



# **THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE**

## ***Faculty of Engineering & Technology***

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

### DIPLOMA IN TECHNOLOGY

ELECTRICAL POWER ENGINEERING  
TELECOMMUNICATION ENGINEERING  
INSTRUMENTATION & CONTROL ENGINEERING  
ELECTRONICS ENGINEERING  
COMPUTER SCIENCE ENGINEERING  
MECHATRONICS & ROBOTICS ENGINEERING

## **PROGRAMMING & SOFTWARE ENGINEERING I**

SEMESTER III EXAMINATIONS

**SERIES:** MAY/JUNE 2010

**TIME:** 2 HOURS

### **Instructions to candidate:**

- This paper consists of **TWO** Sections, **A** & **B**.
- Answer any **TWO** questions practically in Section **A** and save your work in a folder bearing your student number and class.
- Answer any **TWO** questions in Section **B** (Theory) in the answer booklets provided.
- Section **A** takes 2 hours
- Section **B** takes 1 hour

## **SECTION A (PRACTICAL)**

(Answer any **TWO** questions from this Section.)

### **QUESTION ONE**

- (a) Design a VB interface and write a VB program to:-
- (i) Calculate the area of a circle.
  - (ii) Calculate the area of a triangle. (10 marks)
- (b) Using the SELECT case, write a VB program that requests the user to enter an integer representing a person's age; if the age is less than 10 years, it should display appropriate messages. Create at least **FOUR** age brackets for the program to display the appropriate messages. (10 marks)

### **QUESTION TWO**

Design a VB interface for a students' records management and write a database oriented VB program that allows new students to be registered and their details stored in that database. The students' details include student number, date of admission, department, course, age and class. The program should be able to add new student records in the database, save the records, navigate through the First, Next, Previous and last records. (20 marks)

### **QUESTION THREE**

- (a) Design a VB user interface and write a program that checks if password is correct. If correct, it lets the user of the system continue working. If not the program does not continue, instead closes down. Use a textbox for entering password and display appropriate messages as responses to the password entered. (10 marks)
- (b) Using For----- Next loop; write a VB form load program that prompts the user to enter an integer value that is greater than 50. The user is allowed on FIVE chances and if after the fifth time the value is still less than 50, the program exists. (10 marks)

## **SECTION B (THEORY)**

(Answer any **TWO** questions from this Section.)

### **QUESTION ONE**

- (a) Explain the function of any **FIVE** VB data types. (10 marks)
- (b) Briefly describe the following elements of Integrated Development environment (IDE) in VB programming.

- (i) Menu bar
- (ii) Context menu
- (iii) Tool bars
- (iv) Tool box
- (v) Project explorer window. (5 marks)

### **QUESTION TWO**

- (a) List any **FOUR** general features of VB 6.0 programming language. (4 marks)
- (b) Explain the **THREE** stages in creating a VB application. (6 marks)
- (c) Explain the following name properties as used in VB 6.0 programming.
  - (i) Cmdclose
  - (ii) Iblusername
  - (iii) Picmombasauniversity
  - (iv) Hsbcolourintensity
  - (v) lin (5 marks)

### **QUESTION THREE**

- (a)
  - (i) Define a variable as used in computer programming.
  - (ii) Describe the **THREE** methods of declaring variables in Visual Basic Programming.
  - (iii) Explain any **THREE** reasons for declaring variable in computer programming. (14 marks)
- (b) State any **TWO** types of VB data types. (1 mark)