



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

(A Centre of Excellence)

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

DIPLOMA IN INFORMATION TECHNOLOGY (DICT M12 SEP10/FT/EV)

ECT 2211: QUANTITATIVE TECHNOLOGY

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2012

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consist of **FIVE** questions

Answer question **ONE (COMPULSORY)** and any other **TWO** questions

Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

Question One (Compulsory)

- a) Draw a flowchart to calculate the sum of ten integer values. Use a loop. **(10 marks)**
- b) Implement Q2(a) above using Visual Basic Programming language. **(10 marks)**

Question Two

- a) Explain the following terms:
- (i) Object-oriented programming
 - (ii) Event driven programming **(4 marks)**
- b) Briefly describe each of the following Integrated Development (IDE) features;
- (i) Toolbox
 - (ii) Control
 - (iii) Form
 - (iv) Title bar
- c) Write a C program to read a student name and the score for a particular subject. The program should output grades as shown:-
- | | |
|----------|--------|
| Above 90 | “A” |
| 80 – 89 | “B” |
| 70 – 79 | “C” |
| 60 - 69 | “D” |
| Below 60 | “FAIL” |
- (8 marks)**

Question Three

- a) Explain the uses of the following properties of a data Control.
- (i) Database name
 - (ii) Record source
 - (iii) Field name
 - (iv) Data source **(8 marks)**
- b) Describe how you can connect to an Ms Access database file called “Student.mdb” from VB project. **(10 marks)**

Question Four

- a) Explain the uses of the following controls:
- (i) ListBox
 - (ii) TextBox
 - (iii) CheckBox
 - (iv) ComboBox **(8 marks)**
- b) Explain the term data security. **(2 marks)**
- c) Write a VB program that will accept the username and password from the user. If the user is “JOHN” and password is “9999” then the user is given access but if username and password are incorrect the user is denied access. **(8 marks)**

Question Five

- a) Explain the **TWO** control structures used by Visual Basic Programming language. **(10 marks)**
- b) Write a temperature conversion program that converts a Fahrenheit temperature to a Celsius temperature. Provide a TextBox for user input and a label for displaying the converted temperature. Provide a input button to read the value from the TextBox. Also provide the user with an Exit Button to end program execution. Use the following formula: $Celsius = \frac{5}{9} \times (Fahrenheit - 32)$ **(10 marks)**