



PAN AFRICA CHRISTIAN UNIVERSITY

BBIT, BSIT

END OF TERM EXAMINATION

DEPARTMENT: COMPUTING & INFORMATION TECHNOLOGY

COURSE CODE: BIT204, BCIT204

CAMPUS: ROYSAMBU

COURSE TITLE: OBJECT-ORIENTED PROGRAMMING 1

EXAM DATE: WEDNESDAY, DATE (DDTH MONTH YEAR)

TIME: START HOUR – END 14:00-17:00 HRS

INSTRUCTIONS

- This exam script has **TWO (2)** sections.
- Read all questions carefully before attempting.
- Answer All questions in Section **A** and any other three questions in Section **B**.
- None programmable calculators permitted
- Calculators on phones, tablets, and computers are NOT permitted in Theory Papers

SECTION A

(Answer ALL questions in this section)

QUESTION 1

a) Explain THREE reasons that make Java the most preferred object-oriented programming language of choice to many programmers. **(3 Marks)**

b) Using a code snippet, distinguish between FOR-LOOP and DO-WHILE LOOP. **(4 Marks)**

c) Identify THREE errors in the following code: **(3 marks)**

```
public class Count {  
    public void main(string[] args) {  
        private count();  
        int i;  
        int k = 100.0;  
        intj = i + 1;  
  
        Systems.out.println("j is " + j + " and  
            k is " + k);  
    }  
}
```

SECTION B

(Answer any FOUR (3) questions in this section)

QUESTION 2

a) Write a Java program to determine whether a student has passed a test or not. Use switch case control structures. **(5 Marks)**

b) Write a program that reads in the radius and length of a cylinder and computes its volume. **(5 marks)**

QUESTION 3

- a) State FOUR impacts of methods on program development **(4 Marks)**
- b) Write a method that computes Simple Interest given interest rate, and principal for a specified number of years. The principal, rate, and time are passed as parameters. Call the method within the main. The Simple Interest is determined using the formula
(Principal * rate * time) / 100. **(6 marks)**

QUESTION 4

- a) Explain the significance of accessors used in the following code snippet. **(6 marks)**

```
public class Circle {  
    public double x,y,r;  
    public double getX() { return x;}  
    public double getY() { return y;}  
    public double getR() { return r;}  
    public double setX(double x_in) { x = x_in;}  
    public double serY(double y_in) { y = y_in;}  
    public double setR(double r_in) { r = r_in;}  
}
```

- b) Using WHILE LOOP, write a java program to display **"GOD IS GOOD"** five times. **(4 Marks)**

QUESTION 5

- a) State the rationale for constructors in computer programming **(2 marks)**

- b) Demonstrate how a destructor contributes to garbage collection in OOP

(3

marks)

- c) Write a java program with a base class **Student** and derived classes **CertificateStudent** and **DiplomaStudent**. The base class should pass such features like Regn0, name, and gender to its derived classes and display the results accordingly.

(5

Marks)

QUESTION 6

- a) With the aid of a Java code snippet, describe how to declare and initialize an array of ten integers.

(5

marks)

- b) Write a Java program that reads ten numbers and stores them in an array, computes their sum, and finds out maximum and minimum numbers **(5 marks)**

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