MCA/M06
Linux &Shell Programming
MCA -402

Time : 3 Hours   MM:50
Note:- Attempt any Five questions in all, All Questions carry equal marks.

1 Explain the purpose & syntax of following commands in Linux with the help of
   examples alongwith various options:
   (i) pwd   (ii) du   (iii)ps   (iv) wall   (v) tee   10

2(a) Write and explain of files alongwith structure of filesystem.   5
 (b) What do you mean by file permissions? How can we change various permissions
      of a file?   5

3(a) Explain various control structures available in shell programming.   5
 (b) Write a shell program using 3 arguments to take the pattern as well as input and
      output file names. If the pattern is found display "Pattern found", else display
      "Error message". Also check if right number of arguments is entered. Arguments
      must be entered through command line.   5

4(a) Differentiate the grep; egrep, fgreep with the help of examples.   3

 (b) Write down the purpose of following regular expressions and also provide an
      example for each:
      (i) *   (ii) []   (iii) ^ (iv) $ (v) +   (vi)   .   (vii)   ?

5(a) Explain the following w.r.t. awk:
         (i)   BEGIN and END section
         (ii)   Getline statement   5

 (b) Explain various operators used in vi-editor. Also explain use of set commands in
      the last line mode.   5

6(a) Discuss debugging with gdb in brief.   5
 (b) Differentiate between static and dynamic memory management.   5

7   What is a makefile? How it can used to manage C projects? Also explain the use
      of dependency calculations in make file.   10

8   How jobs can be controlled in Linux w.r.t at, batch, cron & time commands?
      Explain.   10

9(a) Explain Linux I/O system in brief.   5
 (b) Discuss various signal handlers alongwith their purpose.   5

10   Write short notes on :
      (a)   Booting process in Linux.
      (b)   Advantages & Disadvantages of Dynamic Libraries over static.   10