TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRICAL/ELECTRONICS ENGINEERING

UNIVERSITY EXAMINATION FOR:

BACHELOR OF SCIENCE IN ELECTRICAL/ELECTRONICS ENGINEERING

SMA2276: **COMPUTER PROGRAMMING II**

END OF SEMESTER EXAMINATION

SERIES:APRIL2016

TIME:2HOURS

DATE:Pick DateSelect Month2016

Instructions to Candidates
You should have the following for this examination
-*Answer Booklet, examination pass and student ID*
This paper consists of **FIVE** questions. Attemptquestion ONE (Compulsory) and any other TWO questions.
Do not write on the question paper.

Question 1

a) Briefly explain the following terms as used in Programming
   i. Computer program
   ii. Data type

   [4marks]

b) explain the following concepts as used in Programming
   i. Structured programming
   ii. Modular programming

   [6marks]

c) Briefly state the form of putting comments in FORTRAN90 programming

   [4marks]

d) Write a short statement in to distinguish the following concepts
   i. Declaration
   ii. Initialization
   iii. Assignment

[6marks]

e) Distinguish between the following types of operators as used in programming
- iv. Arithmetic operators and increment/decrement operators
- v. Logical and relational operators

[4marks]

f) State any THREE advantages of structured Programming

[6marks]

Question 2

a) Design and write a program that :
- i. Has three integer variables(a,b,c)
- ii. Initializes them to 10,20, and 30 respectively
- iii. Finds the average of the 3 numbers
- iv. Stores the average in the first variable(a)

[10marks]

b) Briefly explain the meaning of any FIVE intrinsic functions in FORTRAN

[10marks]

Question 3

a) Explain the meaning of the following terms in Fortran
- i. Intrinsic function
- ii. Formatted output
- iii. Redirected output
- iv. Data type
- v. Variable

[10marks]

b) Write a program called trig.f90 that prompts for an angle in degrees from the keyboard and then prints out neatly using format statement on the screen the sine, cosine and tangent of the angle.

[10marks]

Question 4

a) Explain the meaning of the following Fortran keywords
- i. Read
- ii. Write
- iii. Stop
- iv. Implicit
- v. Format

[10marks]

b) Write a program called money.f90 that calculates the value of $1000 investment after five years for interest rates of 2%,4%,6% and 8% and writes the interest rates and results neatly on the screen

[10marks]

Question 5

a) Write the syntax of the following Fortran keywords
- i. open
- ii. Write
- iii. Stop
- iv. close

v. Format

[10marks]

b) Write a program called money.f90 that reads four different interest rates and corresponding amount from the file called mymoney.f90 and then displays them on the screen.

[10marks]