ELIZADE UNIVERSITY, ILARA-MOKIN

FACULTY: BASIC AND APPLIED SCIENCES
DEPARTMENT: MATHEMATICS AND COMPUTER SCIENCE
2nd SEMESTER EXAMINATION
2017 / 2018 ACADEMIC SESSION

COURSE CODE: CSC 102

COURSE TITLE: Introduction to Problem Solving

COURSE LEADER: Dr. Bukola Onyekwelu, Dr. Festus Ayetiran, Mr. Olusola Babalola

DURATION: 2 Hours

HOD's SIGNATURE

INSTRUCTION:

Candidates should answer **FOUR** questions, AT LEAST ONE (1) QUESTION FROM EACH SECTION

SECTION A

Question One

a. What is a problem?

"I want to be rich" is a common statement. Is it an ill-defined problem or not?

If it is, write a well-defined problem contrasting it with the example given above by showing what key aspects a well-defined problem should have.

If it is not an ill-defined problem, explain your answer.

b. i. What is Computational thinking?

ii. You are in a debate. You are to support the argument that making CSC102's Intro to Problem Solving a compulsory course for any discipline is a right decision. Write to convince the judges. You are to have at least 7 points in bullet form with examples using your own discipline as a case study.
Maximum content: 1 page.

Question Two

a. i. Write a good algorithm and based on what you know as characteristics of a good algorithm, explain why it is good.

ii. Write a bad algorithm and state why it is bad.

b. It has been said that the sequential, iteration, and condition constructs are sufficient to write any program. Explain each of these constructs using algorithmic examples.

SECTION B

Question One

a. Consider a network where the Central Hub is connected to eight nodes N1, N2, N3, N4, N5, N6, N7, and N8.

(i.) Identify this type of network

(ii.) Illustrate the described network

(iii) Explain any major drawbacks associated with the described network

(iv) Explain what happens if node 5 (N5) fails.

b. Explain the functions of the following network devices.
(i.) Repeaters (ii) Bridges (iii) Routers (iv) Gateways

c. Define the following: (i) Bandwidth (ii) Packet (iii) IP Address

Question Two

a. Consider a network where one root **R** is connected to two nodes **N1** and **N2**. Let **N1** be connected to two nodes **N1A** and **N1B** and let **N2** be connected to two nodes **N2A** and **N2B**. Identify the type of topology and the various combined topologies present. Illustrate graphically and explain any major drawback associated with the described type of network.

b. What are network protocols? Explain the various elements of network protocols.
Write the full meanings of the following: (i) CDP (ii) HTTP (iii) SMTP (iv) UDP

c. Define the following: (i) Traffic (ii) Firewalls (iii) Node

SECTION C

Question One

a. Define the following:

i. Database iii. Field v. Queries

ii. Record iv. Reports

b. Explain the two basic varieties of Queries

c. The following each have their primary keys. Name them.

i. Driver's License iii. Student ID Card v. Hospital Card

ii. International Passport iv. Vehicle license

Question Two

a. What is an Application Suite? Give at least 2 examples.

b. List the purposes for which Microsoft Word is used.

c. What is an Excel formula? Explain the four (4) basic parts of an Excel formula.