University Institute of Engineering & Technology

(Recognised Under Section 2(f) and 12B of UGC)

Kurukshetra University, Kurukshetra

THEORY EXAMINATION – JULY 2021	
B.TECH - CSE	**SEMESTER – VI**

TIME – 4 Hrs.

M.M. - 75

PAPER - PE-CS-S314

SUBJECT- UNIX and LINUX PROGRAMMING

INSTRUCTIONS TO BE FOLLOWED

- **The candidates will be required to attempt All questions in Part-A and Part-B (Compulsory Sections). Attempt any four questions from Part-C selecting at least one from each unit.**
- **Allotted time for examination is 4 hours that includes time for downloading the question paper, writing answers, scanning of answer sheets and uploading the sheets on the Attendance Sheet Cum Answer Sheet Uploading google form. It will be closed after the stipulated time.**
- **The PDF files should be saved as Roll No. and Subject Code.**
- **Maximum Page Limit should be 36 (Thirty Six) for attempting the question paper on A4 sheets which could be downloaded and printed from the sample sheets given in the UIET Website.**
- **Over-attemptation should be avoided.**
- **Handwriting should be neat and clean and diagrams should be clear and contrasted.**
- **The candidate should not write their Mobile No. otherwise Unfair Means Case will be made.**
- **While attempting the paper, the candidate will use blue/black pen only.**
- **Before attempting the paper, the candidate will ensure that he/she has downloaded the correct question paper. No complaint for attempting wrong question paper by the candidate will be entertained.**
- **Candidate must ensure that he/she has put his/her signature on each page of the answer sheet used by him/her. Answer sheet without the signature of the candidate will not be evaluated.**
- **Attempt parts A, B & C separately. Do not inter-mix them. Write neatly & mention the question number clearly.**

PART-A(15 Marks)

Q. No. – 1 Answer the following questions. 15x1=15

(i)	What is the significant advantage of Unix Programming ?
(ii)	What is the role of shell in Linux Operating System ?
(iii)	How many different types of shells are there in Unix Operating System ?
(iv)	What is time-sharing in Unix environment ?
(v)	What is the role of Filters ?
(vi)	Write the various modes of vi editor ?
(vii)	What is the use of MakeFile utility ?
(viii)	What do you mean by Mounting File System ?
(ix)	How does 'at' and 'batch' commands facilitate to schedule a job to run at a specified time of the day ?
(x)	How does 'cron' utility execute programs at regular intervals instead of one-time execution like 'at'/'batch'.
(xi)	How does 'init' control the run level of a UNIX system to decide which processes to run for each run level.
(xii)	How does 'rc' (run command) specifies the execution for each run level – rc0, rc1, rc2.
(xiii)	..... is a very low level command used for copying data from one disk to another disk. (tar/cpio/dd)
(xiv)	What is grep ?
(xv)	What do you mean by quantifiers ?

PART-B (20 Marks)

	UNIT-I	
2	What are the different tasks performed by the Kernel in Unix operating system ?	**5**
	UNIT-II	
3	What is the difference between a wild-card and a regular expression ?	**5**
	UNIT-III	
4	Explain in brief how debugging with gdb tool is performed to find out the bugs.	**5**
	UNIT-IV	
5	How does a firewall provides the security by restricting the flow of information ?	**5**

PART-C (40 Marks)

	UNIT-I	
6	Explain the Multiprogramming and Multiprocessing time-sharing client-server model of Unix operating system.	**10**
7	What is shell programming ? How many different types of shells are there in Unix operating system ? Explain in detail.	**10**
	UNIT-II	
8	Explain in detail about Xdelta utility for files compression.	**10**

9	Discuss about the programming with AWK and PERL with suitable examples.	**10**
	UNIT-III	
10	What is gcc compiler ? What are the various options used in gcc compilation ? Explain with example.	**10**
11	What do you mean by static and dynamic libraries for C language ? What is dynamic loader ?	**10**
	UNIT-IV	
12	Explain the various Unix System Networking Tools like ping, telnet, ftp and firewalls.	**10**
13	What do you mean by authorization ? How does it check the authentication of right users logging into the Linux system ?	**10**