

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

February / March 2023 Semester End Main Examinations

Programme: B.E.

Branch: Computer Science and Engineering

Course Code: 20CS5PCUSP

Course: Unix Shell and System Programming

Semester: V

Duration: 3 hrs.

Max Marks: 100

Date: 27.02.2023

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

UNIT - I

- 1 a) With a neat diagram explain the architecture of UNIX operating system. **10**
b) Mention the use of the following commands **10**
(i)rm (ii) od (iii) cat (iv) file (v) echo

UNIT - II

- 2 a) What is Case Conditional? Write a shell script to perform all Arithmetic Operations. **10**
b) Demonstrate the usage of the following: **10**
i. Test
ii. Set and Shift

OR

- 3 a) Explain the shell features of while and for with syntax and example programs. **8**
b) Explain the use of here command with example. **6**
c) Describe the string handling facilities of expr with syntax and relevant examples **6**
a. Determine the length of the string
b. Extract a substring
c. Locate the position of a character in a string

UNIT - III

- 4 a) Explain in detail each of the fields in the outputs of ls -l command. **10**
b) Elaborate on grep as a means for pattern searching and analyse the effect of following commands. **10**
• grep -i "welcome"
• egrep "HELLO|Hello|hello" file1
• grep "UNIX\$" file1

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

- (iii)link (iv)write (v)close
- UNIT - V**
- 6 a) Explain memory layout of a C program with an example and neat diagram.
b) Explain in brief the following with the syntax and example.
(i) fork() and vfork(). (ii) wait() and waitpid()
- OR**
- 7 a) Define FIFO. Explain client server communication using a FIFO with a neat diagram.
b) What are environment variables and command line arguments? Write program in C to echo all its command line arguments to its standard output
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UNIT - V

- 6 a) Explain memory layout of a C program with an example and neat diagram. **10**
b) Explain in brief the following with the syntax and example. **10**
(i) fork() and vfork(). (ii) wait() and waitpid()

OR

7 a) Define FIFO. Explain client server communication using a FIFO with a neat diagram.

b) What are environment variables and command line arguments? Write program in C to echo all its command line arguments to its standard output

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