



MUEO

MOI UNIVERSITY

**OFFICE OF THE DEPUTY VICE CHANCELLOR, ACADEMIC
AFFAIRS, RESEARCH & EXTENSION**

**UNIVERSITY EXAMINATIONS
2013/2014 ACADEMIC YEAR**

SECOND YEAR END OF SEMESTER I/II EXAMINATIONS

**FOR THE DEGREE OF
BACHELOR OF BUSINESS MANAGEMENT**

EXAM CODE:- BBM 200

COURSE TITLE:- INTRODUCTION TO PROGRAMMING

DATE:- 30TH MAY, 2014

TIME:- 9.00A.M. - 12.00NOON.

INSTRUCTION TO CANDIDATES

➤ **SEE INSIDE.**

THIS PAPER CONSISTS OF (2) PRINTED PAGES

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QUESTION ONE (25 Marks) Compulsory

- a. Planning in problem solving is important. Discuss the importance of this process to a software programmer. [5 marks]
- b. Discuss the benefits that a programmer derives from the use flowcharts and algorithms in problem solving. [6 marks]
- c. Explain the factors that programmers do consider before selecting a particular technique in problem solving. [5 marks]
- d. A program is required to compute the remainder of the division of any two input integer numbers. Draw a flowchart; write an algorithm, and a corresponding program to display the result. [9 marks]

QUESTION TWO (15 Marks)

- a. Explain the following programming concepts. [4 marks]
 - i. Modular programming.
 - ii. Expressions
 - iii. Divide and conquer
 - iv. Looping
- b. Testing forms an integral part of program development. Discuss the criteria for testing a program. [5 marks]
- c. Write a program to compute compound interest for the sum invested for any number of years. Explain using a flowchart. [6 marks]

QUESTION THREE (15 Marks)

- a. Discuss the importance of operators in programming. [2 marks]
- b. Data types are important concepts in any programming language. Discuss the basic data types and their importance in programming. [3 marks]
- c. Explain the rules that must be observed when selecting variable names in the program. [4 marks]

- d. James's basic salary is input through the keyboard. His dearness allowance is 40% of basic salary, and house rent allowance is 20% of basic salary. Write a program to calculate his gross salary. [6 marks]

QUESTION FOUR (15 Marks)

- a. With the help of syntax, flowchart and a program example explain the following types of control structures.
- i. *nested if ... else* control structure. [6 marks]
 - ii. *if* control structure [3 marks]
- b. A program is required to compute the sum of numbers divisible by 10 between 100 and 20. Write a program using *do...while* loop control structure to display the results. [6 marks]

QUESTION FIVE (15 Marks)

- a. Discuss the role of main function in a program. [2 marks]
- b. Write a function oriented program to compute area of a circle. [5 marks]
- c. Arrays form the part of programming. Discuss the relevance of arrays in programming. [3 marks]
- d. Using the concept of arrays, write a program to find the average of numbers contained in the array. [5 marks]

QUESTION SIX (15 Marks)

- a. A Nationalized Bank has the following policy to its depositors:
- ✓ On deposits of Ksh. 10,000 or above and for three years or above, the interest payable is 10%.
 - ✓ On deposits for the same amount and for less than three years, the interest is 8% and,
 - ✓ Deposits below Ksh. 10,000 the interest rate is 5% irrespective of the period.

Draw a flow chart to compute the interest for the above given information. Write a corresponding program for the same.