Enrollment No.....................................

Faculty of Engineering / Science
End Sem (Even) Examination May-2022
CA3EL13 Linux & Shell Programming

Programme: BCA /   Branch/Specialisation: Computer
BCA+MCA (Integrated)   Application

Duration: 3 Hrs.   **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

Q.1   i.   System structure of Linux is-   **1**
            (a) Microsoft Windows   (b) UNIX
            (c) Micro kernel   (d) Monolithic Kernel

        ii.   Applications communicate with kernel by using-   **1**
            (a) System Calls (b) C Programs (c) Shell Script   (d) Shell

        iii.   Write the command to display the current date in the form   **1**
            dd/mm/yyyy.
            (a) date +%d/%m/%Y   (b) date +"%d/%m/%Y"
            (c) date +/%d/%m/20%y   (d) date +"/%d/%m/20%y"

        iv.   How do you display your current crontab entry?   **1**
            (a) Crontab –display   (b) Crontab –d
            (c) List –crontab   (d) Crontab -l

        v.   Which command will delete all the blank lines in file old.txt?   **1**
            (a) sed '/d' old.txt   (b) sed '/^/d' old.txt
            (c) sed '/^$/d' old.txt   (d) sed '/^*/d' old.txt

        vi.   In awk program, the statement "print" with no items-   **1**
            (a) Is equivalent to "print $0"
            (b) Prints the entire current record
            (c) Is equivalent to "print $0" & prints the entire current record
            (d) None of these

        vii.   What command is used with vi editor to replace text from cursor   **1**
            to right-
            (a) S   (b) s   (c) R   (d) r

P.T.O.

viii.	How can you add Medi-Caps, a new user, to your system?	**1**	

(a) Using useradd.   (b) Using adduser

(c) Using linuxconf.   (d) All of these

ix.   What protocol(s) is(are) allowed a user to retrieve her/his mail from the mail server to her/his mail reader?   **1**

(a) POP3   (b) FTP   (c) MAP   (d) All of these

x.   What command do you use to add routes to a Linux router?   **1**

(a) Addroute   (b) Route   (c) Netstat   (d) Net

Q.2   i.   Write any two differences between Unix and Linux operating System.   **2**

ii.   Define Shell? Also explain any two types of shell.   **3**

iii.   What is Kernel? Explain the working of Monolithic Kernel and Microkernel.   **5**

OR   iv.   Draw and explain Linux Architecture.   **5**

Q.3   i.   Define the concept of Pipe and tee with one example.   **4**

ii.   Explain following commands with their syntax and one example: **6**

(a) pr   (b) chmod   (c) paste

OR   iii.   Explain following commands with their syntax and one example: **6**

(a) Tar   (b) uniq   (c) comm

Q.4   i.   Explain how system administrator can create, modify and delete user account.   **4**

ii.   Write an awk command print the fields in a text file in reverse order.   **6**

OR   iii.   Write an awk command to find the total number of lines in a file without using NR.   **6**

Q.5   i.   What is vi Editor? Explain its different modes with one suitable example.   **4**

ii.   Write a shell script to print given number in reverse order.   **6**

OR   iii.   Write a shell script to print given numbers sum of all digits.   **6**

Q.6   Attempt any two:

i.   Define Five Networking Tools in Linux.   **5**

ii.   Explain System communication in Linux. Also define sending and handling mails in Linux.   **5**

iii.   Define System Administration process in Linux? Also explain system startup and shutdown process in linux?   **5**

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Marking Scheme
CA3EL13 Linux & Shell Programming

Q.1	i.	(d) Monolithic Kernel	1
	ii.	(a) System Calls	1
	iii.	(a) date +%d/%m/%Y	1
	iv.	(d) Crontab -l	1
	v.	(c) sed '/^\$/d' old.txt	1
	vi.	(c) Is equivalent to "print \$0" & prints the entire current record	1
	vii.	(c) R	1
	viii.	(d) All of these	1
	ix.	(a) POP3	1
	x.	(b) Route	1

Q.2	i.	Any two differences between Unix and Linux operating System.		2
	ii.	Shell	1 Mark	3
		Each two types of shell	2 Marks	
	iii.	Kernel	1 Mark	5
		Working of Monolithic Kernel	2 Marks	
		Working of Microkernel	2 Marks	
OR	iv.	Linux Architecture.		5
		Diagram	1 Mark	
		Explanation	4 Marks	

Q.3	i.	Concept of Pipe and tee with one example.		4
		Pipe	1 Mark	
		Tee	1 Mark	
		Each example	2 Marks	
	ii.	Commands with their syntax		6
		Each command and example	2 Marks for each (2 Marks*3)	
OR	iii.	Commands with their syntax and one example		6
		Each command and example	2 Marks for each (2 Marks*3)	

Q.4	i.	System administrator can create, modify and delete user account.		4
		Create operations	1 Mark	
		Modify operations	2 Mark	
		Delete operations	1 Mark	
	ii.	Awk command print the fields in a text file in reverse order.		6
		Input	1 Mark	
		Logic	4 Marks	
		Output	1 Mark	
OR	iii.	Awk command to find the total number of lines in a file without using NR.		6

		Input	1 Mark	
		Logic	4 Marks	
		Output	1 Mark	
Q.5	i.	vi Editor	1 Mark	4
		Different modes with example 1 Mark for each	(1 Mark*3)	
	ii.	Shell script to print given number in reverse order.		6
		Input	1 Mark	
		Logic	4 Marks	
		Output	1 Mark	
OR	iii.	Shell script to print given numbers sum of all digits.		6
		Input	1 Mark	
		Logic	4 Marks	
		Output	1 Mark	
Q.6		Attempt any two:		
	i.	Five Networking Tools in Linux.		5
		Each tool 1 Mark for each	(1 Mark*5)	
	ii.	System communication in Linux		5
		Definition	1 Mark	
		Sending mails	2 Marks	
		Handling mails	2 Marks	
	iii.	Define System Administration process in Linux		5
		Definition	1 Mark	
		Startup	2 Marks	
		Shutdown	2 Marks	

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