

# MAASAI MARA UNIVERSITY

UNIVERSITY EXAMINATION 2014/2015

SECOND YEAR FIRST SEMESTER

SCHOOL OF BUSINESS AND ECONOMICS

COURSE CODE: BBM 200

COURSE TITLE: INTRODUCTION TO PROGRAMMING

DATE:

TIME: 2 HOURS

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## INSTRUCTIONS

Answer **Question ONE** in section A (compulsory)

And any other **TWO Questions** in section B

### SECTION A

#### QUESTION 1 (COMPULSORY)

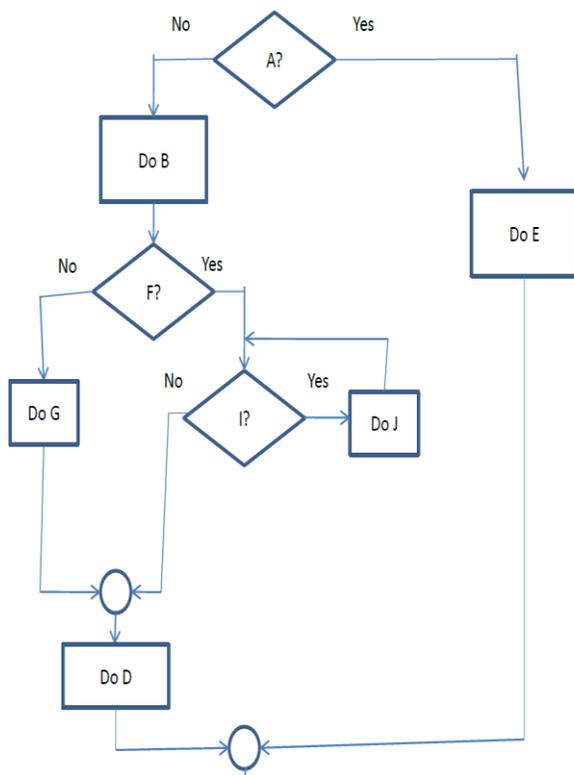
- a) Define variable and show how a variable is declared in VB6. **(2 mark)**
- b) Declare an integer score array of size 100. **(2 marks)**
- c) Explain each of the following programming paradigms. **(6 marks)**
  - i) Structured programming
  - ii) Object oriented programming
  - iii) Event driven programming
- d) Using **For ...next** construct, write a VB6 program that will display all multiples of 6 in the range of 135 to 236. **(2 marks)**
- e) List three categories of errors that one can make when writing programs. **(3 marks)**

f) The price of a plane ticket is \$1000 by default, but discounts are applied to it based on different criteria. The following rules determine the discounts hence and hence the final price. Students get 20% discount, people who purchase 30 days in advance get 25% discount. Discounts can aggregate, for example a student purchasing 40days in advance get a 40% discount. You have to ask the user for input on whether they are a student. Draw a flowchart of your algorithm that solves the problem and calculates the final price. **(15 marks)**

**SECTION B**

**QUESTION 2**

Translate the following flowchart into a pseudo code **(15 marks)**



**QUESTION 3**

A fitness club has four levels of membership charges, based on the age of the member **(15 marks)**

Age	level/category	Amount
0-16	Junior	Ksh 1200
17-54	Adult	Ksh 2400
55-80	Seniors	Ksh 1200
Over 81	honorary	0

Using SELECT Case, Design and write a program that will ask for the member’s age and display category and charges

#### QUESTION 4

The Echo coach Bus Company employees are paid their salaries using the following guidelines **(15 marks)**

They all get a basic salary; they all get personal allowances based on marital status, single get ksh 6000, married get 12000 per month.

House allowance is worked out as follows:

Employees in job group A get 12000 per month

Employees in job group H get 24000 per month

Employees in job group C get 36000 per month

House allowance must not exceed 25% of basic pay and 10% personal allowance.

Tax is calculated at 20% of employee's gross pay

Net income is gross pay less tax

Design a flowchart and write code in VB6 that would prompt the user to enter their name, job group, basic pay and marital status.

The program should then work out gross pay, tax amount and then display net pay

#### QUESTION 5

Using **nested ...if** construct, design and write a program in VB6 that prompts the user to enter a student name, regno, CAT1, CAT2, EXAM marks and calculates the average mark and grade **(15 marks)**

The maximum score for each CAT is 15% and Exam is 70%. The program should display name, regno, CAT1, CAT2, EXAM, average mark and grade.

The grading system is as follows:

Average mark range	grade
70-100	A
60-69	B
50-59	C
40-49	D
39-40	F