

KABARAK



UNIVERSITY

UNIVERSITY EXAMINATIONS

2009/20010 ACADEMIC YEAR

FOR THE DEGREE OF BACHELOR OF COMPUTER SCIENCE

COURSE CODE: COMP 321

COURSE TITLE: UNIX AND C PROGRAMMING

STREAM: Y3S2

DAY: MONDAY

TIME: 9.00 – 11.00 A.M.

DATE: 09/08/2010

INSTRUCTIONS:

- **Answer question ONE Compulsory and any other TWO.**

PLEASE TURNOVER

Question One: (30 Marks)

- a) Write a program in C to reverse a word. [5 Marks]
- b) Discuss the two dominant UNIX versions of 1990,s. [3 Marks]
- c) Illustrate the basic format of compiling and executing a c program in the UNIX operating systems. [4Marks]
- d) Describe this sample output in Unix operating system.
-rwxrw-r-- 11 ecs2005 5010 June 30 10:30 erisob.out [5 Marks]
- e) Describe the two formatted output statements in c. [2 Marks]
- f) Differentiate between mount and umount commands in Unix. [3 Marks]
- g) Describe the architecture of a UNIX OS. [5 Marks]
- h) Write a program in C language using the FOR loop to calculate the average of the numbers stored in an array. [3 Marks]

Question Two: (20 Marks)

- a) Describe the basic vi text deletion commands in Unix. [4 Marks]
- b) Briefly explain the three major Unix utilities. [6 Marks]
- c) Write down the significance of the following statements: [4 Marks]
 - i. cp-I file1 file2
 - ii. cp-p file1 file2
 - iii. cp-r Dir1 Dir2
 - iv. cp-u file1 file2
- d) Correct the program below and Write its output with a brief explanation.

```
void main
{
    int const*p=5;
    scanf("%d",++(*p));
}
```

[3 Marks]
- e) Explain the features of the vi-editor that make it more prominent than other Unix editors. [3 Marks]

Question Three: (20 Marks)

- a) Explain how you can modify text in the vi editor. [4 Marks]
- b) What are the UNIX file permissions? Explain. [4 Marks]
- c) Differentiate between the following terms.
 - i) Hard links and Symbolic links. [2 Marks]
 - ii) Absolute pathname and relative pathname. [3 Marks]

d) Write a program in C that accepts numbers between 1 to 10 and prints their total and square. [4 Marks]

e) Write the output of the following program and explain its execution.

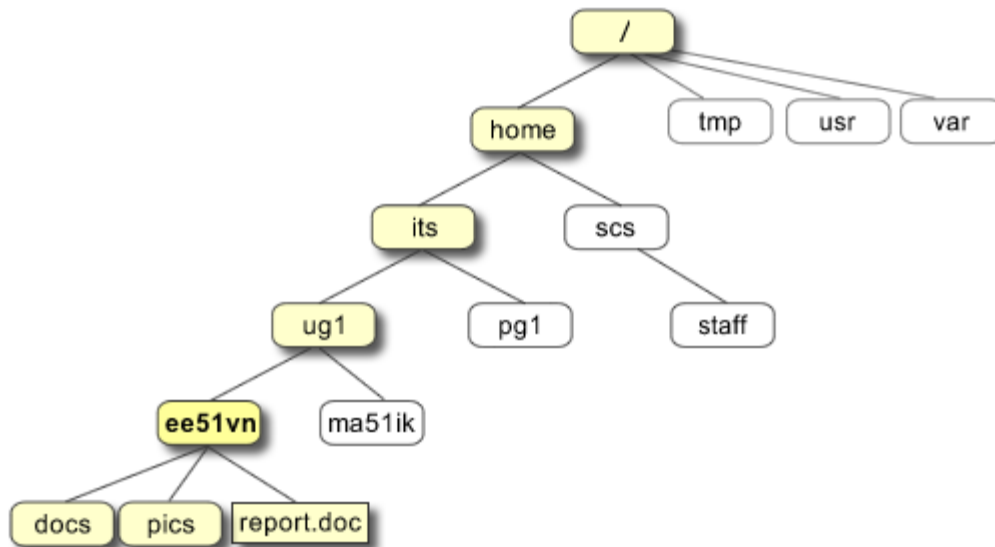
```
main()
{
    int i=400,j=300;
    printf("%d..%d");
}
```

[3 Marks]

Question Four: (20 Marks)

a) Describe the basic modes of the vi editor. [4.5 Marks]

b) Study the directory structure below and answer the questions that follow:



- i) Explain what the slash (/) in the structure above represents. [1/2 Mark]
- ii) List the sub-directories in the home directory ee51vn. [1/2 Mark]
- iii) Write the file and its full path in the structure. [1/2 Mark]

c) Explain the importance of shell scripting that makes it the core issue in Unix operating systems. [4 Marks]

d) Write any C program to illustrate the use of Switch statement. [5 Marks]

e) Briefly explain the history of Unix operating system. [5 Marks]