UGANDA INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
WEEKDAY PROGRAMME END OF SEMESTER ONE EXAMINATIONS

ACADEMIC YEAR 2017/2018

DEPARTMENT: ICT

SEMESTER: TWO

PROGRAMME(S): DIPLOMA IN INFORMATION TECHNOLOGY IN SCIENCE (DITS)

YEAR OF STUDY: TWO

COURSE: GRAPHICAL USER INTERFACE

COURSE CODE : IT223

DATE: FRIDAY 19TH, NOVEMBER 2018

TIME: 09:00 AM – 12:00 NOON

DURATION: 3 HOURS

INSTRUCTIONS:

(i) This paper contains two Sections: A (40 marks) & B (60 marks).

(ii) Attempt ALL questions in Section A, and ONLY THREE questions in Section B.

(iii) All questions in Section B carry equal marks.

(iv) Credit will be given for use of relevant examples and illustrations.

(v) Begin each number in Section B on a new page of the answer sheet.

(vi) DO NOT write on this question paper.

SECTION A [40 MARKS]

Attempt **ALL** the Questions in this Section.

(a) (i) What is meant by the term *Graphical User Interface*?
(ii) Give **four** benefits of a good interface design.

(b) (i) Give any **four** windows availed in Visual basic 2010.
(ii) Difference between a label and a textbox control as used in the design of Interfaces.

(c) (i) Write down the syntax of if …. $then$ …. $elseIf$ statement. Explain how it works.
(ii) By use of relevant examples, explain the $usage$ and $syntax$ of the given string manipulation functions in Visual Basic: Right( ) and Mid( ).

(d) (i) What is *interface evaluation*?
(ii) Give **five** factors to be considered in designing an error message of any user interface.

(e) (i) Give any **four** general principles of user interface design.
(ii) Write a simple Visual Basic program that captures the radius from the keyboard, computes and displays the area and circumference of a circle **[8 marks@] (40 marks)**

SECTION B [60 MARKS]

Attempt **ONLY THREE** Questions in this Section.

Question 1

(a) (i) State the importance of declaring variables in visual basic programming. **(2 marks)**
(ii) Outline at least **four** rules followed in naming valid variables in VB programming. **(4 marks)**

(b) Differentiate between the following declarations:
(i) Dim password As String and
(ii) Dim password As String*8 **(2 marks)**

(c) Write a program which captures the values of a, b and c from the keyboard, computes, and prints the value of of x.
Where x = (-b + $\sqrt{}$(b^2 – $4ac$))/2a **(4 marks)**

(d) With the help of illustration, differentiate between the following controls as used in the design of interfaces.

(i) Check box and radio buttons

(ii) List Box and Combo Box **(8 marks)**

Question 2

(a) Write down the syntax and semantics of $do - while$ and $do - until$ loops. **(8 marks)**

(b) Write a program which computes and prints the square of integers from 1 to 20. **(5 marks)**

(c) Write down the steps of connecting a GUI developed in VB 2010 to a database. **(7 marks)**

Question 3

(a) Write a program which captures two separate strings; INFORMATION and TECHNOLOGY from a user, then computes and prints:

(i) the combined string of the two with space between them **(4 marks)**

(ii) the combined string of the two in lowercase letters **(2 marks)**

(iii) the number of characters in the combined string after extracting letters TECH in (i) above. **(4 marks)**

(b) User interaction means issuing commands and associated data to the computer system.

Describe the different ways how a user can interact with a computer system. **(10 marks)**

Question 4

(a) Define the term *usability* as used in interface evaluation. **(2 marks)**

(b) How can the *usability* of an interactive system be demonstrated or measured? **(4 marks)**

(c) Explain any **four** types of graphical user interface evaluations. **(8 marks)**

(d) State and briefly describe any **three** documents that a software developer should provide to the user along with the system. **(6 marks)**

Question 5

(a) (i) State the syntax of $Select\ Case$ and explain how it works in Visual Basic. **(5 marks)**

(ii) Using the $Select\ Case$, design an interface and a code that will capture student's marks for **four** subjects, sum up and average the marks. Every student whose average mark is 50% and above, should be graded as "PASSED" and the rest "FAILED" . **(8 marks)**

(b) Give any **four** advantages and **three** disadvantages of direct manipulation as used in output design. **(7 marks)**

END