S. No	Description	Commands	Expected Output	Remarks	
1	Create Directories			Use mkdir and cd commands	Phase I
2	Create File	echo "Hello World1" > TestFile1	TestFile1 created	In Root Directory	
3	Check opened file	ls -l TestFile1; cat TestFile1	"Hello World1" Text output		
4	Append to an existing file	echo "Hello World2" >> TestFile1	Text Appended		
5	Copy file	cp TestFile1 TestFile2	File copied		
6	Check copied file	ls -l TestFile2; cat TestFile2	Same as TestFile1		
7	Copy one directory below	cp TestFile1 TestDir1/TestFile3	Copied		
8	Check copied file	ls -l TestDir1/TestFile3; cat TestDir1/TestFile3	Same as TestFile1		
9	Create TestFile4	cd TestDir2; echo "Test4" > TestFile4	file created		
10	Check created file	ls -l testFile4; cat TestFile4	"Test4" text output		
11	Create duplicate file	use an editor to create TestFile4	Error Message		
12	Copy File	cp TestFile4 ../TestDir1/TestDir3/TestFile5	File copied		
13	Check copied file	ls -l ../TestDir1/TestDir3/TestFile5; cat ../TestDir1/TestDir3TestFile5	"Test4" text output		
14	Remove a file	rm TestFile4	File removed		
15	Try to remove a nonempty directory	cd ..; rmdir TestDir1	Error Message		
15	Remove an empty directory	rmdir TestDir2	Directory removed		
16	Unmount the file system		FS unmounted		
17	Remount the file system		FS remounted		
18	Check for files	ls -lR	No files	Files not saved	

S. No	Description	Commands	Expected Output	Remarks	
1	Create Directories			Use mkdir and cd commands	Phase 2
2	Create File	echo "Hello World1" > TestFile1	TestFile1 created	In Root Directory	
3	Check opened file	ls -l TestFile1; cat TestFile1	"Hello World1" Text output		
4	Append to an existing file	echo "Hello World2" >> TestFile1	Text Appended		
5	Copy file	cp TestFile1 TestFile2	File copied		
6	Check copied file	ls -l TestFile2; cat TestFile2	Same as TestFile1		
7	Copy one directory below	cp TestFile1 TestDir1/TestFile3	Copied		
8	Check copied file	ls -l TestDir1/TestFile3; cat TestDir1/TestFile3	Same as TestFile1		
9	Create TestFile4	cd TestDir2; echo "Test4" > TestFile4	file created		
10	Check created file	ls -l testFile4; cat TestFile4	"Test4" text output		
11	Create duplicate file	use an editor to create TestFile4	Error Message		
12	Copy File	cp TestFile4 ../TestDir1/TestDir3/TestFile5	File copied		
13	Check copied file	ls -l ../TestDir1/TestDir3/TestFile5; cat ../TestDir1/TestDir3TestFile5	"Test4" text output		
14	Remove a file	rm TestFile4	File removed		
15	Try to remove a nonempty directory	cd ..; rmdir TestDir1	Error Message		
15	Remove an empty directory	rmdir TestDir2	Directory removed		
16	Create a file spanning 4 blocks	Write 1 to 512 using C/Python to TestFile2	File created		
17	Check block usage	du -s TestFile2	4 blocks should be used		
18	Reduce file size	Remove lines 101 onwards and save the file			
19	Check block size	du -s TestFile2	Should be still 4 blocks		
20	Add additional blocks	Add 101 to 1024 to TestFile2			
21	Check block size	du -s TestFile2	Block size should still be 4		
22	Unmount the file system		FS unmounted		
23	Remount the file system		FS remounted		
24	Check for files	ls -lR; cat "files";	**Files Intact (other than removed files/directories); verify contents of files**	Files in Secondary Storage Intact	

S. No	Description	Commands	Expected Output	Remarks	
1	Create Directories			Use mkdir and cd commands	Phase 3 (Persistence)
2	Create File	echo "Hello World1" > TestFile1	TestFile1 created	In Root Directory	
3	Check opened file	ls -l TestFile1; cat TestFile1	"Hello World1" Text output		
4	Append to an existing file	echo "Hello World2" >> TestFile1	Text Appended		
5	Copy file	cp TestFile1 TestFile2	File copied		
6	Check copied file	ls -l TestFile2; cat TestFile2	Same as TestFile1		
7	Copy one directory below	cp TestFile1 TestDir1/TestFile3	Copied		
8	Check copied file	ls -l TestDir1/TestFile3; cat TestDir1/TestFile3	Same as TestFile1		
9	Create TestFile4	cd TestDir2; echo "Test4" > TestFile4	file created		
10	Check created file	ls -l testFile4; cat TestFile4	"Test4" text output		
11	Create duplicate file	use an editor to create TestFile4	Error Message		
12	Copy File	cp TestFile4 ../TestDir1/TestDir3/TestFile5	File copied		
13	Check copied file	ls -l ../TestDir1/TestDir3/TestFile5; cat ../TestDir1/TestDir3TestFile5	"Test4" text output		
14	Remove a file	rm TestFile4	File removed		
15	Try to remove a nonempty directory	cd ..; rmdir TestDir1	Error Message		
15	Remove an empty directory	rmdir TestDir2	Directory removed		
16	Create a file spanning 4 blocks	Write 1 to 512 using C/Python to TestFile2	File created	Keep Blocksize 512 bytes	
17	Check block usage	du -s TestFile2	4 blocks should be used		
18	Reduce file size	Remove lines 101 onwards and save the file			
19	Check block size	du -s TestFile2	Should be still 4 blocks		
20	Add additional blocks	Add 101 to 1024 to TestFile2			
21	Check block size	du -s TestFile2	Block size should still be 4		
22	Check for Persistence	While editing a file, reboot the machine; ls -lR; cat "files"	**Files Intact (other than removed files/directories and non saved portions of files); check contents of files**	Files in Secondary Storage Intact	