KABARAK UNIVERSITY

UNIVERSITY EXAMINATIONS

SECOND SEMESTER, 2018/2019 ACADEMIC YEAR

EXAMINATION FOR THE BACHELOR OF BUSINESS MANAGEMENT INFORMATION TECHNOLOGY/BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY/BACHELOR OF SCIENCE IN COMPUTER SCIENCE/BACHELOR OF SCIENCE IN ACTURIAL SCIENCE/BACHELOR OF SCIENCE IN ECONOMICS AND STATISTICS/BACHELOR OF BUSINESS INFORMATION TECHNOLOGY

COMP 120/INTE 124/BBIT 124: STRUCTURED PROGRAMING

STREAM: (Y1S2 &Y2S1) **TIME: 2 .00-4.00PM**

EXAMINATION SESSION: JAN-APRIL **YEAR: 10/4/2019**

INSTRUCTIONS

(i) Answer Question ONE (compulsory) and ANY OTHER TWO questions
(ii) Do not write on the question paper
(iii)Show your working clearly

QUESTION ONE (30 MARKS)

a) Define the following terms as used in programming

i. FUNCTION definition **(2marks)**

ii. Source code **(2marks)**

iii. Token **(2Marks)**

iv. String constant **(2Marks)**

v. Keyword **(2Marks)**

vi. Preprocessor directive **(2marks)**

b) With a simple example differentiate Global declaration and Local Declaration giving an example**.** **(4marks)**

c) Examine the below program code that was extracted from a computer system to be executed by student. Assume you are one of the students and answer the questions below the code.

```
#include<stdio.h >
main ( )
{
      int  v1, v2, sum;
      v1 = 150;
      v2 = 25;
      sum = V1 + V2;
      printf ("The sum of %i and %i is= %i\n", v1, v2, SUM);
return 0;
}
```

i. Explain the expected output of the program. **(4marks)**

ii. Identify the kind of errors on the program that will hinder the program from displaying the output above **(2mark)**

iii. Rewrite the program with the corrected version of the program. **(4marks)**

d) Outline the rule of naming variables in C programming language. **(4marks)**

QUESTION TWO (20 MARKS)

a) Define character set and give an example **(2marks)**

b) Write a C program to SWAP of two numbers using functions. **(4marks)**

c) Write a program that will find the simple interest. **(4marks)**

d) Write a C program find the sum of even numbers within a given range. **(4marks)**

e) Outline four advantages of structured programming. **(2marks)**

f) Discuss structure of a C program **(4marks)**

QUESTION THREE (20 MARKS)

a) With the help of increment operators, write a program to display the sum of the first 10 natural numbers. **(4marks)**

b) Discuss the difference between WHILE loop and DO……WHILE loop as used in C programming **(4marks)**

c) A program was written to check if the number entered by the user is even or odd. Write a program to perform this. **(4marks)**

d) Perform

i. Define LOGICAL operators in C programming **(2marks)**

ii. With the help of a simple program Explain the relational operator represented by the symbol **"AND"** operator **(6marks)**

QUESTION FOUR (20 MARKS)

a) Explain the functions of the following library string functions as used in C programming
   i. Strcpy( ) **(2marks)**
   ii. Strlen( ) **(2marks)**
   iii. Strcat( ) **(2marks)**

b) With the help of a IF…ELSE statement write a program that will display days of the week **(6marks)**

c) A Motorcycle is travelling at a speed of 5 kilometers per minute to place 100 kilometers away. Write a program to calculate how long it will take to arrive there. **(4marks)**

d) Students from DARAKA university were given a THREE digit (876) number to be able to find the sum of the individual digits in that number, they approach you to assist them in coming up with a program to perform this task. Write a program that finds the sum of the INDIVIDUAL digits. **(4marks)**

QUESTION FIVE (20 MARKS)

a) Write a C program that displays the following output

Output

A
A A
A A A
A A A A
A A A A A **(4Marks)**

b) Explain the concept of pointers and outline any three benefits of using pointers in C. **(3Marks)**

c) Write a C program to explain to compute the sum and average of marks scored by a student in five subjects using ARRAYS. **(4Marks)**

d) Write a program to find the **Maximum** value among the three entered by the user **(5marks)**

e) Write a program to determine to check whether the number is divisible by 5 and 10. **(4marks)**