USN ☐☐☐☐☐☐☐☐☐☐

Fourth Semester B.E. Degree Examination, Dec.2016/Jan.2017
UNIX and Shell Programming

Time: 3 hrs.

Max. Marks:100

Note: *Answer FIVE full questions, selecting at least TWO questions from each part.*

PART – A

1 a. Explain the salient features of UNIX operating system. **(07 Marks)**
   b. With neat diagram explain the architecture of UNIX clearly bring out the division of labor between Kernel and shell. **(08 Marks)**
   c. Explain the following commands with examples. **(05 Marks)**
      i) cat   ii) pwd   iii) who   iv) tty   v) bc

2 a. What is file permission? What are the different ways of setting file permission? Explain. **(07 Marks)**
   b. A file's current permission are rw – r – xr – – specify the chmod expression required to change them for the following. Using both relative and absolute methods of assigning permissions.
      i) – w – r – – r – –   ii) r – – r – – – – –   iii) r w x r w x r w x   iv) – – – – – – – – – **(08 Marks)**
   c. Explain the three modes of Vi editor with diagram. **(05 Marks)**

3 a. What is shell process? What are the different phases in the creation of process? **(07 Marks)**
   b. Explain what wild – card patterns match :
      [A – Z]????*   ii) *[0 – 9]*   iii) *[!0 – 9]   iv) * · [!S] [!h] **(08 Marks)**
   c. What is process status? Explain ps command with options. **(05 Marks)**

4 a. Differentiate between hard link and soft link in UNIX with examples. **(06 Marks)**
   b. Explain the following filters with examples:
      i) tail   ii) tr   iii) pr   iv) cut. **(08 Marks)**
   c. Explain the following environment variables with examples:
      i) LOGNAME   ii) PATH   iii) HOME. **(06 Marks)**

PART – B

5 a. With the example, explain the grep command any five options. **(10 Marks)**
   b. What is sed? Explain the difference between line addressing and context addressing in sed. **(10 Marks)**

6 a. What is shell programming? Write a shell program in order to perform the following tasks:
      i) Display current login users   ii) print current directory   iii) Process status. **(08 Marks)**
   b. Explain the shell features of while and for loop with examples. **(08 Marks)**
   c. Explain trap in shell scripts with suitable example. **(04 Marks)**

7 a. Explain the following Built in variables of awk with examples.
      i) FS   ii) NF   iii) FILENAME   iv) NR. **(08 Marks)**
   b. With suitable examples, explain if and while statement in awk. **(06 Marks)**
   c. Explain the following built-in functions of awk with examples :
      i) Substr   ii) length   iii) index. **(06 Marks)**

8 a. Explain the string handling functions of perl with examples. **(08 Marks)**
   b. Explain the following with respect to PERL with examples:
      i) For each looping construct   ii) Join. **(06 Marks)**
   c. Write a PERL program to print numbers that are accepted from the keyboard using while. **(06 Marks)**

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