GRETSA UNIVERSITY - THIKA

UNIVERSITY EXAMINATIONS
MAY - AUGUST 2018 SEMESTER

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

COURSE CODE: BSCS 208

COURSE TITLE: ADVANCED OBJECT ORIENTED PROGRAMMING

DATE: 10 AUGUST 2018   **TIME: 8.00AM-11.00AM**

INSTRUCTIONS TO CANDIDATES

1. SECTION A IS **COMPULSORY.**
2. SECTION B: ANSWER ANY OTHER **THREE** QUESTIONS.
3. **DO NOT** WRITE ANYTHING ON THIS QUESTION PAPER AS IT WILL BE AN EXAM IRREGULARITY.
4. ALL ROUGH WORK SHOULD BE AT THE BACK OF YOUR ANSWER BOOKLET AND CROSSED OUT.

SECTION A: COMPULSORY

Question one

   a. Discuss any five object orientation concepts   **[10marks]**

   b. By giving one example on each, explain the three main classes used in creating GUI

   [10 marks]

   c. What are the advantages of using inheritance in programming?   **[6 marks]**

   d. What is an Icon? Write down a simple java code to create an image icon from image file   **[6 marks]**

   e. Write a JAVA program that prompts the user to enter three numbers then displays the largest   **[8marks]**

SECTION B: ANSWER ANY THREE QUESTIONS

Question two

   a. Describe any five features that distinguish between C programming and JAVA programming   **[10marks]**

   b. A Makini investment pays an interest of 12% per annum on member deposits. Write a JAVA program that accepts the customer name, deposits and duration in years then calculates and displays the total deposits. Note: all the deposits at the end of the year are carried over to the next year and the new amount becomes the deposit for the next year.

   [10marks]

Question three

   a) Write a java program that will calculate the volume of a cylinder (Vol = 3.142 x r x h) where r is the radius and h is the height.   **[10 marks]**

   b) Discuss any five fundamental concepts of java programming   **[10marks]**

Question four

   a. Write a simple java program and describe each of its components   **[10marks]**

b. Java is machine dependent. Explain this concept in relation to other programming languages such as C and C++ **[10marks]**

Question five

a. Explain the following three Object oriented principles and how they are implemented in Java Language. **[10 marks]**

b. What are interfaces in Java; discuss any one advantages and one disadvantages of using interfaces in Java **[5 marks]**

c. Briefly explain the general format of interfaces in Java with a simple Java program.

[5 marks]