COM 121

ALUPE UNIVERSITY COLLEGE
... *Bastion of Knowledge...*

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**OFFICE OF THE DEPUTY PRINCIPAL
ACADEMICS, STUDENT AFFAIRS AND RESEARCH**

UNIVERSITY EXAMINATIONS
2017 /2018 ACADEMIC YEAR
FIRST YEAR SECOND SEMESTER REGULAR
EXAMINATION

FOR THE DEGREE OF BACHELOR OF
SCIENCE IN COMPUTER SCIENCE

COURSE CODE: COM 121
COURSE TITLE: PROCEDURAL PROGRAMMING I

DATE: 20TH APRIL, 2018   **TIME: 9AM – 12.00 NOON**

INSTRUCTION TO CANDIDATES
- **SEE INSIDE**

THIS PAPER CONSISTS OF 3 PRINTED PAGES   PLEASE TURN OVER

COM 121: PROCEDURAL PROGRAMMING I

STREAM: COMPUTER SCIENCE   **DURATION: 3 Hours**

INSTRUCTIONS TO CANDIDATES

i. *Answer Question **ONE** and any other **TWO** questions.*

ii. *Maps and diagrams should be used whenever they serve to illustrate the answer.*

iii. *Do not write on the question paper.*

SECTION A (24 MARKS) COMPULSORY

QUESTION ONE (12 Marks)

(a) Provide your understanding of the phrase "The single most important skill for a computer scientist is problem-solving"   (3 Marks)

(b) Write code that generates the output that appears on a single line as "Goodbye, cruel world!".   (7 Marks)
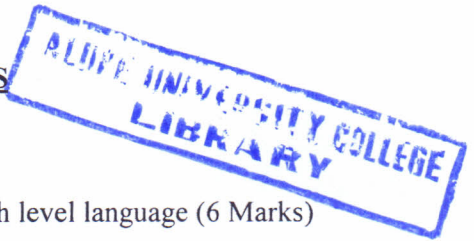
(c) Define the term initialization   (2 Marks)

QUESTION TWO (12 Marks)

(a) Differentiate between interpreting a program and compiling a program   (4 marks)

(b)Consider the following to be variable assignments within a main program

```
fred = "Hello.";
hour = 11;
minute = 59;
```

Provide the comments for each one of the assignments   (3 marks)

(c) Provide the code for a method that takes a single parameter, named phil, that has type String, and it gets printed twice.   (5 Marks)

SECTION B (36 MARKS) ATTEMPT ANY THREE QUESTIONS

QUESTION THREE (12 Marks)

(a) Distinguish between machine language, assembly language and high level language (6 Marks)

(b) State the three step formal flow of execution for a while statement   (6 Marks)

QUESTION FOUR (12 Marks)

(a) Write the conditional statement code that ckecks whether X is greater than zero and if it is it prints the line x is positive and if it is not it does nothing   (4 marks)

(b) Distinguish between a floating-point and a class   (4 Mark)

(c) Outline the four rules of thumb that one should adhere to while reading a program   (4 marks)

QUESTION FIVE (12 Marks)

(a) Discuss three (3) main differences between formal and natural languages   (6 marks)

(b) Provide a distinction between return type, return value and dead code   (6 marks)

QUESTION SIX (12 Marks)

(a) Identify the three logical operators in Java, clearly illustrating the symbols that denote them
(6 Marks)

(b) Write code that generates a while statement that does the following:
   "While n is greater than zero, continue printing the value of n and then reducing the value of n
   by 1. When you get to zero, print the word `Blastoff!'"   (6 marks)

QUESTION SEVEN (12 MARKS)

A programmer wants to realize a program for a call-center that handles requests for telephone numbers. Specifically, a certain client requests the telephone number associated to a certain person name in a certain city, and the operator answers to the request by selecting the telephone registry of the city and searching there the telephone number corresponding to the person name. Identify the objects and operations in the above scenario   (12 marks)

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