

Enrollment No.....



Faculty of Engineering  
End Sem (Odd) Examination Dec-2017  
CA5CO16 Linux Programming & Scripting

Programme: MCA Branch/Specialisation: Computer 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. Applications communicate with kernel by using: **1**  
 (a) System Calls (b) C Programs  
 (c) Shell Script (d) Shell
- ii. \_\_\_\_\_ is the shell that is used for a single user mode. **1**  
 (a) Bash (b) Csh (c) Ksh (d) Sh
- iii. X.25 is an example of which of the following network(s) **1**  
 (a) Circuit switched (b) Packet switched  
 (c) Network switched (d) Both (a) and (b)
- iv. Which of the following is an example of DFS? **1**  
 (a) RAM (b) Sun NFS (c) AFS (d) Both (b) and (c)
- v. What is the output of the following program? **1**  

```
x = 3; y = 5; z = 10;
if [ ( $x -eq 3 ) -a ( $y -eq 5 -o $z -eq 10 ) ]
then
  echo $x
else
  echo $y
fi
```

 (a) 1 (b) 3 (c) 5 (d) Error
- vi. Hidden files are **1**  
 (a) Those whose 'read' bit is set to 'h'  
 (b) Permitted for (can be accessed) only superusers  
 (c) Files that begin with a '.'  
 (d) Files that cannot be opened by ordinary user for writing.

[2]

- vii. Chop(\$string) in PERL\_\_\_\_\_ **1**  
(a) Removes the end-of-line character of the operand and returns the number of characters removed (0 or 1)  
(b) Removes the last character of the operand and returns the removed character  
(c) Removes the last word of the operand and returns the removed word  
(d) None of these
- viii. \_\_\_\_\_ is the keyword used to load standard functions in PERL. **1**  
(a) Put „fname.pl“ (b) Require „fname.pl“  
(c) Use „fname.pl“ (d) Get „fname.pl“
- ix. What would be the output for the following Python Script? **1**  
>>>”!!!Python!!!”\*3  
(a) !!!Python!!! (b) “!!!Python!!!”\*3  
(c) „!!!Python!!!“ (d) Error
- x. For immutable and mutable objects, how does the python script act? **1**  
(a) Pass by reference, pass by value  
(b) Call by value, call by reference  
(c) Pass by value, pass by reference  
(d) None of these

- Q.2 i. What are the basic components of Linux Operating System? **2**  
ii. Write important features of Linux operating system. **3**  
iii. Explain the following commands with example: **5**  
(a) Gzip (b) Vim (c) File (d) Lpr  
(e) Alias
- OR iv. Describe the Linux file system hierarchical structure with its necessary directories and files. **5**
- Q.3 i. What is FTP in Linux? **2**  
ii. Explain the following commands: **8**  
traceroute, nslookup, ping, ethtool, tcpdump, ifconfig, netstat/u, netstat/a
- OR iii. Write short note on : **8**  
(a) DNS (b) NFS

[3]

- Q.4 i. What is sed? Compare sed with grep. **3**  
ii. Write a shell script to display all the numbers that are divisible by 3 and 5 both within a particular range. **7**
- OR iii. Write a menu- driven shell program for the following options **7**  
(a) List of files (b) Processes of Users  
(c) Today’s Date (d) Quit out of Unix
- Q.5 i. What is chop(), chomp() functions? Explain them with example. **4**  
ii. What are associative arrays? How will you obtain only keys of an associative array in Perl? **6**
- OR iii. Write a Perl script to demonstrate the following functions used in array: **6**  
push, pop, shift, unshift
- Q.6 Attempt any two: **5**  
i. Explain about Python's parameter passing mechanism? **5**  
ii. As Everything in Python is an Object, Explain the characteristics of Python's Objects. **5**  
iii. What are Exception Handling? How do you achieve it in Python? **5**

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**CA5CO16 Linux Programming & Scripting  
Marking Scheme**

|     |       |  |          |
|-----|-------|--|----------|
| Q.1 | i.    | (d)  | <b>1</b> |
|     | ii.   | (d)  | <b>1</b> |
|     | iii.  | (c)  | <b>1</b> |
|     | iv.   | (d)  | <b>1</b> |
|     | v.    | (b)  | <b>1</b> |
|     | vi.   | (c)  | <b>1</b> |
|     | vii.  | (b)  | <b>1</b> |
|     | viii. | (c)  | <b>1</b> |
|     | ix.   | (a) & (c) both   | <b>1</b> |
|     | x.    | (a)  | <b>1</b> |
| Q.2 | i.    | Basic components   | <b>2</b> |
|     | ii.   | Features of Linux operating system.  | <b>3</b> |
|     | iii.  | (a) gzip (b) vim (c) file (d) lpr (e) alias<br>1 mark for each (1 mark * 5 = 5 marks)  | <b>5</b> |
| OR  | iv.   | Diagram- 2 marks<br>Description - 3 marks  | <b>5</b> |
| Q.3 | i.    | Definition   | <b>2</b> |
|     | ii.   | traceroute, nslookup, ping, ethtool, tcpdump, ifconfig, netstat/u,<br>netstat/a<br>1 mark for each (1 mark * 8 = 8 marks)    | <b>8</b> |
| OR  | iii.  | DNS, NFS<br>4 marks each (4 marks * 2 = 8 marks)   | <b>8</b> |
| Q.4 | i.    | What is sed – 1 mark<br>Compare sed with grep – 2 marks  | <b>3</b> |
|     | ii.   | Logic – 3 marks<br>Syntax – 4 marks  | <b>7</b> |
| OR  | iii.  | Complete program – 7 marks   | <b>7</b> |
| Q.5 | i.    | chop() – 2 marks (1 mark for definition+ 1 mark for example)<br>chomp() - 2marks (1 mark for definition+ 1 mark for example) | <b>4</b> |
|     | ii.   | What are associative arrays – 2 marks  | <b>6</b> |

|     |      |   |          |
|-----|------|---|----------|
|     |      | How will you obtain only keys of an associative array in Perl –<br>4 marks  |          |
| OR  | iii. | push, pop, shift, unshift – 1.5 marks for each<br>(1.5 marks * 4 = 6 marks) | <b>6</b> |
| Q.6 |      | Attempt any two:  |          |
|     | i.   | All Mechanism – 5 marks   | <b>5</b> |
|     | ii.  | Characteristics – 5 marks   | <b>5</b> |
|     | iii. | Exception Handling – 2 marks<br>How do you achieve it in Python – 3 marks   | <b>5</b> |

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