



**UNIVERSITY EXAMINATIONS**  
**FIRST YEAR EXAMINATION FOR THE AWARD OF DIPLOMA IN**  
**COMPUTER SCIENCE**  
**COSC 0244: FUNDAMENTALS OF OBJECT ORIENTED PROGRAMMING**

**STREAMS: DIP COMP SCI Y2S2**  
**CAMPUSES: MAIN CAMPUS**

**TIME: 2 HOURS**

**DAY/DATE MAR.....**

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**INSTRUCTIONS:**

- Answer question **ONE** and any other **TWO** questions in section B
- Do not write anything on the question paper
- This is a **closed book exam**, no reference materials are allowed in the examination room
- There will be **NO** use of mobile phones or any other unauthorized materials
- Write your answers legibly and use your time wisely.

**SECTION A (Answer ALL Questions)**

**Question One (30 Marks)**

- a) Define the following terms as used in JAVA
  - i. JDK (2 Marks)
  - ii. JRE (2 Marks)
  - iii. JVM (2 Marks)
- b) Differentiate between a package and library in Object Oriented Programming (4 Marks)
- c) Explain the THREE types of access modifiers used in Java (6 Marks)
- d) With an example differentiate between an object and a class in JAVA (6 Marks)
- e) Name THREE Java Frameworks used for rapid development (3 Marks)
- f) Show how a Java Variable is declared and initialized in one statement (5 Marks)

**SECTION B (Answer ANY TWO Questions)**

**Question Two (20 Marks)**

- a) Illustrate a Java Main method with an output statement (8 Marks)
- b) State and Explain the THREE types of errors that you are likely to encounter in object-oriented programming. (12 Marks)

**Question Three (20 Marks)**

- a) Write the syntax of Java do while loop (6 Marks)
- b) List Five Rules of naming Identifiers (5 Marks)
- c) Differentiate between method overloading and method overriding (4 Marks)
- d) List the main stages of a JAVA Applet (5 Marks)

**Question Four (20 Marks)**

- a) State and Explain FIVE types of Java operator (10 Marks)
- b) Define the following terms as used in Object Oriented Programming
  - i. Polymorphism (2 Marks)
  - ii. Encapsulation (2 Marks)
  - iii. Inheritance (2 Marks)
- c) NAME and EXPLAIN two variable types that can be created in a class (4 Marks)

**Question Five (20 Marks)**

- a) Illustrate how one can archive a control flow in object-oriented programming using nested IF ELSE statement (10 Marks)
- b) Write down a JAVA method with a public access modifier explaining each part of the syntax in the method. (10 Marks)

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