14IT 506D

Hall Ticket Number:

III/IV B.Tech (Regular\Supplementary) DEGREE EXAMINATION

November, 2019 — **Information Technology**

Fifth Semester — **UNIX Programming**

Time: Three Hours — **Maximum:** 60 Marks

Answer Question No.1 compulsorily. (1X12 = 12 Marks)

Answer ONE question from each unit. (4X12=48 Marks)

1. Answer all questions (1X12=12 Marks)

a) Difference between kernel and shell.
b) Difference between single user and multiuser system.
c) Write the uses of sed command.
d) Shell variable.
e) What does *expr* do in shell script?
f) What is a background process in UNIX?
g) Process group.
h) Difference between system call and command.
i) Difference between program and process.
j) Socket.
k) Write the syntax to create a pipe.
l) Write the syntax to create a shared memory segment.

UNIT I

2. a) With a neat diagram, explain the architecture of UNIX operating system 6M
   b) With a neat diagram, explain the process life cycle. 6M

(OR)

3. a) Write the use of sed editor. Illustrate matching characters in regular expression with examples. 6M
   b) Write the use of awk. Illustrate different functions in awk with examples. 6M

UNIT II

4. a) Illustrate decision making and loop control statements in Shell. 6M
   b) List out the common environment variables that control the user environment in Shell. 6M

(OR)

5. a) Illustrate with examples the mechanisms for string handling and command line arguments in Shell environment. 6M
   b) Write positional parameters in UNIX along with examples 6M

UNIT III

6. Explain the syntax and each argument of the following system calls: 12 M
   (i) create () (ii) open () iii) lseek () iv. stat () v. dup() vi. fcntl()

(OR)

7. a) Illustrate the difference between fork() and exec() with examples programs. 6M
   b) What happens to the child process when the parent process kills/dies first? Explain with example. 6M

UNIT IV

8. a) Describe in detail about the signals. 6M
   b) Illustrate the role of kill and raise functions in signal generation. 6M

(OR)

9. a) Write the advantage of pipes in UNIX. Write a simple program to demonstrate IPC mechanism between child and parent process. 6M
   b) Explain in detail IPC using semaphores with an example. 6M

UNIX Programming SET I
14IT506D/D

Hall Ticket Number:

III/IV B.Tech (Regular) DEGREE EXAMINATION
November, 2019
(Second Semester)
IT
(UNIX Programming)

Time: Three Hours **Maximum :** 60 Marks

Answer Question No.1 compulsorily. (1X12 = 12 Marks)

Answer ONE question from each unit. (4X12=48)

1. Define the following: (12X1=12 Marks)

a) Difference between kernel and shell.
b) Difference between single user and multiuser system.
c) Write the uses of grep command.
d) Shell variable.
e) What does *expr* do in shell script.
f) What is a background process in UNIX.
g) Process group.
h) Difference between system call and command.
i) Difference between program and process.
j) Socket.
k) Write the syntax to create a pipe.
l) Write the syntax to create a shared memory segment.

UNIT – I

2. a) With a neat diagram, explain the architecture of UNIX operating system. (6M)
b) Write and illustrate different process management commands in UNIX. (6M)

(OR)

3. a) Write the use of sed editor. Illustrate matching characters in regular expression with examples. (6M)
b) Write the use of awk. Illustrate different functions in awk with examples. (6M)

UNIT – II

4. a) Illustrate decision making and loop control statements in Shell. (6M)
b) List out the common environment variables that control the user environment in Shell. (6M)

(OR)

5. a) Illustrate with examples the mechanisms for string handling and command line arguments in Shell environment. (6M)
b) Write positional parameters in UNIX along with examples. (6M)

UNIT – III

6. Explain the syntax and each argument of the following system calls: (12M)
(i) create() (ii) open() (iii) lseek () iv. stat() v. dup() vi. fcntl()

(OR)

7. a) Illustrate the difference between fork() and exec() with examples programs. (6M)
b) What happens to the child process when the parent process kills/dies first? Explain with example. (6M)

UNIT – IV

8. a) Describe in detail about the unreliable signals. (6M)
b) Illustrate the role of kill and raise functions in signal generation. (6M)

(OR)

9. a) Write the advantage of pipes in UNIX. Write a simple program to demonstrate IPC mechanism between child and parent process. (6M)

b) Explain in detail IPC using semaphores with an example. (6M)