

Model Question Paper-1 with effect from 2019-20 (CBCS Scheme)

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Fifth Semester B.E. Degree Examination UNIX PROGRAMMING

TIME: 03 Hours

Max. Marks: 100

- Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.
02.
03.

Module – 1			
Q.1	(a)	Explain with a figure ,the kernel and shell relationship in unix operating system	10
	(b)	List and explain the salient features of Unix operating system	10
OR			
Q.2	(a)	Explain the following commands with syntax ,option and example Echo ,ls,who,passwd,date	7
	(b)	With suitable example bring out the differences between absolute and relative pathnames	6
	(c)	Explain the basic file categories in Unix operating system?	7
Module – 2			
Q.3	(a)	Which command is for is used for listing file attributes ?explain the significance of each field in the attributes?	7
	(b)	What are file permissions? Explain the use of chmod to change file permissions using both absolute and relative methods?	7
	(c)	Explain grep command?List its options with its significance	6
OR			
Q.4	(a)	Explain the concept of escaping and quoting with suitable example?	5
	(b)	Explain three standard files supported by unix? Explain about special files used for output redirection?	10
	(c)	What are wild card characters? Explain shell wild card characters with example?	5
Module – 3			
Q.5	(a)	Describe how a c program is started and various ways it terminates.	10

	(b)	With neat sketch, explain memory layout of C program.	10
	(c)		
OR			
Q.6	(a)	With related data structures explain UNIX kernel support for a process.	10
	(b)	What do you mean by fork and vfork functions. Explain both functions with example programs.	10
	(c)		
Module – 4			
Q.7	(a)	What are Pipes? Explain different ways to view a half-duplex pipe. Write a program to send data from parent process to child process using pipes.	10
	(b)	What is fifo? With a neat diagram explain the client server communication using fifo?	10
	(c)		
OR			
Q.8	(a)	Explain briefly with example a) Message queue b) Semaphores.	10
	(b)	Write a note on (i) Process accounting (ii) Process Times.	10
	(c)		
Module – 5			
Q.9	(a)	What are signals? Mention different source of signals? Write program to setup signal handlers for SIGINT and SIGALRM	10
	(b)	Explain daemon characteristics and basic coding rules.	10
	(c)		
OR			
Q.10	(a)	What is signal mask of a process? WAP to check whether the SIGINT signal present in signal mask.	10
	(b)	Explain The sigsetjmp and siglongjmp Functions with examples.	10
	(c)		

Table showing the Bloom's Taxonomy Level, Course Outcome and Programme Outcome				
Question		Bloom's Taxonomy Level attached	Course Outcome	Programme Outcome
Q.1	(a)	L2	CO1	PO1,PO2,PSO2
	(b)	L1 L2	CO1	PO1,PO2,PSO2
Q.2	(a)	L2	CO1	PO1,PO2,PSO2
	(b)	L2	CO1	PO1,PO2,PSO2
	(c)	L2	CO1	PO2,PSO1,PSO2
Q.3	(a)	L1 L2	CO2	2PO2, PSO1,PSO2
	(b)	L1 L2	CO2	PO2,PSO1,PSO2
	(c)	L2	CO2	PO1,PO2, PSO1,PSO2
Q.4	(a)	L2	CO2	PO1PO2,PSO1,PSO2
	(b)	L2	CO2	PO2, PSO1,PSO2
	(c)	L1 L2	CO2	PO2,PSO1,PSO2
Q.5	(a)	L2	Co3	PO2,PSO1,PSO2
	(b)	L2	Co3	PO2, PSO1,PSO2
	(c)			
Q.6	(a)	L1	Co3	PO2
	(b)	L2	Co3	PO2
	(c)			
Q.7	(a)	L1	Co3	PO1,PO2,PSO1,PSO2
	(b)	L1	Co3	PO2, PSO1,PSO2
	(c)			
Q.8	(a)	L1	Co3	PO2, PSO1,PSO2
	(b)	L1	Co3	PO1, PO2
	(c)			
Q.9	(a)	L2	Co4	PO2, PSO1,PSO2
	(b)	L1	Co4	PO1, PO2
	(c)			
Q.10	(a)	L2	Co4	PO2, PSO1,PSO2
	(b)	L2	Co4	PO1, PO2
	(c)			
Bloom's Taxonomy Levels	Lower order thinking skills			
	Remembering(knowledge): L_1	Understanding Comprehension): L_2		Applying (Application): L_3
	Higher order thinking skills			
	Analyzing (Analysis): L_4	Valuating (Evaluation): L_5		Creating (Synthesis): L_6



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Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Module – 1			Marks
Q.1	(a)	Illustrate unix architecture with neat diagram.	08
	(b)	Discuss the silent features of UNIX operating system.	08
	(c)	What are internal and external commands in UNIX? Explain them with suitable example.	04
OR			
Q.2	(a)	Illustrate command structure usage and behavior with respect to absolute and relative pathnames of following commands with suitable examples. i). mkdir ii). rmdir	10
	(b)	Discuss different file types available in UNIX operating system with neat diagram.	8
	(c)	Explain parent-child relationship in UNIX file system.	2
Module – 2			Marks
Q.3	(a)	Which command is used for listing file attributes? Briefly describe the significance of each field of the output	08
	(b)	Current file permission of a regular file “unix” are rw--w---x . Illustrate both relative and absolute methods required to change permission to the following: i). -wxrwxr-x ii). r-----x iii). -w-r-x-w- iv). --xrw-r--	08
	(c)	Explain wild cards with examples and its various types.	04
OR			
Q.4	(a)	Define shell programming? Write a shell program to create a simple calculator which can perform basic arithmetic operations?	10
	(b)	Explain grep command with all options.	06
	(c)	Write the output for following command. i) grep ^[^3] abcd ii) grep -v “please delete” filename.txt wc iii) ls wc -l >fcount iv) cat *.c wc -c	04
Module – 3			Marks
Q.5	(a)	Describe general unix file API's with syntax and explain the each field in detail	10
	(b)	Explain file and record locking in detail.	06
	(c)	List the number of ways a process can terminate?	04
OR			
	(a)	Describe the mechanism of process creation with a neat diagram	08

Q.6	(b)	Explain the following commands i)fork ii)vfork iii)exit	06
	(c)	Define race condition and polling? How to overcome these conditions	06
Module – 4			Marks
Q.7	(a)	Illustrate IPC with all its methods.	08
	(b)	Explain pipes with all its advantages and limitations?	06
	(c)	Briefly explain the rules who can change group ID's	06
OR			
Q.8	(a)	Demonstrate the Client and Server interaction with neat diagram.	10
	(b)	What are Interpreter Files? Give the difference between Interpreter Files and Interpreter.	06
	(c)	What are semaphores? Mention its two types.	04
Module – 5			Marks
Q.9	(a)	What are daemon processes? Enlist their characteristics. Also write a program to transform a normal user process into a daemon process. Explain every step in the program.	10
	(b)	Explain the kill() API and alarm() API?	10
OR			
Q.10	(a)	What is error logging? With a neat block schematic discuss the error login facility in BSD.	10
	(b)	Explain the terms i)signal ii)signal mask	10

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	(b)	L2	CO1	PO4
	(c)	L1	CO1	PO4
Q.2	(a)	L3	CO1	PO4
	(b)	L2	CO1	PO4
	(c)	L1	CO1	PO4
Q.3	(a)	L2	CO1	PO4
	(b)	L3	CO1	PO2
	(c)	L2	CO1	PO4
Q.4	(a)	L4	CO2	PO3
	(b)	L2	CO2	PO4
	(c)	L2	CO2	PO2
Q.5	(a)	L2	CO3	PO4
	(b)	L2	CO2	PO5
	(c)	L1	CO3	PO4
Q.6	(a)	L2	CO3	PO2
	(b)	L2	CO3	PO2
	(c)	L1	CO3	PO4
Q.7	(a)	L3	CO3	PO2
	(b)	L2	CO3	PO2
	(c)	L1	CO3	PO4
Q.8	(a)	L3	CO3	PO2
	(b)	L2	CO3	PO4
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Q.9	(a)	L3	CO4	PO3
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Q.10	(a)	L2	CO4	PO2
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