



P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

First Semester, Master of Computer Applications (MCA)

Semester End Examination; Jan. - 2020

Introduction to UNIX

Time: 3 hrs

Max. Marks: 100

Note: Answer *FIVE* full questions, selecting *ONE* full question from each unit.

UNIT - I

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| 1 | a. | Explain the architecture of UNIX with a neat diagram. | 8 |
| | b. | Explain the following commands:
i) <i>who</i> ii) <i>date</i> iii) <i>password</i> | 12 |
| 2 | a. | With a neat diagram, explain parent-child relationship. | 8 |
| | b. | Explain the following commands:
i) <i>bc</i> ii) <i>cat</i> iii) <i>mkdir</i> | 12 |

UNIT - II

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|---|----|--|----|
| 3 | a. | Briefly explain the output of <i>ls -l</i> command. | 10 |
| | b. | Differentiate between the hard links and soft links. | 4 |
| | c. | Explain <i>chmod</i> command. | 6 |
| 4 | a. | Explain the UNIX file system, with a neat diagram. | 10 |
| | b. | Explain startup and shutdown procedure in UNIX. | 6 |
| | c. | What are the privileges of a system administrator? | 4 |

UNIT - III

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| 5 | a. | Explain the following commands with examples:
i) <i>expr</i> ii) <i>set</i> iii) <i>shift</i> | 6 |
| | b. | Explain the differences between while and for loop with example. | 6 |
| | c. | Write a shell script that accepts file name as argument and display its creation time if file exists and if file does not exists send error message. | 8 |
| 6 | a. | Write a shell script that accept a list of file names as its arguments, count and report occurrence of each word that is present in the first argument file on other argument files. | 8 |
| | b. | List and explain any six environment variables. | 12 |

UNIT - IV

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| 7 | a. | Explain the following commands with examples:
i) <i>cut</i> ii) <i>paste</i>
iii) <i>head</i> iv) <i>tail</i> | 12 |
| | b. | Explain the <i>sort</i> command with any four options. | 8 |

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|------|---|----|
| 8 a. | Explain <i>grep</i> command and its options with example. | 10 |
| b. | Explain <i>sed</i> instruction with <i>-e</i> and <i>-f</i> option. | 6 |
| c. | Explain <i>egrep</i> and <i>fgrep</i> . | 4 |

UNIT - V

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| 9 a. | Explain the mechanism of process creation. | 6 |
| b. | Explain <i>ps</i> command with any two options. | 6 |
| c. | Explain any four built-in variables used in <i>awk</i> . | 8 |
| 10 a. | Explain the built-in functions in <i>awk</i> with suitable example. | 10 |
| b. | Write an <i>awk</i> script to find gross salary of an employee, according to the rule given below:
If basic is < 10000 then HRA = 10% of the basic and DA = 90% of basic
If basic is > = 10000 then HRA = 20% of the basic and DA = 95% of basic | 10 |

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