TIME – 3 Hrs 15 Min

THEORY EXAMINATION – JAN 2021

B.TECH - CSE	SEMESTER – VII

M.M. - 56

PAPER - CSE - 401	SUBJECT- UNIX and LINUX Programming

INSTRUCTIONS TO BE FOLLOWED

- **Allotted time for examination is 3 hours 15 minutes that includes time for downloading the question paper, writing answers, scanning of answer sheets and E-mailing the PDF files to the designated Email ID.**
- **For CSE-A Regular Students, the Email ID is:- btech7thcsea@kuk.ac.in**
- **For CSE-B Regular and All Reappear Students, the Email ID is:- btech7thcseb@kuk.ac.in**
- **The candidates will be required to attempt 75% of the question paper (maximum) by choosing to their any best questions accumulating 56 marks.**
- **The PDF files should be saved as Roll No. and Subject Code. Proper attention should be given while sending the email and in the subject line, the Roll Number and Subject Code should be mentioned.**
- **Maximum Page Limit should be 20 (Twenty) for attempting the question paper on A4 sheets which could be downloaded and printed from the sample sheets given in the Kurukshetra University Examination guidelines.**
- **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.**

PART-A

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

(i)	What is shell programming ?
(ii)	What is the major difference between Unix and Linux systems ?
(iii)	What is the role of i-nodes ?
(iv)	How is shell used as a command processor ?
(v)	What do you mean by quantifiers ?
(vi)	What is the use of filters ?
(vii)	What is grep.
(viii)	List the difference between static and dynamic memory concept in context to C programs execution.
(ix)	List the various modes of in-built vi editor of Unix/Linux systems.
(x)	What do you mean by bg, fg, jobs, kill commands used by job control given to a group of processes ?
(xi)	How does 'at' and 'batch' commands facilitate to schedule a job to run at a specified time of the day ?
(xii)	How does 'cron' utility execute programs at regular intervals instead of one-time execution like 'at'/'batch'.
(xiii)	How does 'init' control the run level of a UNIX system to decide which processes to run for each run level.
(xiv)	How does 'rc' (run command) specifies the execution for each run level – rc0, rc1, rc2.
(xv)	.... is a very low level command used for copying data from one disk to another disk. (tar/cpio/dd)

PART-B

2	Define File-related system Calls like opening, creating, reading, writing, closing, accessing files.	5
3	Briefly tell about the actions with Stream Editor sed.	5
4	How are the C compiler options used to compile the Linux based C programming projects.	5
5	Briefly discuss about signal handlers used in Linux processes.	5

PART-C

6	What are the various shells in Unix system. Explain in detail.	10
7	Differentiate between Unix commands like zip, unzip, pack, unpack, compress, uncompress	10
8	Describe about the programming with AWK and PERL with some examples.	10
9	Discuss about Xdelta utility for files compression.	10
10	Discuss about use of 'makefile' utility for managing large projects on Unix platform.	10
11	Explain in detail about debugging tools used to find out the bugs from large projects developed on Linux environment.	10
12	Discuss about Unix System Administration and Networking Tools like ping, telnet, ftp and firewalls.	10
13	What do you mean by Backup and Restore utility in Unix/Linux Systems ? How does Unix Network Security helpful in managing the authorized users accounts ?	10