$chmod go= mscit		
Objective(s)	Student shall understand concept of o	converting particular permission	
	into rwx triplets for directory.		
Pre-requisite	Usage of <i>chmod</i> command and mean	ing of all set of permissions.	
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in application along with analytical, problem communication skill for life-long learn PEO2 : To provide quality practical skill	olem-solving, design and in chosen field.	
	industry problems.	Tot tools and teemlologies to solve	
PO(s) to be achieved	PO6 : Ability to use the techniques, ski for software development.	ills and modern tools as necessary	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment.		
Solution must contain	Command & rwx triplets.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,		
	Thomson ii. Muster J., UNIX made easy, McGraw Hill		
Post Laboratory	1. What are the three levels of security in LINUX?		
questions	What permission is needed in directory to list the content of a directory?		
	3. What type of permission is needed to delete a file from a directory? 4. What is a single from a directory is a single from a directory.		
	4. What permission is needed in directory so that owner of a directory can copy a file into that directory?		
Assessment			
	Solution achieves the desired	Viva	
	objective(s)		
Out of Marks	10 5		
Secured by the student			
Signature			
Date			

Practical No : 11	Enrollment No: Group : B		
Practical Problem	User issues the following <i>umask</i> command. Write an rwx triplets for all		
	files and directories created after this command.		
	i. \$umask 777		
	ii. \$umask 000		
	iii. \$umask 1		
	iv. \$umask 707		
	v. \$umask 110		
Objective(s)	vi. \$umask 222 Student shall understand use of uma s	sk command for setting default	
Objective(s)	permissions for files as well as director	-	
Pre-requisite	Usage of <i>umask</i> command and mean	·	
•	-	ing of all set of permissions.	
Duration for completion	1 Hour		
PEO(s) to be achieved	PEO1 : To provide sound foundation in	•	
	application along with analytical, prol communication skill for life-long learn		
	communication skill for me-long learn	ing in chosen heid.	
	PEO2: To provide quality practical skil	ll of tools and technologies to solve	
	industry problems.	or tools and toolineseBree to some	
PO(s) to be achieved	PO6: Ability to use the techniques, sk	ills and modern tools as necessary	
	for software development.		
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.		
	CO2: Understand and use utilities to work with LINUX/UNIX		
	environment.		
Solution must contain	Command & rwx triplets.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,		
	Thomson		
5	ii. Muster J., UNIX made easy, McGraw Hill		
Post Laboratory	1. What is the syntax of umask command?		
questions	2. What is the difference between use of chmod & umask		
	command for granting and revoking permissions? 3. What is the system default permission for file? Write rwx triplets		
	as well as octal code for the same.		
	4. What is the system default permission for directory? Write rwx		
	triplets as well as octal code for the same.		
	Assessment		
	Solution achieves the desired	Viva	
	objective(s)		
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Practical No : 12	Enrollment No: Group : B		
Practical Problem	i. Write command to send your current process in background.		
	ii. Write a command to bring lastly suspended job in forground.		
	iii. Write command that bring second job from background to		
	foreground.	ainata a iah having ID F	
	iv. Write two different ways to ternv. What will be the effect of follow		
	A. \$fg	ing command:	
	B. \$fg %%		
	vi. What will be the output of ps co	mmand? Describe all columns in	
	brief.		
	vii. What will be the output of jobs of	command? Give detailed of all	
Objective/s)	columns.	alical Processing	
Objective(s)	Student shall understand use of Job S		
Pre-requisite	Usage and concept of job scheduling	commanus.	
Duration for completion PEO(s) to be achieved	1 Hour	n the fundamentals of committee	
reo(s) to be achieved	PEO1 : To provide sound foundation in application along with analytical, pro	· · · · · · · · · · · · · · · · · · ·	
	communication skill for life-long learn	<u> </u>	
	Communication skill for me-long learning in chosen neig.		
	PEO2 : To provide quality practical skill of tools and technologies to solve		
	industry problems.		
PO(s) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary for software development		
CO(s) to be achieved	for software development. CO1: Study of LINUX/UNIX environment and its need.		
CO(s) to be achieved	CO2 : Understand and use utilities to		
	environment.	TOTAL THE ENTOTY OF THE	
Solution must contain	Command, output & description.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson		
Post Laboratory	1. What is foreground job?		
questions	2. What is background job?		
	3. What is the meaning of "+"(plus) and "-(minus)" sign in output		
	of "jobs" command? 4. What are the six different states of job?		
	Assessment	tes oj job!	
	Solution achieves the desired	Viva	
	objective(s)		
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Practical No : 13	Enrollm	ent No <u>:</u>		Group : <u>B</u>
Practical Problem	i. Write command for followings:			
	A. Display total number of users			
	B. Count total number of directories in current directory.			
	li. Wh	at will be interpretation of fo	ollowing cor	nmand? Write with
	-	or errors if possible:		
		wc sample > sample1		
		cat sample 2>erfile		
		wc > sample		
		who tee user1.lst user2.lst	. 121	
Objective(s)		shall understand Shell feature	e like, redire	ection, piping, special
Pre-requisite		command etc. f redirection and piping.		
•		redirection and piping.		
Duration for completion	1 Hour			
PEO(s) to be achieved		provide sound foundation in the on along with analytical, problem		
		fe-long learning in chosen field.	i-solvilig, des	ign and communication
	Skiii ioi iii	ic long rearring in chosen neta.		
	PEO2 : To	provide quality practical skill of	tools and ted	hnologies to solve
	industry problems.			
PO(s) to be achieved	PO6: Ability to use the techniques, skills and modern tools as necessary for			
		development.		
CO(s) to be achieved		lerstand and use Shell features o		, pipe, grouping
Solution must contain		ds, joining commands and running of the commands and running of the commands and running the commands and running	ig jobs.	
Nature of submission	Handwritten			
		tten		
References for solving	Book: i Forouzan B. A. Gilherg R. R. LINIX and Shell Programming			
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,			
	Thomson ii Das S. LINIX Concents and Applications, McCraw Hill			
Post Laboratory	ii. Das S., UNIX Concepts and Applications, McGraw Hilli. What is Redirection?			
•	ii. What is keairection ? ii. What is trash file ?			
questions	iii. What is terminal file ?			
	iv. What is the purpose of tee command?			
		Assessment		
	Solut	ion achieves the desired		Viva
		objective(s)		
Out of Marks		10		5
Secured by the student				
Signature				
Date				

Practical No : 14	Enrollment No <u>:</u>	Group : <u>B</u>	
Practical Problem	What does after executing following commands?		
	(Output or error, describe it properly.)		
	i. A='file1'		
	cat \$A echo \\\\a		
	ii. echo \\ \\ \\a wc –c		
	iii. echo "My Birth date is `date '	"+%d - %b – 1991" ` "	
	iv. path='/home/bca/mydir'		
	cd \$path		
	v. A=`cat f1`		
	echo \$A wc –l		
Objective(s)	Student shall understand use of varia	bles, command execution,	
	command substitution, <i>eval</i> comman	d, etc.	
Pre-requisite	Usage of job scheduling commands.		
Duration for completion	1 Hour		
PEO(s) to be achieved	PEO1 : To provide sound foundation in the		
	application along with analytical, problen	n-solving, design and communication	
	skill for life-long learning in chosen field.		
	PEO2 : To provide quality practical skill of tools and technologies to solve		
PO(s) to be achieved	industry problems. PO6: Ability to use the techniques, skills and modern tools as necessary for		
ro(s) to be achieved	software development.	and modern tools as necessary for	
CO(s) to be achieved	CO3: Understand and use Shell features of	of redirection, pipe, grouping	
	commands, joining commands and runni		
Solution must contain	Command, output & description.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,		
•	Thomson		
	ii. Das S., UNIX Concepts and Applications, McGraw Hill		
Post Laboratory	i. What are rules for defining variable in LINUX?		
questions	ii. What is command substitution ?		
	iii. What are different types of command execution?		
	iv. What is the purpose of eval command?		
	Assessment		
	Solution achieves the desired	Viva	
	objective(s)	_	
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Practical No : 15	Enrollment No:	Group:	
Practical Problem	(next page)		
Objective(s)	Students will be able to understand the concept of Filtering utilities.		
Pre-requisite	Concepts of redirection, piping & commands like head, tail, cut, paste,		
	uniq, sort, tr etc.		
Duration for completion	90 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in	n the fundamentals of computer	
	application along with analytical, prol	G. G	
	communication skill for life-long learn	ning in chosen field.	
	PEO2 : To provide quality practical skil industry problems.	ll of tools and technologies to solve	
PO(s) to be achieved	PO6: Ability to use the techniques, sk	ills and modern tools as necessary	
	for software development.		
CO(s) to be achieved	CO3: Understand and use Shell featur		
	commands, joining commands and ru		
Solution must contain	Command, output & interpretation if asked.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	v. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,		
	Thomson		
	vi. Das S., UNIX aoncepts and Applications, McGraw Hill		
Post Laboratory	9. What is the purpose of tr command?		
questions	10. List out different options of uniq command.		
	11. List out different formats of sort command.		
	12. How can we remove multiple blanks from a file?		
	Assessment		
	Solution achieves the desired Viva		
	objective(s)		
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Definition:

- Create file "ABC.txt" and "PQR.txt" with at least 10 lines. Apply following on them.
- 1. Write a command to store contents of file "ABC.txt" and "PQR.txt" into file "New.txt".
- 2. Write command for following:
 - g. Display first 3 lines.
 - h. Display last 7 lines.
 - i. Display all lines rather than last 1 line.
 - j. Display lines from 6 to 10.
 - k. Display last to 3rd line.
 - I. Display only second line.
- 3. Write command to translate all capital characters into small characters and vice versa in file "ABC.txt".
- 4. Sort long listing of current directory by "size" column in ascending order.
- 5. Lists the five largest files in the current directory.
- 6. How these two commands are similar and different?
 - \$ Sort -u "Abc.txt"
 - \$ uniq "Abc.txt"
- 7. Extract the name of only user from file /etc/passwd.
- 8. Write command to count total number of words from file without using wc command.
- 9. Write sort command to sort long listing of current directories firstly name wise and secondly their size wise using single **sort** command.
- 10. Write command to extract second and third fields from file PQR.txt vertically.
- 11. Write command to concatenate two file name ABC.txt and PQR.txt vertically.
- 12. Write command to merge two sorted file in single file.
- 13. What happen with following commands? Give comments on interpretation of following commands.
 - \$ tr "AB" "BA" < myfile
 - \$ cat myfile
- 14. What happen with following commands? Give comments on interpretation of following commands.
 - \$ tr '[a-z]' '[A-Z]' < file1
- 15. What happen with following commands? Give comments on interpretation of following commands.
 - \$ tr -s ' ' < file1
- 16. What happen with following commands? Give comments on interpretation of following commands.
 - \$ tr -cd '[a-zA-Z]' < file1
- 17. Write command to add today's date and time to the end of a given file.

Practical No : 16	Enrolli	ment No <u>:</u>		Group : <u>B</u>
Practical Problem	Write a shell script to find largest number amongst three numbers that			
	are read from the keyboard as well as from command line.			
Objective(s)	Student shall be able to apply knowledge of commands to develop shell			
	script.			
Pre-requisite	Purpos	e and syntax of all commands	as well as di	fferent shell script
	constru	ucts.		
Duration for completion	1 Hour			
PEO(s) to be achieved		o provide sound foundation in the		•
		ion along with analytical, problen life-long learning in chosen field.	n-solving, des	ign and communication
	industry	o provide quality practical skill of problems.		
PO(s) to be achieved	PO6 : Ak	oility to use the techniques, skills a	ınd modern t	ools as necessary for
		e development.		
CO(s) to be achieved		nderstand an use Shell features of		
	commands, joining commands and running jobs. CO4: Develop, debug & execute Shell script to carry out routine task.			
Solution must contain		Shell script code & output.		
Nature of submission		Handwritten		
References for solving	Book:	Book:		
the problem	i.			
		Thomson		G G
	ii.	Das S., UNIX Concepts and Ap	plications, I	McGraw Hill
Post Laboratory	1.			
questions	2.	How will you take input from	user in shell	script?
	3.	What is the difference betwee	en using if st	tatement for numeric
	and string values?			
		Assessment		<u>.</u>
	Solu	ition achieves the desired		Viva
		objective(s)		
Out of Marks		10		5
Secured by the student				
Signature				
Date				

Practical No : 17	Enrollment No:	Group : <u>B</u>	
Practical Problem	Write shell script that count number of hidden files under current		
	directory.		
Objective(s)	Student shall understand use of differ	rent operators used in shell script.	
Pre-requisite	Purpose and syntax of different shell	script constructs.	
Duration for completion	1 Hour		
PEO(s) to be achieved	PEO1: To provide sound foundation in the	•	
	application along with analytical, problem	n-solving, design and communication	
	skill for life-long learning in chosen field.		
	PEO2 : To provide quality practical skill of	tools and tashnologies to solve	
	industry problems.	tools and technologies to solve	
PO(s) to be achieved	PO6 : Ability to use the techniques, skills a	and modern tools as necessary for	
. ,	software development.		
CO(s) to be achieved	CO3: Understand an use Shell features of		
	commands, joining commands and running jobs.		
Calutian must assis	CO4: Develop, debug & execute Shell script to carry out routine task.		
Solution must contain	Shell script code & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,		
	Thomson		
	ii. Das S., UNIX Concepts and Ap		
Post Laboratory	What are different types of file	•	
questions	2. What are positional paramete		
	3. What is the purpose of let con	nmana?	
	Assessment	\n'' -	
	Solution achieves the desired	Viva	
Out of Marks	objective(s)	5	
	10	5	
Secured by the student Signature			
Date			

Practical No : 18	Enrollment No <u>:</u>		Group : B	
Practical Problem	Write a shell script to input a number and display following pattern up			
	to inputted number.			
	If inputted number is 5 then pattern will be:			
	1			
	11			
	112			
	1123			
Objective/s)	11235	cont looning	constructs	
Objective(s)	Student shall understand use of difference of the little and the l			
Pre-requisite	Purpose and syntax different shell scr	ipt construc	ts.	
Duration for completion	1 Hour			
PEO(s) to be achieved	PEO1 : To provide sound foundation in the			
	application along with analytical, problen skill for life-long learning in chosen field.	n-solving, des	ign and communication	
	Skill for life-forig learning in chosen field.			
	PEO2: To provide quality practical skill of	tools and tec	hnologies to solve	
	industry problems.			
PO(s) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary for			
	software development.			
CO(s) to be achieved	CO3: Understand an use Shell features of redirection, pipe, grouping commands, joining commands and running jobs.			
	= =			
Solution must contain		CO4: Develop, debug & execute Shell script to carry out routine task. Shell script code & output.		
Nature of submission	Handwritten			
References for solving	Book:	LINIV and Ch	all Dragramming	
the problem	 Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson 			
	ii. Das S., UNIX Concepts and Ap	unlications N	McGraw Hill	
Post Laboratory	1. What is a loop?	plications, i	VICOTAW TIIII	
questions	2. What are different types of lo	opina const	ructs?	
questions	3. What is the difference between			
	4. What is the difference betwee			
	controlled loop?			
	Assessment			
	Solution achieves the desired		Viva	
	objective(s)			
Out of Marks	10		5	
Secured by the student				
Signature				
Date				

Practical No : 19	Enrollment No <u>:</u>	Group : <u>B</u>		
Practical Problem	Write shell script that accept a filename as argument and display the			
	total link number if the file exists and suitable message if it doesn't.			
Objective(s)	Student shall understand use of commands inside shell script and file			
	operations.			
Pre-requisite	Purpose and syntax of all commands	as well as different shell script		
	constructs.			
Duration for completion	1 Hour			
PEO(s) to be achieved	PEO1 : To provide sound foundation in the	e fundamentals of computer		
	application along with analytical, problen	n-solving, design and communication		
	skill for life-long learning in chosen field.			
	PEO2 : To provide quality practical skill of industry problems.	tools and technologies to solve		
PO(s) to be achieved	PO6 : Ability to use the techniques, skills a	and modern tools as necessary for		
(6)	software development.	,		
CO(s) to be achieved	CO3: Understand an use Shell features of			
	commands, joining commands and running jobs.			
Calatian manatanantain	CO4: Develop, debug & execute Shell script to carry out routine task.			
Solution must contain	Shell script code & output.			
Nature of submission	Handwritten			
References for solving	Book:			
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,			
	Thomson			
Bart tale and a	ii. Das S., UNIX Concepts and Ap			
Post Laboratory	 How will you sort files accord What is argument validation? 	•		
questions	3. What is the purpose of shift of			
	4. What is the use of \$@ and \$*			
	Assessment	ps. 5		
	Solution achieves the desired	Viva		
	objective(s)			
Out of Marks	10	5		
Secured by the student				
Signature				
Date				

Practical No : 20	Enrollment No:	Group : <u>B</u>	
Practical Problem	Write menu driven shell script that accept string as argument		
	and do follow as per user choice:		
	i) To count length of string		
	ii) To convert all character in	•	
	iii) To display position of 'A' c	_	
	iv) To display string in equal p		
Objective(s)	Student shall understand use of case	•	
Pre-requisite	Usage of commands inside shell scrip	t.	
Duration for completion	1 Hour		
PEO(s) to be achieved	PEO1 : To provide sound foundation in the	•	
	application along with analytical, problen skill for life-long learning in chosen field.	n-solving, design and communication	
	skiii for life-forig learning in chosen field.		
	PEO2 : To provide quality practical skill of	tools and technologies to solve	
	industry problems.	Ü	
PO(s) to be achieved	PO6 : Ability to use the techniques, skills a	and modern tools as necessary for	
/1	software development.		
CO(s) to be achieved	CO3: Understand an use Shell features of redirection, pipe, grouping commands, joining commands and running jobs.		
	CO4: Develop, debug & execute Shell scri	<u> </u>	
Solution must contain	Shell script code & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,		
	Thomson		
	ii. Das S., UNIX Concepts and Ap		
Post Laboratory	 Which construct is used to perform multi-way selection? 		
questions	2. What is the syntax of select loop ?		
	3. What is the use of \$# and \$0 parameters?		
	Assessment	V.	
	Solution achieves the desired	Viva	
Out of Marks	objective(s)	F	
Secured by the student	10	5	
Signature			
Date			

Practical No : 1	Enrollment No:	Group : <u>C</u>	
Practical Problem	4. Thursday 02 009 2014 03:31: January)	2014) 4. 4 15:38:46 15 38 46 :45 PM (After 5 days from 4 th	
Objective(s)	Students will be able to learn <i>date</i> co	•	
Pre-requisite	Use putty software to run commands	& usage of date command.	
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in application along with analytical, prolommunication skill for life-long learn PEO2 : To provide quality practical ski industry problems.	olem-solving, design and in chosen field.	
PO(s) to be achieved	PO6: Ability to use the techniques, sk	ills and modern tools as necessary	
	for software development.		
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment.		
Solution must contain	Command & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., Thomsonii. Das S., UNIX aoncepts and Ap		
Post Laboratory	1. What is the syntax of date co		
questions	2. List out different options of d		
	3. List out different formats of d		
	4. How can you display date after Assessment	er 10 months from today?	
	Solution achieves the desired	Viva	
	objective(s)	viva	
Out of Marks	10	5	
Secured by the student	-		
Signature			
Date			

Practical No : 2	Enroll	ment No <u>:</u>		Group : <u>C</u>
Practical Problem	Write a <i>cal</i> command to do following:			
	1. Display the calendar using Sunday as the first day of the week.			
		2. Display the calendar of December 1988.		
Objective(s)	Studer	its will be able to learn <i>cal</i> com	mand with	options.
Pre-requisite	Use pu	tty software to run commands	& usage of	<i>cal</i> command.
Duration for completion	30 min	utes		
PEO(s) to be achieved		To provide sound foundation in		•
		ition along with analytical, prol	•	
	comm	unication skill for life-long learr	ning in chose	en field.
	PEO2:	To provide quality practical ski	I of tools an	d technologies to solve
		ry problems.		
PO(s) to be achieved		bility to use the techniques, sk	ills and mod	lern tools as necessary
		tware development.		
CO(s) to be achieved		tudy of LINUX/UNIX environme		
		CO2: Understand and use utilities to work with LINUX/UNIX		
		environment.		
Solution must contain	Command & output.			
Nature of submission	Handwritten			
References for solving	Book:			
the problem	i.	, , , , , , , , , , , , , , , , , , , ,		
	Thomson			
	ii.	,	•	McGraw Hill
Post Laboratory	1.	,		
questions	2.	, ,		
	3. 4.	, , ,	•	_
	4.	How can you display calendar Assessment	oj yeur 180	<i>JU</i>
	Cal.			Vivo
	5010	ution achieves the desired objective(s)		Viva
Out of Marks		10		5
Secured by the student		10		
Signature				
Date				

Practical No : 3	Enrollment No:	Group : C		
Practical Problem	Solve following using <i>echo</i> command:			
	 Write the output of a command: echo -e "\n Projects: \n\n\tplan \n\tcode \n\ttest\n" 			
	2. Write an interpretation of a c	ommand: echo -e "Welcome to the		
Objective(s)	Student shall learn <i>echo</i> command with options & escape sequences.			
Pre-requisite	Use putty software to run commands meaning of back quote (``) character.	·		
Duration for completion	30 minutes			
PEO(s) to be achieved	PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve			
PO(s) to be achieved	industry problems. PO6 : Ability to use the techniques, skills and modern tools as necessary for software development.			
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment.			
Solution must contain	Command, output & interpretation.			
Nature of submission	Handwritten			
References for solving	Book:	Book:		
the problem	 i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Das S., UNIX aoncepts and Applications, McGraw Hill 			
Post Laboratory	1. What is the syntax of echo co			
questions	2. List out different options of e			
		ape sequences of echo command.		
	4. How can you remove effect of escape sequence to be printed in			
	output? Assessment			
	Solution achieves the desired	Viva		
	objective(s)			
Out of Marks	10	5		
Secured by the student				
Signature				
Date				

Practical No : 4	Enrollment No:	Group : <u>C</u>	
Practical Problem	Write bc command for following:	•	
	1. To find m ⁿ (m raised to n) (i.e. power).		
	2. To convert FF from hexadecimal to octal.		
	3. Print "Positive Number" if number is greater than zero, print		
	"Negative Number" otherwise.		
	(Use if statement, store value in variable)		
	4. To print first 5 odd numbers using for loop.		
Objective(s)	Student shall learn bc command with	<u> </u>	
Pre-requisite	Usage of bc command, use of 'banch	calculator' in interactive mode.	
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in	·	
	application along with analytical, prol		
	communication skill for life-long learn	ning in chosen field.	
	PEO2 : To provide quality practical ski	ll of tools and technologies to solve	
	industry problems.		
PO(s) to be achieved	PO6 : Ability to use the techniques, sk	ills and modern tools as necessary	
	for software development.		
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.		
	CO2: Understand and use utilities to	work with LINUX/UNIX	
	environment.		
Solution must contain	Command & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,		
	Thomson		
	ii. Das S., UNIX aoncepts and Ap		
Post Laboratory	1. What is the purpose of bc cor	nmand?	
questions	2. Give two full forms of "bc"?		
	3. What is the syntax of bc comi		
	4. How can you use loops in bc o	calculator?	
	Assessment		
	Solution achieves the desired	Viva	
Out of Marks	objective(s) 10	5	
Secured by the student	10	5	
· ·			
Signature			
Date			

Practical No : 5	Enrollment No: Group : C			
Practical Problem	Write output and interpretation of following commands:			
	1. echo "0 0" bc 2. echo "3*4+2" bc*			
Objective(s)	Student shall be able to get an idea of	fusing hc command with nining		
Objective(3)	mechanism.	using be command with piping		
Pre-requisite	Usage of <i>echo</i> command and pipe.			
Duration for completion	30 minutes			
PEO(s) to be achieved	PEO1 : To provide sound foundation in	the fundamentals of computer		
r LO(3) to be acilieved	application along with analytical, prob	•		
	communication skill for life-long learn	<u> </u>		
	PEO2 : To provide quality practical skil	l of tools and technologies to solve		
	industry problems.			
PO(s) to be achieved	PO6 : Ability to use the techniques, sk	ills and modern tools as necessary		
CO(s) to be achieved	for software development.			
CO(3) to be achieved	•	CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX		
	environment.			
Solution must contain	Command & output.			
Nature of submission	Handwritten			
References for solving	Book:	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,			
	Thomson			
	ii. Das S., UNIX aoncepts and A	applications, McGraw Hill		
Post Laboratory	1. What is pipe ?			
questions		s of operator used in bc command?		
	3. In which order expressions are evaluated?4. How can you use file in bc command?			
	Assessment			
	Solution achieves the desired	Viva		
	objective(s)			
Out of Marks	10	5		
Secured by the student				
Signature				
Date				

Practical No : 6	Enrollment No: Group : C			Group : <u>C</u>
Practical Problem	Write <i>Is</i> command for following:			
	1. List all files recursively.			
		List all file names having only one character length.		
Objective(s)	Studer	nt shall learn <i>Is</i> command with	options.	
Pre-requisite	Usage	of <i>Is</i> command, meaning of all	options.	
Duration for completion	30 min	utes		
PEO(s) to be achieved		To provide sound foundation in		•
		ation along with analytical, prol		
	comm	unication skill for life-long learr	ning in chose	en field.
	PEO2:	To provide quality practical ski	ll of tools an	d technologies to solve
		ry problems.		J
PO(s) to be achieved	PO6: A	bility to use the techniques, sk	ills and mod	ern tools as necessary
	for sof	tware development.		
CO(s) to be achieved		tudy of LINUX/UNIX environme		
	CO2: Understand and use utilities to work with LINUX/UNIX			
	environment.			
Solution must contain	Command & output.			
Nature of submission	Handw	Handwritten		
References for solving	Book:			
the problem	i.	, , , , , , , , , , , , , , , , , , , ,		
	Thomson			
	ii.	, , ,		AcGraw Hill
Post Laboratory		 What is the syntax of Is command? 		
questions	2.	, ,		
	3.	, ,	output of " Is	5 −I " command?
	4.	, ,		
		Assessment		
	Soli	ution achieves the desired		Viva
Out of Marks		objective(s)		5
		10		5
Secured by the student Signature				
Date				

Practical No : 7	Enrollment No <u>:</u>	Group : C	
Practical Problem	Write <i>Is</i> & <i>echo</i> command to display following list of files:		
	File names :		
	1. Having only single characters.		
	2. Having atleast one alphabet in		
	3. Having first and last character i	nust be capital letter.	
	4. Having only special symbols		
Objective(s)	Student shall understand meaning of	each patterns & effective use of	
	them to match files in group.		
Pre-requisite	Usage of <i>Is</i> & <i>echo</i> command and me	aning of different meta characters.	
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in	•	
	application along with analytical, prol	<u> </u>	
	communication skill for life-long learr	ning in chosen field.	
	PEG3. To muchide available and alti		
	PEO2 : To provide quality practical skill industry problems.	i of tools and technologies to solve	
PO(s) to be achieved		ills and modern tools as necessary	
PO(5) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary for software development.		
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.		
co(3) to be achieved	CO2 : Understand and use utilities to		
	environment.		
Solution must contain	Command & output		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,		
	Thomson		
	ii. Das S., UNIX aoncepts and Ap	plications, McGraw Hill	
Post Laboratory	 What are meta characters? 		
questions	2. List out different meta characters.		
	3. What will be the effect of " rm *" command?		
	Assessment		
	Solution achieves the desired	Viva	
Out of Moules	objective(s)		
Out of Marks	10	5	
Secured by the student Signature			
Jigilature			
Date			

Practical No : 8	Enrollment No:	Group : <u>C</u>		
Practical Problem	Write <i>chmod</i> command for following	rwx triplets using symbolic code &		
	octal value:			
	i. r			
	iir-x			
	iii. rwxx			
	ivwx-wx			
Objective(s)	Student shall understand use of <i>chmo</i>	od command for granting and		
	revoking of permissions to files as we	II as directories using symbolic		
	code and octal values for user, group	& others.		
Pre-requisite	Usage of <i>chmod</i> command and mean	ing of all set of permissions.		
Duration for completion	30 minutes			
PEO(s) to be achieved	PEO1: To provide sound foundation in	the fundamentals of computer		
	application along with analytical, prol	olem-solving, design and		
	communication skill for life-long learr	ning in chosen field.		
	PEO2: To provide quality practical skil	l of tools and technologies to solve		
PO(): 1 1: 1	industry problems.			
PO(s) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary			
CO(s) to be achieved	for software development. CO1: Study of LINUX/UNIX environment and its need.			
co(s) to be achieved	CO2: Understand and use utilities to work with LINUX/UNIX			
	environment.	WOLK WITH EHRONY OWN		
Solution must contain	Command & rwx triplets			
Nature of submission	Handwritten			
References for solving	Book:			
the problem	i. Forouzan B. A., Gilberg R. R.,	LINIX and Shell Programming		
the problem	Thomson	orun, and onen rogramming,		
	ii. Muster J., UNIX made easy, N	1cGraw Hill		
Post Laboratory	1. What is the syntax of chmod			
questions	2. List out different symbolic cod			
4	3. List out different octal values with permissions.			
	4. What is the difference between use of symbolic code & octal			
	values for granting/revoking permissions?			
	Assessment			
	Solution achieves the desired	Viva		
	objective(s)	_		
Out of Marks	10	5		
Secured by the student				
Signature				
Date				

Practical No : 9	Enrollment No:	Group : <u>C</u>		
Practical Problem	Write rwx triplets based on following	command:		
	i. \$chmod 100 Linux.txt			
	ii. \$chmod u+rwx,o-rwx Linux.txt			
	iii. \$chmod +rw Linux.txt			
	iv. \$chmod +r-x Linux.txt			
Objective(s)	Student shall understand concept of o	converting particular permission		
	into rwx triplets for file.			
Pre-requisite	Usage of <i>chmod</i> command and mean	ing of all set of permissions.		
Duration for completion	30 minutes			
PEO(s) to be achieved	PEO1 : To provide sound foundation in	n the fundamentals of computer		
	application along with analytical, prob			
	communication skill for life-long learr	ning in chosen field.		
	PEO2: To provide quality practical skil	I of tools and technologies to solve		
20/1/12/12/12/12/12	industry problems.			
PO(s) to be achieved	PO6 : Ability to use the techniques, sk	ills and modern tools as necessary		
CO(s) to be achieved	for software development.	ant and its need		
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX			
	environment.	WOLK WITH FINOXY ONLY		
Solution must contain	Command & rwx triplets			
Nature of submission	Handwritten			
References for solving	Book:			
the problem	i. Forouzan B. A., Gilberg R. R.,	LINIV and Shall Programming		
the problem	Thomson	ONIX and Shell Frogramming,		
	ii. Muster J., UNIX made easy, N	1cGraw Hill		
Post Laboratory	List available permissions for			
questions	2. List available operations for granting & revoking permissions.			
45500000	3. List different users' categories.			
	Assessment			
	Solution achieves the desired	Viva		
	objective(s)			
Out of Marks	10	5		
Secured by the student				
Signature				
Date				

Practical Problem Write rwx triplets based on following command: i. Schmod g=r mscit iii. Schmod u=rwx mscit Student shall understand concept of converting particular permission into rwx triplets for directory. Pre-requisite Usage of chmod command and meaning of all set of permissions. Duration for completion PEO(s) to be achieved PEO2: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO(s) to be achieved CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment. Solution must contain Nature of submission References for solving the problem i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Muster J., UNIX made easy, McGraw Hill Post Laboratory questions ii. Muster J., UNIX made easy, McGraw Hill Post Laboratory questions What permission is needed in directory to list the content of a directory? 3. What type of permission is needed to delete a file from a directory? 4. What permission is needed in directory so that owner of a directory? Assessment Solution achieves the desired objective(s) Out of Marks Solution achieves the desired objective(s) Out of Marks Secured by the student Signature Date	Practical No : 10	Enrollment No <u>:</u>	Group : <u>C</u>		
ii. \$chmod o= mscit iii. \$chmod u=rwx mscit Student shall understand concept of converting particular permission into rwx triplets for directory. Pre-requisite Usage of chmod command and meaning of all set of permissions. Duration for completion PEO(s) to be achieved PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment. Solution must contain References for solving the problem I. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Muster J., UNIX made easy, McGraw Hill Post Laboratory questions I. What are the three levels of security in LINUX? 2. What permission is needed in directory to list the content of a directory? 3. What type of permission is needed in directory so that owner of a directory can copy a file into that directory? Assessment Solution achieves the desired objective(s) Out of Marks 10 5	Practical Problem	Write rwx triplets based on following command:			
Student shall understand concept of converting particular permission into rwx triplets for directory. Pre-requisite		_			
Student shall understand concept of converting particular permission into rwx triplets for directory. Pre-requisite		•			
into rwx triplets for directory. Pre-requisite Usage of chmod command and meaning of all set of permissions. Duration for completion PEO(s) to be achieved PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO(s) to be achieved CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment. Solution must contain Nature of submission References for solving the problem i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Muster J., UNIX made easy, McGraw Hill Post Laboratory questions 1. What are the three levels of security in LINUX? 2. What permission is needed in directory to list the content of a directory? 3. What type of permission is needed in directory so that owner of a directory? 4. What permission is needed in directory so that owner of a directory can copy a file into that directory? Assessment Solution achieves the desired objective(s) Out of Marks 10 5		·			
Pre-requisite Usage of chmod command and meaning of all set of permissions.	Objective(s)	-	converting particular permission		
Duration for completion 30 minutes		into rwx triplets for directory.			
PEO(s) to be achieved	Pre-requisite	Usage of <i>chmod</i> command and meaning of all set of permissions.			
application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment. Solution must contain Nature of submission References for solving the problem i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Muster J., UNIX made easy, McGraw Hill Post Laboratory questions 1. What are the three levels of security in LINUX? 2. What permission is needed in directory to list the content of a directory? 3. What type of permission is needed to delete a file from a directory? 4. What permission is needed in directory so that owner of a directory can copy a file into that directory? Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature	Duration for completion	30 minutes			
communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO(s) to be achieved CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment. Solution must contain Command & rwx triplets. Handwritten Book: i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Muster J., UNIX made easy, McGraw Hill Post Laboratory questions 1. What are the three levels of security in LINUX? 2. What permission is needed in directory to list the content of a directory? 3. What type of permission is needed to delete a file from a directory? 4. What permission is needed in directory so that owner of a directory can copy a file into that directory? Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature	PEO(s) to be achieved	·	·		
PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO(s) to be achieved CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment. Solution must contain Nature of submission References for solving the problem i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Muster J., UNIX made easy, McGraw Hill Post Laboratory questions 2. What are the three levels of security in LINUX? 2. What permission is needed in directory to list the content of a directory? 3. What type of permission is needed to delete a file from a directory? 4. What permission is needed in directory so that owner of a directory can copy a file into that directory? Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature			<u> </u>		
industry problems. PO(s) to be achieved PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment. Solution must contain References for solving the problem i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Muster J., UNIX made easy, McGraw Hill Post Laboratory questions ii. What are the three levels of security in LINUX? 2. What permission is needed in directory to list the content of a directory? 3. What type of permission is needed to delete a file from a directory? 4. What permission is needed in directory so that owner of a directory can copy a file into that directory? Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature		communication skill for life-long learr	ning in chosen field.		
industry problems. PO(s) to be achieved PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment. Solution must contain References for solving the problem i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Muster J., UNIX made easy, McGraw Hill Post Laboratory questions ii. What are the three levels of security in LINUX? 2. What permission is needed in directory to list the content of a directory? 3. What type of permission is needed to delete a file from a directory? 4. What permission is needed in directory so that owner of a directory can copy a file into that directory? Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature					
PO(s) to be achieved for software development. CO(s) to be achieved CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment. Solution must contain Command & rwx triplets. Nature of submission Handwritten References for solving the problem i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Muster J., UNIX made easy, McGraw Hill Post Laboratory questions 1. What are the three levels of security in LINUX? 2. What permission is needed in directory to list the content of a directory? 3. What type of permission is needed in directory so that owner of a directory can capy a file into that directory? Assessment Solution achieves the desired objective(s) 5. Out of Marks 10 5. Secured by the student 5. Signature 1. Signature 2. Solution settle characteristics and use the three levels on the techniques, skills and modern tools as necessary for software in the time to work with LINUX/UNIX environment and its need. CO2: Understand support and use utilities to work with LINUX/UNIX environment and its need. CO2: Understand support and use utilities to work with LINUX/UNIX environment and its need. CO2: Understand support and use utilities to work with LINUX/UNIX environment and its need. CO2: Understand support and use utilities to work with LINUX/UNIX environment and its need. CO2: Understand support and use utilities to work with LINUX/UNIX environment and its need. CO2: Understand support and use utilities to work with LINUX/UNIX environment and its need. CO2: Understand support and use utilities to work with LINUX/UNIX environment and its need. CO2: Understand support and use utilities to work with LINUX/UNIX environment. Solution must contain the unities to work with LINUX/UNIX environment and use utilities to work with LINUX/UNIX envir			Il of tools and technologies to solve		
for software development. CO(s) to be achieved CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment. Solution must contain Command & rwx triplets. Nature of submission References for solving the problem i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Muster J., UNIX made easy, McGraw Hill Post Laboratory questions 1. What are the three levels of security in LINUX? 2. What permission is needed in directory to list the content of a directory? 3. What type of permission is needed to delete a file from a directory? 4. What permission is needed in directory so that owner of a directory can copy a file into that directory? Assessment Solution achieves the desired objective(s) Out of Marks Secured by the student Signature	20/1/10/10/10/10/10	, ,	The second secon		
CO(s) to be achieved CO2: Understand and use utilities to work with LINUX/UNIX environment. CO2: Understand and use utilities to work with LINUX/UNIX environment. COMMAND & rwx triplets. Handwritten Book: i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Muster J., UNIX made easy, McGraw Hill Post Laboratory questions 1. What are the three levels of security in LINUX? 2. What permission is needed in directory to list the content of a directory? 3. What type of permission is needed to delete a file from a directory? 4. What permission is needed in directory so that owner of a directory can copy a file into that directory? Assessment Solution achieves the desired objective(s) Out of Marks 5 Secured by the student Signature	PO(s) to be achieved	· · · · · · · · · · · · · · · · · · ·	ills and modern tools as necessary		
CO2: Understand and use utilities to work with LINUX/UNIX environment. Solution must contain Command & rwx triplets. Handwritten Book: i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Muster J., UNIX made easy, McGraw Hill Post Laboratory questions 1. What are the three levels of security in LINUX? 2. What permission is needed in directory to list the content of a directory? 3. What type of permission is needed to delete a file from a directory? 4. What permission is needed in directory so that owner of a directory can copy a file into that directory? Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature	CO(s) to be achieved	•	ent and its need.		
Nature of submission Handwritten	(.,	•			
Nature of submission References for solving the problem i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Muster J., UNIX made easy, McGraw Hill Post Laboratory questions 1. What are the three levels of security in LINUX? 2. What permission is needed in directory to list the content of a directory? 3. What type of permission is needed to delete a file from a directory? 4. What permission is needed in directory so that owner of a directory can copy a file into that directory? Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature		·			
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Solution achieves the desired viva objective(s) Out of Marks 10 5 Secured by the student Signature					
Out of Marks 10 Secured by the student Signature	Assessment				
Out of Marks 10 5 Secured by the student Signature			Viva		
Secured by the student Signature					
Signature		10	5		
	-				
Date	Signature				
	Date				

Objective(s)	User issues the following <i>umask</i> comifiles and directories created after this i. \$umask 777 ii. \$umask 000 iii. \$umask 4 iv. \$umask 363 v. \$umask 500 vi. \$umask 177	•			
Objective(s)	 i. \$umask 777 ii. \$umask 000 iii. \$umask 4 iv. \$umask 363 v. \$umask 500 vi. \$umask 177 	command.			
ŀ	ii. \$umask 000iii. \$umask 4iv. \$umask 363v. \$umask 500vi. \$umask 177				
ŀ	iii. \$umask 4 iv. \$umask 363 v. \$umask 500 vi. \$umask 177				
ŀ	iv. \$umask 363 v. \$umask 500 vi. \$umask 177				
ŀ	v. \$umask 500 vi. \$umask 177				
ŀ	vi. \$umask 177	•			
ŀ	·				
ŀ	Student shall understand use of umas	sk command for setting default			
Pre-requisite	permissions for files as well as directo	-			
1 TC-TCquisite	Usage of <i>umask</i> command and meani	ing of all set of permissions.			
Duration for completion	1 Hour				
	PEO1 : To provide sound foundation in				
	application along with analytical, prob	Ç. Ç			
	communication skill for life-long learn	ing in chosen field.			
	PEO2: To provide quality practical skil	l of tools and technologies to solve			
	industry problems.				
PO(s) to be achieved	PO6: Ability to use the techniques, ski	ills and modern tools as necessary			
	for software development.				
	CO1: Study of LINUX/UNIX environment and its need.				
	CO2: Understand and use utilities to v	vork with LINUX/UNIX			
	environment. Command & rwx triplets.				
	<u>`</u>				
	Handwritten				
9	Book:				
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,				
	Thomson ii. Muster J., UNIX made easy, N	AcGraw Hill			
Post Laboratory	1. What is the syntax of umask of				
questions	2. What is the difference between				
446360113	command for granting and re	-			
	3. What is the system default permission for file? Write rwx triplets				
	as well as octal code for the same.				
	4. What is the system default permission for directory? Write rwx				
	triplets as well as octal code f	or the same.			
	Assessment	Vi.			
	Solution achieves the desired objective(s)	Viva			
Out of Marks	10	5			
Secured by the student					
Signature					
Date					

Practical No : 12	Enrollment No <u>:</u>	Group : C			
Practical Problem	i. Write command to send your cu				
	ii. Write a command to bring lastly suspended job in forground.				
	iii. Write command that bring secon	nd job from background to			
	foreground.	attention table to the F			
	iv. Write two different ways to tern				
	v. What will be the effect of following command? A. \$fg				
	B. \$fg %%				
	vi. What will be the output of ps co	mmand? Describe all columns in			
	brief.				
	vii. What will be the output of jobs o	command? Give detailed of all			
	columns.				
Objective(s)	Student shall understand use of Job S				
Pre-requisite	Usage and concept of job scheduling	commands.			
Duration for completion	1 Hour				
PEO(s) to be achieved	PEO1 : To provide sound foundation in	•			
	application along with analytical, prol	<u> </u>			
	communication skill for life-long learning in chosen field.				
	PEO2 : To provide quality practical skill of tools and technologies to solve				
	industry problems.				
PO(s) to be achieved	PO6: Ability to use the techniques, skills and modern tools as necessary				
	for software development.				
CO(s) to be achieved	CO1: Study of LINUX/UNIX environme				
	co2 : Understand and use utilities to venvironment.	WORK WITH LINUX/UNIX			
Solution must contain	Command, output & description.				
Nature of submission	Handwritten				
References for solving	Book:				
the problem	Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson				
Post Laboratory	1. What is foreground job?				
questions	2. What is background job?				
•	3. What is the meaning of "+"(plus) and "-(minus)" sign in output				
	of "jobs" command?				
	4. What are the six different sta	tes of job?			
	Assessment	.,,			
	Solution achieves the desired	Viva			
Out of Marks	objective(s) 10	5			
Secured by the student	10				
Signature					
Date					
Date					

Practical No : 13	Enrollment No:	<u> </u>	Semest	Group : <u>B</u>
Practical Problem	i. Write command	for followings:		.
	A. Count total number of files/directory which starts with			
	character "t".			
	B. Count total	number of files/d	irectories in	current directory.
	ii. What will be int	•	lowing com	mand? Write with
	output or errors if			
	A. wc sample >> sample			
		ple >> sample		
	C. cat sampl	•		
-11 11	•	/dev/tty wc –l		
Objective(s)			e like, redire	ection, piping, special
D	file, tee command e			
Pre-requisite	Usage of redirectio	n and piping.		
Duration for completion	1 Hour			
PEO(s) to be achieved	PEO1 : To provide sou			-
			n-solving, des	sign and communication
	skill for life-long learn	ing in chosen field.		
	DEO2. To provide que	م الناء احمناء معم بدال	tools and too	shaalagias ta salya
	PEO2 : To provide quaindustry problems.	ility practical skill of	tools and tec	innologies to solve
PO(s) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary for			
	software developmen	-		,
CO(s) to be achieved	CO3: Understand and	use Shell features of	of redirection	, pipe, grouping
	commands, joining co		ng jobs.	
Solution must contain	Command, output & description.			
Nature of submission	Handwritten			
References for solving	Book:			
the problem	i. Forouzan B	. A., Gilberg R. R.,	UNIX and Sh	nell Programming,
	Thomson			
	ii. Das S., UNI	X Concepts and Ap	plications, I	McGraw Hill
Post Laboratory	i. What is Re c			
questions	ii. What is trash file ?			
	iii. What is terminal file ?			
		purpose of tee co	mmand?	
	Assessment			
	Solution achieve			Viva
	objecti			
Out of Marks	10			5
			I	
Secured by the student				
Secured by the student Signature				
•				

Practical No : 14	Enrollment No <u>:</u>	Group : C		
Practical Problem	What does after executing following	commands?		
	(Output or error, describe it properly	·.)		
	i. A=`ls` (back quota.)			
	echo \$A			
	ii. A=10			
	echo "\$A"			
	echo '\$A'			
	echo \$A			
	iii. Bdate=`date "+%d - %b — 1991"`			
	echo "My Birth date is \$Bdate	2 "		
	iv. echo \$HOME			
	v. a="ls c* more"			
	\$a			
	eval \$a			
Objective(s)	Student shall understand use of varia			
	command substitution, <i>eval</i> comman	d, etc.		
Pre-requisite	Usage of job scheduling commands.			
Duration for completion	1 Hour			
PEO(s) to be achieved	PEO1 : To provide sound foundation in the	•		
	application along with analytical, problem	n-solving, design and communication		
	skill for life-long learning in chosen field.			
	PEO2 : To provide quality practical skill of	tools and tachnalagies to salve		
	industry problems.	tools and technologies to solve		
PO(s) to be achieved	PO6 : Ability to use the techniques, skills a	and modern tools as necessary for		
	software development.			
CO(s) to be achieved	CO3: Understand and use Shell features of	of redirection, pipe, grouping		
	commands, joining commands and runnii	ng jobs.		
Solution must contain	Command, output & description.			
Nature of submission	Handwritten			
References for solving	Book:			
the problem	i. Forouzan B. A., Gilberg R. R.,	UNIX and Shell Programming,		
-	Thomson			
	ii. Das S., UNIX Concepts and Ap	plications, McGraw Hill		
Post Laboratory	i. What are rules for defining vo			
questions	ii. What is command substitution ?			
	iii. What are different types of command execution?			
	iv. What is the purpose of eval co	ommand?		
	Assessment			
	Solution achieves the desired	Viva		
0.1.604.3	objective(s)	_		
Out of Marks	10	5		
Secured by the student				
Signature				
Date				

Practical Problem (next page)	Practical No : 15	Enrollment No <u>:</u>	Group:		
Pre-requisite Concepts of redirection, piping & commands like head, tail, cut, paste, uniq, sort, tr etc. Duration for completion PEO(s) to be achieved PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO(s) to be achieved PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO3: Understand and use Shell features of redirection, pipe, grouping commands, joining commands and running jobs. Solution must contain Nature of submission References for solving the problem Post Laboratory questions 18. What is the purpose of tr command? 19. List out different options of uniq command. 20. List out different formats of sort command. 21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks 10 Sound fundation in the fundamentals of computer applications, viii, paste, unit fundamentals of computer applications, viii, paste, unit fundamentals of computer applications, fundamentals of computer applications of uniq command. Viva objective(s)	Practical Problem	(next page)			
Uniq, sort, tr etc.	Objective(s)	Students will be able to understand the concept of Filtering utilities.			
Duration for completion 90 minutes	Pre-requisite	Concepts of redirection, piping & com	nmands like head, tail, cut, paste,		
PEO(s) to be achieved PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO(s) to be achieved PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO3: Understand and use Shell features of redirection, pipe, grouping commands, joining commands and running jobs. Solution must contain Nature of submission References for solving the problem Post Laboratory questions Post Laboratory questions 18. What is the purpose of tr command? 19. List out different options of uniq command. 20. List out different formats of sort command. 21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks		uniq, sort, tr etc.			
application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO3: Understand and use Shell features of redirection, pipe, grouping commands, joining commands and running jobs. Solution must contain Nature of submission References for solving the problem Vii. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson Viii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory 19. List out different options of uniq command. 20. List out different formats of sort command. 21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks	Duration for completion	90 minutes			
communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO(s) to be achieved PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO(s) to be achieved CO3: Understand and use Shell features of redirection, pipe, grouping commands, joining commands and running jobs. Solution must contain Nature of submission References for solving the problem Vii. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson viii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory questions 18. What is the purpose of tr command? 19. List out different options of uniq command. 20. List out different formats of sort command. 21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks	PEO(s) to be achieved	PEO1 : To provide sound foundation in	n the fundamentals of computer		
PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO(s) to be achieved PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO(s) to be achieved CO3: Understand and use Shell features of redirection, pipe, grouping commands, joining commands and running jobs. Solution must contain Nature of submission Handwritten References for solving the problem Vii. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson Viii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory questions 18. What is the purpose of tr command? 19. List out different options of uniq command. 20. List out different formats of sort command. 21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks		, , ,	Ç. Ç		
industry problems. PO(s) to be achieved PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO(s) to be achieved CO3: Understand and use Shell features of redirection, pipe, grouping commands, joining commands and running jobs. Solution must contain Nature of submission References for solving the problem Vii. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson Viii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory questions 18. What is the purpose of tr command? 19. List out different options of uniq command. 20. List out different formats of sort command. 21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks 5		communication skill for life-long learr	ning in chosen field.		
industry problems. PO(s) to be achieved PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO(s) to be achieved CO3: Understand and use Shell features of redirection, pipe, grouping commands, joining commands and running jobs. Solution must contain Nature of submission References for solving the problem Vii. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson Viii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory questions 18. What is the purpose of tr command? 19. List out different options of uniq command. 20. List out different formats of sort command. 21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks 5					
PO(s) to be achieved			I of tools and technologies to solve		
for software development. CO(s) to be achieved CO3: Understand and use Shell features of redirection, pipe, grouping commands, joining commands and running jobs. Solution must contain Nature of submission References for solving the problem Vii. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson viii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory questions 18. What is the purpose of tr command? 19. List out different options of uniq command. 21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks 10 5	PO(s) to be achieved		ills and modern tools as necessary		
CO(s) to be achieved CO3: Understand and use Shell features of redirection, pipe, grouping commands, joining commands and running jobs. Solution must contain Command, output & interpretation if asked. Nature of submission References for solving the problem Vii. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson viii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory questions 18. What is the purpose of tr command? 19. List out different options of uniq command. 20. List out different formats of sort command. 21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks 5	FO(3) to be achieved	, , ,	ins and modern tools as necessary		
commands, joining commands and running jobs. Solution must contain Nature of submission References for solving the problem Post Laboratory questions 18. What is the purpose of tr command? questions 19. List out different options of uniq command. 20. List out different formats of sort command. 21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks Command, output & interpretation if asked. Nature of submission Handwritten Book: Vii. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson viii. Das S., UNIX aoncepts and Applications, McGraw Hill 18. What is the purpose of tr command? 20. List out different options of uniq command. 21. How can we remove multiple blanks from a file? Solution achieves the desired objective(s) Out of Marks	CO(s) to be achieved	•	es of redirection, pipe, grouping		
Nature of submission Handwritten	(.,				
References for solving the problem vii. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson viii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory questions 18. What is the purpose of tr command? 19. List out different options of uniq command. 20. List out different formats of sort command. 21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks 10 5	Solution must contain				
the problem vii. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson viii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory questions 18. What is the purpose of tr command? 19. List out different options of uniq command. 20. List out different formats of sort command. 21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks 5	Nature of submission	Handwritten			
Thomson viii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory questions 18. What is the purpose of tr command? 19. List out different options of uniq command. 20. List out different formats of sort command. 21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks 10 5	References for solving	Book:			
viii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory questions 18. What is the purpose of tr command? 19. List out different options of uniq command. 20. List out different formats of sort command. 21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks 5	the problem	vii. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,			
Post Laboratory questions 18. What is the purpose of tr command? 19. List out different options of uniq command. 20. List out different formats of sort command. 21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks 10 5					
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20. List out different formats of sort command. 21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks 10 5	•				
21. How can we remove multiple blanks from a file? Assessment Solution achieves the desired objective(s) Out of Marks 10 5	questions		•		
Assessment Solution achieves the desired objective(s) Out of Marks Out of Marks Out of Marks					
Solution achieves the desired objective(s) Out of Marks Solution achieves the desired objective (s) 5		· ·	blanks from a file?		
Out of Marks 10 5			Visco		
Out of Marks 10 5			viva		
	Out of Marks		5		
Secured by the Student	Secured by the student	10	3		
Signature	•				
Date	Date				

Definition:

- Create file "ABC.txt" and "PQR.txt" with at least 10 lines. Apply following on them.
- 1. Write a command to store contents of file "ABC.txt" and "PQR.txt" into file "New.txt".
- 2. Write command for following:
 - m. Display first 3 lines.
 - n. Display last 7 lines.
 - o. Display all lines rather than last 1 line.
 - p. Display lines from 6 to 10.
 - q. Display last to 3rd line.
 - r. Display only second line.
- 3. Write command to translate all capital characters into small characters and vice versa in file "ABC.txt".
- 4. Sort long listing of current directory by "size" column in ascending order.
- 5. Lists the five largest files in the current directory.
- 6. How these two commands are similar and different?
 - \$ Sort -u "Abc.txt"
 - \$ uniq "Abc.txt"
- 7. Extract the name of only user from file /etc/passwd.
- 8. Write command to count total number of words from file without using **wc** command.
- 9. Write sort command to sort long listing of current directories firstly name wise and secondly their size wise using single **sort** command.
- 10. Write command to extract second and third fields from file PQR.txt vertically.
- 11. Write command to concatenate two file name ABC.txt and PQR.txt vertically.
- 12. Write command to merge two sorted file in single file.
- 13. What happen with following commands? Give comments on interpretation of following commands.
 - \$ tr "AB" "BA" < myfile
 - \$ cat myfile
- 14. What happen with following commands? Give comments on interpretation of following commands.
 - \$ tr '[a-z]' '[A-Z]' < file1
- 15. What happen with following commands? Give comments on interpretation of following commands.
 - \$ tr -s ' ' < file1
- 16. What happen with following commands? Give comments on interpretation of following commands.
 - \$ tr -cd '[a-zA-Z]' < file1
- 17. Write command to add today's date and time to the end of a given file.

Practical Problem Write a shell script that accepts three digits number as argument as wel as from keyboard and check whether the number is Armstrong or not. Student shall be able to apply knowledge of commands to develop shell script. Pre-requisite Purpose and syntax of all commands as well as different shell script constructs. Duration for completion PEO(s) to be achieved PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO6: Ablitty to use the techniques, skills and modern tools as necessary for software development. CO3: Understand an use Shell features of redirection, pipe, grouping commands, joining commands and running jobs. CO4: Develop, debug & execute Shell script to carry out routine task. Solution must contain Nature of submission References for solving the problem i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Das S., UNIX Concepts and Applications, McGraw Hill Post Laboratory 1. What is shell script? 2. How will you take input from user in shell script? 3. What is the difference between using if statement for numeric and string values? Assessment Solution achieves the desired Viva objective(s) Out of Marks Secured by the student Signature Date	Practical No : 16	Enrollment No:	Group : <u>C</u>		
Student shall be able to apply knowledge of commands to develop shell script.	Practical Problem	Write a shell script that accepts three	digits number as argument as well		
Script.		as from keyboard and check whether the number is Armstrong or not.			
Purpose and syntax of all commands as well as different shell script constructs. Duration for completion 1 Hour	Objective(s)	Student shall be able to apply knowle	dge of commands to develop shell		
Duration for completion 1 Hour		•			
Duration for completion 1 Hour	Pre-requisite	Purpose and syntax of all commands	as well as different shell script		
PEO(s) to be achieved PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO3: Understand an use Shell features of redirection, pipe, grouping commands, joining commands and running jobs. CO4: Develop, debug & execute Shell script to carry out routine task. Solution must contain Shell script code & output. Nature of submission References for solving the problem Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Das S., UNIX Concepts and Applications, McGraw Hill Post Laboratory		constructs.			
application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO(s) to be achieved CO3: Understand an use Shell features of redirection, pipe, grouping commands, joining commands and running jobs. CO4: Develop, debug & execute Shell script to carry out routine task. Solution must contain Shell script code & output. Handwritten Book: i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Das S., UNIX Concepts and Applications, McGraw Hill Post Laboratory questions 2. How will you take input from user in shell script? 3. What is the difference between using if statement for numeric and string values? Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature	Duration for completion	1 Hour			
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3. What is the difference between using if statement for numeric and string values? Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature	Post Laboratory	·			
Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature	questions	, , , ,	•		
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Secured by the student Signature	Out of Mank	• • • • • • • • • • • • • • • • • • • •	_		
Signature		10	5		
Date	Signature				
	Date				

Practical No : 17	Enrollment No:	Group : <u>C</u>	
Practical Problem	Write shell script that count number	of regular files under current	
	directory.		
Objective(s)	Student shall understand use of differ	rent operators used in shell script.	
Pre-requisite	Purpose and syntax of commands & c	lifferent shell script constructs.	
Duration for completion	1 Hour		
PEO(s) to be achieved	PEO1: To provide sound foundation in the		
	application along with analytical, problen	n-solving, design and communication	
	skill for life-long learning in chosen field.		
	PEO2 : To provide quality practical skill of	tools and tachnologies to solve	
	industry problems.	tools and technologies to solve	
PO(s) to be achieved	PO6 : Ability to use the techniques, skills a	and modern tools as necessary for	
. ,	software development.		
CO(s) to be achieved	CO3: Understand an use Shell features of		
	commands, joining commands and running jobs.		
Solution must contain	CO4: Develop, debug & execute Shell script to carry out routine task.		
	Shell script code & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,		
	Thomson		
5	ii. Das S., UNIX Concepts and Ap		
Post Laboratory	What are different types of file operators?		
questions	2. What are positional parameters?		
	3. What is the purpose of let command?		
	Assessment Solution achieves the desired	Viva	
	objective(s)	Viva	
Out of Marks	10	5	
Secured by the student	10		
Signature			
Date			

Practical No : 18	Enrollment No <u>:</u>		Group : <u>C</u>	
Practical Problem	Write a shell script to input a number	and display	following pattern up	
	to inputted number.			
	If inputted number is 5 then pattern v	vill be:		
	Α			
	A B			
	ABC			
	ABCD			
Objective (a)	A B C D E			
Objective(s)	Student shall understand use of differ			
Pre-requisite	Purpose and syntax different shell scr	ipt construc	ts.	
Duration for completion	1 Hour			
PEO(s) to be achieved	PEO1 : To provide sound foundation in the			
	application along with analytical, problen skill for life-long learning in chosen field.	n-solving, des	ign and communication	
	skiii toi ille-totig learning ili chosen neid.			
	PEO2: To provide quality practical skill of	tools and tec	hnologies to solve	
	industry problems.			
PO(s) to be achieved	PO6: Ability to use the techniques, skills a	nd modern to	ools as necessary for	
	software development.			
CO(s) to be achieved	CO3: Understand an use Shell features of redirection, pipe, grouping			
	commands, joining commands and			
Solution must contain	CO4: Develop, debug & execute Shell script to carry out routine task. Shell script code & output.			
Nature of submission	• •			
	Handwritten			
References for solving	Book:	LINIIV and Ch	all Dua ana manain a	
the problem	i. Forouzan B. A., Gilberg R. R., Thomson	ONIX and Sh	eli Programming,	
	ii. Das S., UNIX Concepts and Ap	unlications N	AcGraw Hill	
Post Laboratory	1. What is a loop?	plications, i	vicoraw riiii	
questions	 what is a loop? What are different types of looping constructs? 			
questions	3. What is the difference between while loop & until loop ?			
	4. What is the difference between List controlled loop & Command			
	controlled loop?			
	Assessment			
	Solution achieves the desired		Viva	
	objective(s)			
Out of Marks	10		5	
Secured by the student				
Signature				
Date				

Practical No : 19	Enrolli	ment No <u>:</u>		Group : <u>C</u>	
Practical Problem	Write s	hell script that accept a filenar	ne as argum	ent and display the	
	size if t	he file exists and suitable mess	age if it doe	sn't.	
Objective(s)	Studen	t shall understand use of comr	nands inside	shell script and file	
	operations.				
Pre-requisite	Purpos	Purpose and syntax of all commands as well as different shell script			
	constru	constructs.			
Duration for completion	1 Hour				
PEO(s) to be achieved		o provide sound foundation in the		•	
		ion along with analytical, problen	n-solving, des	ign and communication	
	skill for	life-long learning in chosen field.			
	DE02 T				
		o provide quality practical skill of problems.	tools and tec	nnologies to solve	
PO(s) to be achieved	·	pility to use the techniques, skills a	ınd modern t	ools as necessary for	
		software development.			
CO(s) to be achieved		nderstand an use Shell features of		pipe, grouping	
		commands, joining commands and running jobs.			
Solution must contain	1	CO4: Develop, debug & execute Shell script to carry out routine task.			
		Shell script code & output.			
Nature of submission		Handwritten			
References for solving		Book:			
the problem	i.	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,			
		Thomson	uliaatiama N	AcCross Hill	
Dont Labourtous		Das S., UNIX Concepts and Ap	-		
Post Laboratory		How will you sort files accord		ication time?	
questions	2. What is argument validation?3. What is the purpose of shift command?				
	4. What is the use of \$@ and \$* parameters?				
	Assessment				
	Solution achieves the desired Viva				
		objective(s)			
Out of Marks		10		5	
Secured by the student					
Signature					
Date					

Practical No : 20	Enroll	ment No <u>:</u>		Group : <u>C</u>
Practical Problem	Write menu script which will execute following command as per user's			
	choice: Is -I, date , ps, who, pwd & exit.			
Objective(s)	Studer	it shall understand use of case	and select lo	oop constructs.
Pre-requisite	Usage	of commands inside shell scrip	t.	
Duration for completion	1 Hour	,		
PEO(s) to be achieved	applica skill for	PEO1 : To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field.		
		o provide quality practical skill of problems.	tools and tec	innologies to solve
PO(s) to be achieved	PO6: Al	pility to use the techniques, skills a re development.	and modern t	ools as necessary for
CO(s) to be achieved	CO3: Understand an use Shell features of redirection, pipe, grouping commands, joining commands and running jobs. CO4: Develop, debug & execute Shell script to carry out routine task.			
Solution must contain	Shell script code & output.			
Nature of submission	Handwritten			
References for solving	Book:			
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,Thomsonii. Das S., UNIX Concepts and Applications, McGraw Hill			
Post Laboratory	1. Which construct is used to perform multi-way selection?			
questions	2. What is the syntax of select loop ?		,	
•	3. What is the use of \$# and \$0 parameters?			
Assessment				
	Solution achieves the desired Viva objective(s)			
Out of Marks		10		5
Secured by the student				
Signature				
Date				

Practical No : 1	Enrollment No <u>:</u>	Group : <u>D</u>	
Practical Problem	Write a <i>date</i> command to display date in following format:		
	(Consider current date as 4 th January 2014)		
	1. mon dd, yyyy hh:mm: ss		
	2. Date of previous month from	today is: 12/04/13.	
	3. 01/04/14 04 01 201	4	
	15:40:07 15 40 07		
	4. 2013-12-31		
211 11 12	Sun Feb 02 2014 10:38:04 AM		
Objective(s)	Students will be able to learn <i>date</i> co	•	
Pre-requisite	Use putty software to run commands	& usage of date command.	
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in	•	
	application along with analytical, prol	<u> </u>	
	communication skill for life-long learr	ning in chosen field.	
	PEG3. To muchide available and alti		
	PEO2 : To provide quality practical skill industry problems.	of tools and technologies to solve	
PO(s) to be achieved	PO6 : Ability to use the techniques, sk	ills and modern tools as necessary	
PO(S) to be achieved	for software development.	ills and modern tools as necessary	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.		
CO(3) to be defined a	CO2 : Understand and use utilities to		
	environment.		
Solution must contain	Command & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R.,	UNIX and Shell Programming,	
	Thomson		
	ii. Das S., UNIX aoncepts and Ap	plications, McGraw Hill	
Post Laboratory	1. What is the syntax of date command?		
questions	2. List out different options of date command.		
	3. List out different formats of date command.		
	4. How can you display date after 10 months from today?		
Assessment			
	Solution achieves the desired	Viva	
	objective(s)	_	
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Practical Problem Write a cal command to do following: 1. Display Monday as the first day of the week. 2. Displays the calendar of April, May and June of year 2013. Objective(s) Students will be able to learn cal command with options. Pre-requisite Use putty software to run commands & usage of cal command. 30 minutes PEO(s) to be achieved PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO(s) to be achieved CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment. Solution must contain Nature of submission References for solving the problem I. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory questions I. Solution achieves the desired of cal command. 3. List two different ways to display calendar of current month. 4. How can you display calendar of year 1800? Assessment Solution achieves the desired objective(s) Out of Marks Secured by the student Signature Date	Practical No : 2	Enroll	ment No <u>:</u>	Group : <u>D</u>
2. Displays the calendar of April, May and June of year 2013. Objective(s) Students will be able to learn cal command with options. Pre-requisite Use putty software to run commands & usage of cal command. Duration for completion 30 minutes PEO(s) to be achieved PEO2: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO(s) to be achieved PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO2: Understand and use utilities to work with LINUX/UNIX environment. Solution must contain Command & output. Nature of submission Handwritten References for solving the problem i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory 1. What is the syntax of cal command? Questions 1. List two different ways to display calendar of current month. 4. How can you display calendar of year 1800? Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature	Practical Problem	Write a <i>cal</i> command to do following:		
Students will be able to learn cal command with options.		, , , , , , , , , , , , , , , , , , , ,		
Disaction for completion So minutes				• •
Duration for completion PEO(s) to be achieved PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO(s) to be achieved CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment. Solution must contain Nature of submission References for solving the problem i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory questions 1. What is the syntax of cal command? 2. List out different ways to display calendar of current month. 4. How can you display calendar of year 1800? Assessment Solution achieves the desired objective(s) Out of Marks 10 Secured by the student Signature	Objective(s)	Studen	ts will be able to learn <i>cal</i> com	mand with options.
PEO(s) to be achieved PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO(s) to be achieved CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment. Solution must contain Nature of submission References for solving the problem Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory questions 1. What is the syntax of cal command? 2. List out different options of cal command. 3. List two different ways to display calendar of current month. 4. How can you display calendar of year 1800? Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature	•	Use pu	tty software to run commands	& usage of <i>cal</i> command.
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CO(s) to be achieved CO2: Understand and use utilities to work with LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment. Solution must contain Command & output. Handwritten Book: i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory questions 1. What is the syntax of cal command? 2. List out different options of cal command. 3. List two different ways to display calendar of current month. 4. How can you display calendar of year 1800? Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature	PO(s) to be achieved			ills and modern tools as necessary
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Thomson ii. Das S., UNIX aoncepts and Applications, McGraw Hill Post Laboratory questions 1. What is the syntax of cal command? 2. List out different options of cal command. 3. List two different ways to display calendar of current month. 4. How can you display calendar of year 1800? Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature		Book:		
ii. Das S., UNIX aoncepts and Applications, McGraw Hill 1. What is the syntax of cal command? 2. List out different options of cal command. 3. List two different ways to display calendar of current month. 4. How can you display calendar of year 1800? Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature	the problem	i.		UNIX and Shell Programming,
Post Laboratory questions 1. What is the syntax of cal command? 2. List out different options of cal command. 3. List two different ways to display calendar of current month. 4. How can you display calendar of year 1800? Assessment Solution achieves the desired objective(s) Out of Marks Secured by the student Signature				
questions 2. List out different options of cal command. 3. List two different ways to display calendar of current month. 4. How can you display calendar of year 1800? Assessment Solution achieves the desired objective(s) Out of Marks Secured by the student Signature 5. List out different options of cal command. 3. List two different ways to display calendar of current month. 4. How can you display calendar of year 1800? Assessment Solution achieves the desired objective(s) 5. Secured by the student	Doct Laboratory			•
3. List two different ways to display calendar of current month. 4. How can you display calendar of year 1800? Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature	•	· · · · · · · · · · · · · · · · · · ·		
4. How can you display calendar of year 1800? Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature	questions			
Assessment Solution achieves the desired objective(s) Out of Marks 10 5 Secured by the student Signature		· · · · · · · · · · · · · · · · · · ·		
Out of Marks 10 5 Secured by the student Signature				
Out of Marks 10 5 Secured by the student Signature		Solution achieves the desired Viva		
Secured by the student Signature		<u> </u>	objective(s)	
Signature			10	5
	•			
Date	Signature	İ		
	Date			

Practical No : 3	Enrollment No:	Group : <u>D</u>	
Practical Problem	Solve following using <i>echo</i> command:		
	 Write the output of a command: echo *.txt 		
	2. Write an interpretation of a command: echo -e "Welcome to the		
211 11 12	LINUX \rworld."		
Objective(s)	Student shall learn <i>echo</i> command with		
Pre-requisite	Use putty software to run commands,	usage of <i>echo</i> command &	
	meaning of back quote (``) character.		
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in	•	
	application along with analytical, probl	<u> </u>	
	communication skill for life-long learni	ng in chosen field.	
	PEO2: To provide quality practical skill	of tools and technologies to solve	
	industry problems.	of tools and technologies to solve	
PO(s) to be achieved	PO6 : Ability to use the techniques, skill	ls and modern tools as necessary	
	for software development.	,	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environmen		
	CO2: Understand and use utilities to work with LINUX/UNIX		
	environment.		
Solution must contain	Command, output & interpretation.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., U	NIX and Shell Programming,	
	Thomson		
Doct I abovetow.	ii. Das S., UNIX aoncepts and App		
Post Laboratory	1. What is the syntax of echo command?		
questions	 List out different options of echo command. List out different types of escape sequences of echo command. 		
	3. List out different types of escape sequences of echo command.4. How can you remove effect of escape sequence to be printed in		
	output?		
Assessment			
	Solution achieves the desired	Viva	
	objective(s)		
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Practical No : 4	Enrollment No:	Group : <u>D</u>	
Practical Problem	Write bc command for following:		
	1. To eveluate "5/2" with and without decimal places.		
	2. To convert 2A from hexadecimal to decimal.		
		s not contains decimal places, print	
	"Float" otherwise.		
	(Use if statement, store value		
	4. To print first 5 even numbers		
Objective(s)	Student shall learn bc command with	<u>'</u>	
Pre-requisite	Usage of bc command, use of 'banch	calculator' in interactive mode.	
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in	·	
	application along with analytical, prol		
	communication skill for life-long learr	ning in chosen field.	
	DECO. To many idea and literature etical alii		
	PEO2 : To provide quality practical skill industry problems.	i of tools and technologies to solve	
PO(s) to be achieved	, ,	ills and modern tools as necessary	
PO(S) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary for software development.		
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.		
	CO2: Understand and use utilities to	work with LINUX/UNIX	
	environment.		
Solution must contain	Command & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R.,	UNIX and Shell Programming,	
	Thomson		
	ii. Das S., UNIX aoncepts and Ap	plications, McGraw Hill	
Post Laboratory	1. What is the purpose of bc command?		
questions	2. Give two full forms of "bc"?		
	3. What is the syntax of bc command.		
	4. How can you use loops in bc calculator?		
Assessment			
	Solution achieves the desired	Viva	
	objective(s)		
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Practical No : 5	Enrollment No <u>:</u>	Group : <u>D</u>	
Practical Problem	Write output and interpretation of following commands:		
	1. echo "length(123456)" bc		
	2. echo "(2+3)*4" bc		
Objective(s)	Student shall be able to get an idea of	f using bc command with piping	
	mechanism.		
Pre-requisite	Usage of <i>echo</i> command and pipe.		
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in	· · · · · · · · · · · · · · · · · · ·	
	application along with analytical, prol		
	communication skill for life-long learr	ning in chosen field.	
	PEGS To the College of the College o	Waster day and the development of the second	
	PEO2 : To provide quality practical skill industry problems	ii of tools and technologies to solve	
PO(s) to be achieved	industry problems. PO6 : Ability to use the techniques, sk	ills and modern tools as necessary	
PO(S) to be achieved	for software development.	ilis and modern tools as necessary	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environme	ent and its need.	
00(0) 10 20 40	CO2: Understand and use utilities to work with LINUX/UNIX		
	environment.		
Solution must contain	Command & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,		
	Thomson		
	ii. Das S., UNIX aoncepts and Ap	pplications, McGraw Hill	
Post Laboratory	1. What is pipe ?		
questions	2. What are the different types of operator used in bc command?		
	3. In which order expressions are evaluated?		
	4. How can you use file in bc command?		
	Assessment		
	Solution achieves the desired	Viva	
0.1.100.1.	objective(s)	_	
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Practical No : 6	Enrollment No:	Group : <u>D</u>	
Practical Problem	Write <i>Is</i> command for following:		
	 List only directories name from current directories. 		
	2. List filenames with their inode numbers.		
Objective(s)	Student shall learn <i>Is</i> command with o	options.	
Pre-requisite	Usage of <i>Is</i> command, meaning of all	options.	
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in	•	
	application along with analytical, prol	Ç. Ç	
	communication skill for life-long learr	ning in chosen field.	
	PEO2: To provide quality practical skil	l of tools and technologies to solve	
	industry problems.		
PO(s) to be achieved	PO6: Ability to use the techniques, sk	ills and modern tools as necessary	
	for software development.		
CO(s) to be achieved	CO1: Study of LINUX/UNIX environme		
	CO2: Understand and use utilities to	work with LINUX/UNIX	
	environment.		
Solution must contain	Command & output.		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R.,	UNIX and Shell Programming,	
	Thomson		
5	ii. Das S., UNIX aoncepts and Applications, McGraw Hill		
Post Laboratory	1. What is the syntax of Is command?		
questions	2. List out different options of Is command.		
	3. Which fields are displayed in output of " Is –I" command?		
	4. What are the hidden files? Assessment		
	Solution achieves the desired Viva		
	objective(s)	VIVA	
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Practical No : 7	Enrollment No <u>:</u>	Group : <u>D</u>	
Practical Problem	Write <i>Is</i> & <i>echo</i> command to display following list of files:		
	File names :		
	1. Having only digits.		
	2. Having at least one alphabet in name.		
	Having any extensions.		
	4. Last character must be digit.		
Objective(s)	Student shall understand meaning of	each patterns & effective use of	
	them to match files in group.		
Pre-requisite	Usage of <i>Is</i> & <i>echo</i> command and me	aning of different meta characters.	
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in	•	
	application along with analytical, prol		
	communication skill for life-long learr	ing in chosen field.	
	BEO2: To provide quality practical ski	l of tools and tachnologies to solve	
	PEO2 : To provide quality practical skill of tools and technologies to solve industry problems.		
PO(s) to be achieved	PO6 : Ability to use the techniques, sk	ills and modern tools as necessary	
1 O(3) to be achieved	for software development.	ins and modern tools as necessary	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.		
00(0) 10 20 40	CO2 : Understand and use utilities to		
	environment.		
Solution must contain	Command & output		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,		
	Thomson		
	ii. Das S., UNIX aoncepts and Applications, McGraw Hill		
Post Laboratory	1. What are meta characters?		
questions	2. List out different meta characters.		
	3. What will be the effect of " rm *" command?		
Assessment			
	Solution achieves the desired	Viva	
	objective(s)	_	
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Practical No : 8	Enrollment No:	Group : <u>D</u>	
Practical Problem	Write <i>chmod</i> command for following rwx triplets using <u>symbolic code</u> &		
	octal value:		
	ixx		
	ii. rwxrwx		
	iiiw-rwxrwx		
	iv. rx		
Objective(s)	Student shall understand use of <i>chmo</i>		
	revoking of permissions to files as we		
	code and octal values for user, group		
Pre-requisite	Usage of <i>chmod</i> command and mean	ing of all set of permissions.	
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1 : To provide sound foundation in	•	
	application along with analytical, prol		
	communication skill for life-long learr	ing in chosen field.	
	PEO2 : To provide quality practical skil	I of tools and tachnologies to solve	
	industry problems.	if of tools and technologies to solve	
PO(s) to be achieved	PO6 : Ability to use the techniques, sk	ills and modern tools as necessary	
1 O(5) to be defined a	for software development.	inis and modern tools as necessary	
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need.		
	CO2: Understand and use utilities to	work with LINUX/UNIX	
	environment.		
Solution must contain	Command & rwx triplets		
Nature of submission	Handwritten		
References for solving	Book:		
the problem	i. Forouzan B. A., Gilberg R. R.,	UNIX and Shell Programming,	
	Thomson		
	ii. Muster J., UNIX made easy, N		
Post Laboratory	 What is the syntax of chmod 		
questions	List out different symbolic codes with their meaning.		
	3. List out different octal values with permissions.		
	4. What is the difference between use of symbolic code & octal		
	values for granting/revoking permissions?		
	Assessment	\rac{1}{2}	
	Solution achieves the desired objective(s)	Viva	
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Practical No : 9	Enrollment No:	Group : <u>D</u>	
Practical Problem	Write rwx triplets based on following command:		
	i. \$chmod 607 Linux.txt		
	ii. \$chmod a-rwx Linux.txt		
	iii. \$chmod +rwx Linux.txt		
	iv. \$chmod -w+x Linux.txt		
Objective(s)	·	of converting particular permission	
	into rwx triplets for file.		
Pre-requisite	Usage of <i>chmod</i> command and me	eaning of all set of permissions.	
Duration for completion	30 minutes		
PEO(s) to be achieved	PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve		
	industry problems.		
PO(s) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary for software development.		
CO(s) to be achieved	CO1: Study of LINUX/UNIX environment and its need. CO2: Understand and use utilities to work with LINUX/UNIX environment.		
Solution must contain	Command & rwx triplets		
Nature of submission	Handwritten		
References for solving the	Book:		
problem		R., UNIX and Shell Programming, y, McGraw Hill	
Post Laboratory questions	List available permissions for file and directory?		
	2. List available operations for granting & revoking permissions.		
	3. List different users' categories.		
	Assessment		
	Solution achieves the desired	Viva	
	objective(s)		
Out of Marks	10	5	
Secured by the student			
Signature			
Date			

Practical No : 10	Enrollment No <u>:</u>	Group : <u>D</u>		
Practical Problem	Write rwx triplets based on following command:			
	i. \$chmod u=rx,g=x,o= mscit			
	ii. \$chmod -r mscit			
	iii. \$chmod +x mscit			
Objective(s)	Student shall understand concept of o	converting particular permission		
	into rwx triplets for directory.			
Pre-requisite	Usage of <i>chmod</i> command and mean	ing of all set of permissions.		
Duration for completion	30 minutes			
PEO(s) to be achieved	PEO1 : To provide sound foundation in			
	application along with analytical, prol	<u> </u>		
	communication skill for life-long learning in chosen field.			
	PEO2: To provide quality practical skil	l of tools and technologies to solve		
DO/s) to be a different	industry problems.			
PO(s) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary			
CO(s) to be achieved	for software development. CO1 : Study of LINUX/UNIX environment and its need.			
CO(s) to be achieved	CO2 : Understand and use utilities to			
	environment.	WOLK WICH EINON, ONLY		
Solution must contain	Command & rwx triplets.			
Nature of submission	Handwritten			
References for solving	Book:			
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,			
and problem	Thomson			
	ii. Muster J., UNIX made easy, N	1cGraw Hill		
Post Laboratory	1. What are the three levels of security in LINUX?			
questions	2. What permission is needed in directory to list the content of a			
•	directory?			
	3. What type of permission is needed to delete a file from a			
	directory?			
	4. What permission is needed in directory so that owner of a			
	directory can copy a file into that directory?			
	Assessment	1		
	Solution achieves the desired	Viva		
Out of Moules	objective(s)			
Out of Marks	10	5		
Secured by the student Signature				
Signature				
Date				

Practical No : 11	Enrollment No <u>:</u>	Group : <u>D</u>		
Practical Problem	User issues the following umask command. Write an rwx triplets for all			
	files and directories created after this command.			
	i. \$umask 777			
	ii. \$umask 000			
	iii. \$umask 3			
	iv. \$umask 441			
	v. \$umask 676			
Objective(s)	vi. \$umask 333 Student shall understand use of <i>umask</i> command for setting default			
Objective(3)	permissions for files as well as directories & convert it into rwx triplets .			
Pre-requisite	Usage of <i>umask</i> command and meaning of all set of permissions.			
Duration for completion	1 Hour	ing of all set of permissions.		
•		a tha fundamentals of commutae		
PEO(s) to be achieved	PEO1 : To provide sound foundation in application along with analytical, prol	•		
	communication skill for life-long learning in chosen field.			
	PEO2: To provide quality practical ski	II of tools and technologies to solve		
	industry problems.			
PO(s) to be achieved	PO6: Ability to use the techniques, skills and modern tools as necessary			
	for software development.			
CO(s) to be achieved	CO1: Study of LINUX/UNIX environme			
	CO2 : Understand and use utilities to	work with LINUX/UNIX		
	environment.			
Solution must contain	Command & rwx triplets. Handwritten			
Nature of submission				
References for solving	Book:			
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,			
	Thomson ii Muster I LINIX made easy McCraw Hill			
Doct Laboratory	ii. Muster J., UNIX made easy, McGraw Hill			
Post Laboratory	1. What is the syntax of umask command?			
questions	2. What is the difference between use of chmod & umask command for granting and revoking permissions?			
	3. What is the system default permission for file? Write rwx triplets			
	as well as octal code for the same.			
	4. What is the system default permission for directory? Write rwx			
	triplets as well as octal code for the same.			
	Assessment			
	Solution achieves the desired	Viva		
Out of Marks	objective(s)	F		
Out of Marks Secured by the student	10	5		
Signature				
Date				
<u> </u>				

Practical No : 12	Enrollment No <u>:</u>	Group : <u>D</u>		
Practical Problem	i. Write command to send your cu	rrent process in background.		
	ii. Write a command to bring lastly suspended job in forground.			
	iii. Write command that bring secon	nd job from background to		
	foreground.	attention table to the Pre-		
	iv. Write two different ways to tern	-		
	v. What will be the effect of following command?			
	A. \$fg B. \$fg %%			
	vi. What will be the output of ps command? Describe all columns in			
	brief.			
	vii. What will be the output of jobs command? Give detailed of all			
	columns.			
Objective(s)	Student shall understand use of Job S			
Pre-requisite	Usage and concept of job scheduling commands.			
Duration for completion	1 Hour			
PEO(s) to be achieved	PEO1 : To provide sound foundation in the fundamentals of computer			
	application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field.			
	Communication skill for life-long learn	ing in chosen heid.		
	PEO2: To provide quality practical ski	II of tools and technologies to solve		
	industry problems.	G		
PO(s) to be achieved	PO6 : Ability to use the techniques, sk	ills and modern tools as necessary		
	for software development.			
CO(s) to be achieved	CO1 : Study of LINUX/UNIX environme CO2 : Understand and use utilities to			
	environment.	WOLK WITH THOSE ONLY		
Solution must contain	Command, output & description.			
Nature of submission	Handwritten			
References for solving	Book:			
the problem	Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson			
Post Laboratory	1. What is foreground job?			
questions	2. What is background job?			
	3. What is the meaning of "+"(plus) and "-(minus)" sign in output			
	of "jobs" command?			
	4. What are the six different sta	tes of Job?		
	Assessment Solution achieves the desired	Viva		
	objective(s)	viva		
Out of Marks	10	5		
Secured by the student				
Signature				
Date				

,		id and figurith staring combining			
		1 and f1 with staring as a hinir -			
I		A. Display contents of two files f1 and f2 with storing combining			
l i	contents in file f3				
	•	mand in file f1, if file f1 is already			
	exist otherwise store error message into e1 file.				
l l	ii. What will be interpretation of following command? Write with				
-	output or errors if possible:				
	A. wc < sample > nsample				
	B. cat f* > sample 2>esample				
	C. cat sample wc wc –l				
	O. cat sample 2> /dev/null	a like radirection nining special			
• • • • • • • • • • • • • • • • • • • •	ent shall understand Shell featur tee command etc.	e like, redirection, piping, special			
	ge of redirection and piping.				
Duration for completion 1 Ho					
_ \ - /	PEO1 : To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication				
	skill for life-long learning in chosen field.				
JKIII I	or the long learning in chosen held.				
PEO2	2: To provide quality practical skill of	tools and technologies to solve			
	stry problems.				
· ,	Ability to use the techniques, skills a	and modern tools as necessary for			
	vare development.				
	Understand and use Shell features of				
-	mands, joining commands and running	ng Jobs.			
	Command, output & description. Handwritten				
References for solving Book					
the problem V.	Forouzan B. A., Gilberg R. R.,	UNIX and Shell Programming,			
	Thomson	all and the control MacControl Hill			
Vi.	Das S., UNIX Concepts and Ap	plications, McGraw Hill			
Post Laboratory vi.	What is Redirection ?				
4465415115	vii. What is trash file?				
	viii. What is terminal file ? ix. What is the purpose of tee command?				
1.	Assessment	.ommunu:			
	olution achieves the desired	Viva			
	objective(s)	Viva			
Out of Marks	10	5			
Secured by the student					
Signature					
Date					

Practical No : 14	Enrollment No <u>:</u>	Group : <u>D</u>			
Practical Problem	What does after executing following	commands?			
	(Output or error, describe it properly.)				
	i. echo \\\\\b				
	ii. echo "This is My 'Birth date'"				
	iii. echo \$!	·			
	iv. x="f1 > f2"				
	cat \$				
	v. A="Is –I"				
	B=A				
	echo \$\$B				
	echo \\$\$B				
	eval \\$\$B				
Objective(s)	Student shall understand use of varia	bles, command execution,			
	command substitution, <i>eval</i> comman	d, etc.			
Pre-requisite	Usage of job scheduling commands.				
Duration for completion	1 Hour				
PEO(s) to be achieved	PEO1 : To provide sound foundation in the fundamentals of computer				
	application along with analytical, problem-solving, design and communication				
	skill for life-long learning in chosen field.				
	PEO2: To provide quality practical skill of	tools and technologies to solve			
DO(a) to be a shipped	industry problems.	and modern tools as necessary for			
PO(s) to be achieved	PO6 : Ability to use the techniques, skills a software development.	and modern tools as necessary for			
CO(s) to be achieved	CO3: Understand and use Shell features of	of redirection, pipe, grouping			
00(0) 10 20 40	commands, joining commands and running				
Solution must contain	Command, output & description.				
Nature of submission	Handwritten				
References for solving	Book:				
the problem	i. Forouzan B. A., Gilberg R. R.,	UNIX and Shell Programming,			
·	Thomson				
	ii. Das S., UNIX Concepts and Ap	plications, McGraw Hill			
Post Laboratory	i. What are rules for defining variable in LINUX?				
questions	ii. What is command substitution?				
	iii. What are different types of command execution?				
	iv. What is the purpose of eval command?				
	Assessment				
	Solution achieves the desired	Viva			
	objective(s)				
Out of Marks	10	5			
Secured by the student					
Signature					
Date					

Practical No : 15	Enrollment No <u>:</u>	Group:		
Practical Problem	(next page)			
Objective(s)	Students will be able to understand the	ne concept of Filtering utilities.		
Pre-requisite	Concepts of redirection, piping & com	mands like head, tail, cut, paste,		
	uniq, sort, tr etc.			
Duration for completion	90 minutes			
PEO(s) to be achieved	PEO1 : To provide sound foundation in	the fundamentals of computer		
	application along with analytical, prol	Ç. Ç		
	communication skill for life-long learning in chosen field.			
	PEO2 : To provide quality practical skill of tools and technologies to solve			
PO(s) to be achieved	industry problems. PO6 : Ability to use the techniques, skills and modern tools as necessary			
PO(5) to be achieved	for software development.			
CO(s) to be achieved	CO3: Understand and use Shell features of redirection, pipe, grouping			
(1)	commands, joining commands and running jobs.			
Solution must contain	Command, output & interpretation if asked.			
Nature of submission	Handwritten			
References for solving	Book:			
the problem	ix. Forouzan B. A., Gilberg R. R.,	UNIX and Shell Programming,		
	Thomson			
	x. Das S., UNIX aoncepts and Applications, McGraw Hill			
Post Laboratory	18. What is the purpose of tr command?			
questions	19. List out different options of uniq command.			
	20. List out different formats of sort command.			
	21. How can we remove multiple blanks from a file? Assessment			
	Solution achieves the desired	Viva		
	objective(s)	viva		
Out of Marks	10	5		
Secured by the student				
Signature				
Date				

Definition:

- Create file "ABC.txt" and "PQR.txt" with at least 10 lines. Apply following on them.
- 1. Write a command to store contents of file "ABC.txt" and "PQR.txt" into file "New.txt".
- 2. Write command for following:
 - s. Display first 3 lines.
 - t. Display last 7 lines.
 - u. Display all lines rather than last 1 line.
 - v. Display lines from 6 to 10.
 - w. Display last to 3rd line.
 - x. Display only second line.
- 3. Write command to translate all capital characters into small characters and vice versa in file "ABC.txt".
- 4. Sort long listing of current directory by "size" column in ascending order.
- 5. Lists the five largest files in the current directory.
- 6. How these two commands are similar and different?
 - \$ Sort -u "Abc.txt"
 - \$ uniq "Abc.txt"
- 7. Extract the name of only user from file /etc/passwd.
- 8. Write command to count total number of words from file without using wc command.
- 9. Write sort command to sort long listing of current directories firstly name wise and secondly their size wise using single **sort** command.
- 10. Write command to extract second and third fields from file PQR.txt vertically.
- 11. Write command to concatenate two file name ABC.txt and PQR.txt vertically.
- 12. Write command to merge two sorted file in single file.
- 13. What happen with following commands? Give comments on interpretation of following commands.
 - \$ tr "AB" "BA" < myfile
 - \$ cat myfile
- 14. What happen with following commands? Give comments on interpretation of following commands.
 - \$ tr '[a-z]' '[A-Z]' < file1
- 15. What happen with following commands? Give comments on interpretation of following commands.
 - \$ tr -s ' ' < file1
- 16. What happen with following commands? Give comments on interpretation of following commands.
 - \$ tr -cd '[a-zA-Z]' < file1
- 17. Write command to add today's date and time to the end of a given file.

Practical No : 16	Enroll	ment No <u>:</u>		Group : <u>D</u>	
Practical Problem	Write a shell script that accepts three digits number as an argument as				
	well as from keyboard and display reverse of it.				
Objective(s)	Studen	t shall be able to apply knowle	dge of com	mands to develop shell	
	script.				
Pre-requisite	Purpos	Purpose and syntax of all commands as well as different shell script			
	constructs.				
Duration for completion	1 Hour				
PEO(s) to be achieved		o provide sound foundation in the		•	
		application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field.			
	PEO2 : To provide quality practical skill of tools and technologies to solve industry problems.				
PO(s) to be achieved	PO6: Ability to use the techniques, skills and modern tools as necessary for				
	software development.				
CO(s) to be achieved	CO3: Understand an use Shell features of redirection, pipe, grouping commands, joining commands and running jobs.				
		ommands, joining commands and evelop, debug & execute Shell scri			
Solution must contain		Shell script code & output.			
Nature of submission		Handwritten			
References for solving	Book:				
the problem	i.	Forouzan B. A., Gilberg R. R.,	UNIX and Sh	nell Programming,	
p		Thomson			
	ii. Das S., UNIX Concepts and Applications, McGraw Hill			McGraw Hill	
Post Laboratory	1.	1. What is shell script?			
questions	How will you take input from user in shell script?		•		
	3. What is the difference between using if statement for numeric				
		and string values?			
		Assessment			
	Solu	ution achieves the desired		Viva	
Out of Manual		objective(s)			
Out of Marks		10		5	
Secured by the student					
Signature					
Date					

Practical No : 17	Enrollment No:			Group : <u>D</u>
Practical Problem	Write shell script tha	t count number o	of hidden an	d directory files under
	current directory.			
Objective(s)	Student shall unders	tand use of differ	rent operato	ors used in shell script.
Pre-requisite	Purpose and syntax of	of commands & d	lifferent she	Il script constructs.
Duration for completion	1 Hour			
PEO(s) to be achieved	PEO1: To provide soun			•
			n-solving, des	ign and communication
	skill for life-long learning in chosen field.			
	PEO2 : To provide quality practical skill of tools and technologies to solve			
	industry problems.			
PO(s) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary for			
	software development.			
CO(s) to be achieved	CO3: Understand an use Shell features of redirection, pipe, grouping			
	commands, joining commands and running jobs. CO4: Develop, debug & execute Shell script to carry out routine task.			
Solution must contain	Shell script code & output.			
Nature of submission	Handwritten			
References for solving	Book:			
the problem		A., Gilberg R. R.,	UNIX and Sh	ell Programming,
	Thomson	Concents and An	unlications N	AcCrow Hill
Post Laboratory	ii. Das S., UNIX Concepts and Applications, McGraw Hill			
•	 What are different types of file operators? What are positional parameters? 			;
questions	3. What is the purpose of let command?			
	Assessment			
	Solution achieves the desired Viva		Viva	
	objective	e(s)		
Out of Marks	10			5
Secured by the student				
Signature				
Date				

software development. CO(s) to be achieved CO3: Understand an use Shell features of redirection, pipe, grouping commands, joining commands and running jobs. CO4: Develop, debug & execute Shell script to carry out routine task. Solution must contain Shell script code & output.	ир		
If inputted number is 5 then pattern will be: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Objective(s) Student shall understand use of different looping constructs. Pre-requisite Purpose and syntax different shell script constructs. Duration for completion 1 Hour PEO(s) to be achieved PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communical skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems. PO(s) to be achieved PO6: Ability to use the techniques, skills and modern tools as necessary for software development. CO(s) to be achieved CO3: Understand an use Shell features of redirection, pipe, grouping commands, joining commands and running jobs. CO4: Develop, debug & execute Shell script to carry out routine task. Solution must contain Shell script code & output.			
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commands, joining commands and running jobs. CO4: Develop, debug & execute Shell script to carry out routine task. Solution must contain Shell script code & output.	·		
CO4: Develop, debug & execute Shell script to carry out routine task. Solution must contain Shell script code & output.			
Solution must contain Shell script code & output.			
production of the second of th			
	Handwritten		
References for solving Book:			
i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson			
ii. Das S., UNIX Concepts and Applications, McGraw Hill			
Post Laboratory 1. What is a loop?			
questions 2. What are different types of looping constructs?			
3. What is the difference between while loop & until loop ?			
4. What is the difference between List controlled loop & Comr	nand		
conrolled loop?			
Assessment			
Solution achieves the desired Viva			
objective(s)			
Out of Marks 10 5			
Secured by the student			
Signature			
Date			

Practical No : 19	Enrolli	ment No <u>:</u>		Group : <u>D</u>	
Practical Problem	Write s	Write shell script that accept a filename as argument and display group			
	permis	permission if the file exists and suitable message if it doesn't.			
Objective(s)	Studen	t shall understand use of comr	mands inside	e shell script and file	
		operations.			
Pre-requisite	Purpos	e and syntax of all commands	as well as di	fferent shell script	
	constru	ıcts.			
Duration for completion	1 Hour				
PEO(s) to be achieved		o provide sound foundation in the		-	
		ion along with analytical, problen	n-solving, des	ign and communication	
	skill for	life-long learning in chosen field.			
	DEGG: T	a mandala musika seresak salah 190 - 6	4 a a la a :l +	handanina ta celee	
	PEO2 : To provide quality practical skill of tools and technologies to solve industry problems.				
PO(s) to be achieved	·	PO6 : Ability to use the techniques, skills and modern tools as necessary for			
	software development.				
CO(s) to be achieved	CO3: Understand an use Shell features of redirection, pipe, grouping				
		commands, joining commands and running jobs. CO4: Develop, debug & execute Shell script to carry out routine task.			
Solution must contain		Shell script code & output.			
Nature of submission		Handwritten			
References for solving	Book:	5 0 4 6 11 0 0			
the problem	i.	Forouzan B. A., Gilberg R. R.,	UNIX and Sr	iell Programming,	
	Thomson ii. Das S., UNIX Concepts and Applications, McGraw Hill				
Post Laboratory			-		
•	 How will you sort files according to modification time? What is argument validation? 				
questions	2. What is argument validation?3. What is the purpose of shift command?				
	4. What is the use of \$@ and \$* parameters?				
	1	Assessment	1	· ·	
			Viva		
		objective(s)			
Out of Marks		10		5	
Secured by the student					
Signature					
Date					

Practical No : 20	Enrollment No:	Group : <u>D</u>		
Practical Problem	Write menu driven shell script that passed file name as argument and			
	perform following operations as per the user's choice:			
	Display content of a file along with lin			
	file, display line number 10 and 11 fro	*		
Objective(s)	Student shall understand use of case	<u>'</u>		
Pre-requisite	Usage of commands inside shell scrip	t.		
Duration for completion	1 Hour			
PEO(s) to be achieved	PEO1: To provide sound foundation in the fundamentals of computer application along with analytical, problem-solving, design and communication skill for life-long learning in chosen field. PEO2: To provide quality practical skill of tools and technologies to solve industry problems.			
PO(s) to be achieved	PO6 : Ability to use the techniques, skills and modern tools as necessary for software development.			
CO(s) to be achieved	CO3: Understand an use Shell features of redirection, pipe, grouping commands, joining commands and running jobs.			
	CO4: Develop, debug & execute Shell scri	<u> </u>		
Solution must contain	Shell script code & output.			
Nature of submission	Handwritten			
References for solving	Book:			
the problem	i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming,			
•	Thomson			
	ii. Das S., UNIX Concepts and Ap	plications, McGraw Hill		
Post Laboratory	Which construct is used to perform multi-way selection?			
questions	2. What is the syntax of select loop ?			
	3. What is the use of \$# and \$0 parameters?			
	Assessment			
	Solution achieves the desired	Viva		
	objective(s)			
Out of Marks	10	5		
Secured by the student				
Signature				
Date				