THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

Faculty of Engineering and Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATION FOR BACHELOR OF TECHNOLOGY IN INDUSTRIAL MICROBIOLOGY AND BIOTECHNOLOGY

ICS 2215: INFORMATION TECHNOLOGY II

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: FEBRUARY/MARCH 2012

TIME: 2 HOURS

SECTION A (*Compulsory*)

Question One

a) Explain any **two** repetition structure in Pascal Programming.   **[4 marks]**

b) List any **four** data type in Pascal programming.   **[4 marks]**

c) Explain any **two** advantages and two disadvantages of flow charts.   **[8 marks]**

d) Describe any **THREE** types of errors that can occur whenCompiling Pascal program.

[6 marks]

e) Explain the following:

     I.   Variable.
    II.   Constant.   **[4 marks]**

f) List **FOUR** features of a good programming language.   **[4 marks]**

SECTION B

Question Two

a) In a certain school students sit for three exams. The average marks of three exams are calculated and the students are given grades. The grading system is shown below:

Average Mark	Grade
0 – 39	F
40 – 60	C
60 – 75	B
75 – 100	A

    i)   Develop a pseudo code for the Q2 A above   **[3 marks]**

    ii)   Write a Pascal program to read marks, calculate the average of a student and output the grade of a student.   **[7 marks]**

b) Describe any two advantages of using a high level programming languages.   **[4 marks]**

c) Explain using an example the use of comments in computer programs.   **[3 marks]**

d) List any three guidelines in Naming variables   **[3 marks]**

Question Three

a) Develop a program that reads length and width of a rectangular plot and length and width of a house situated within the plot. The program should calculate time needed to cut the grass at a rate of 2m sq/sec   **[8marks]**

b) State TWO advantages of program documentation.   **[2marks]**

c)   i)   Draw a program flowchart to calculate the sum of numbers From 1 to 100 **[4marks]**

    iii)   Implement the above Q3 c using Pascal Language   **[6marks]**

Question Four

a) A construction company pays its casual employees on weekly basis under the following guidelines
- Basic Salary =Hours Worked x Rate
- Net Salary=gross-tax
- If employee earns more than 3000Ksh, tax him/her 200Ksh otherwise no tax

    (i)   Develop a program flowchart that reads the name of an employee, hours worked and the rate of pay ,process the data and display the Name of employee ,Basic salary and Net salary   **[6 marks]**

    (ii)   Implement the above Q4(a) using Pascal Language   **[8 marks]**

b) Explain any **THREE** disadvantages of machine programming language.   **[6 marks]**

Question Five

a ICT has increased the choice of career opportunities globally. Identify and briefly explains four ICT career opportunities in your country. **(8 marks)**

b Define the term information technology. **(2 marks)**

c State **four** advantages of computers **(4 marks)**

d List the major elements of a computer system. **(6 marks)**