## I. Demonstrate knowledge of computer programming.

### Tasks Instructions:

Each number to the right refers to a single student/candidate (1-10). Place a check (✓) in the respective column for the appropriate student/candidate number (1-10) if the skills listed below are observed as stated. Leave blank if not observed. Student/candidate will only get credit for the skills they have demonstrated.

- Explain how programs and programming languages work
- Describe the purposes and practices of structured programming

Safety and infection control are adhered to during all aspects of this task.
The student completed task within the time limited.

### Points earned

<table>
<thead>
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<th>Total possible points (4)</th>
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## II. Perform competencies related to Java programming.

### Tasks Instructions:

- Explain the structured programming paradigm
- Identify the primary components of a Java program
- Explain the basic syntax of a Java program
- Demonstrate procedures for compiling and running a Java application
- Demonstrate the use of Java's online hypertext technology documentation
- Demonstrate the use of Java's identifiers to name variables, constants, and
methods
Demonstrate the use of Java's operators to write expressions
Explain the rules governing operand evaluation order and operator precedence
Summarize Java's variable naming conventions
Distinguish syntax errors, runtime errors and logic errors
Understand program flow control in selection and loop statements
Demonstrate the use of methods in Java
Demonstrate the use of declaring, initializing and accessing elements in arrays
Demonstrate the use of the string class to process fixed strings

*Safety and infection control are adhered to during all aspects of this task.*

*The student completed task within the time limited.*

**Points earned**

**Total possible points (16)**

### III. Perform competencies related to C++ programming.

**Tasks Instructions:**

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<tr>
<td>Write C++ programs using input/output statements</td>
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<td>Write C++ programs using selection and iteration</td>
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<td>Create C++ programs using functions</td>
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<td>Write C++ programs using one-dimensional arrays</td>
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<td>Properly document and debug C++ programs</td>
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<td>Create object concepts and terminology</td>
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<td>Implement those algorithms in the C++ programming language using classes</td>
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<td>Debug C++ programs written by others</td>
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</table>
Use pointers in C++ programs

Use sequential files in C++ programs

*Safety and infection control are adhered to during all aspects of this task.*

*The student completed task within the time limited.*

**Points earned**

**Total possible points (12)**

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**IV. Perform competencies related to Visual Basic programming.**

**Tasks Instructions:**

1. Demonstrate knowledge of the fundamentals of Visual Basic (VB) programming using Visual Basic.NET
2. Use Sequential and random access files in VB programs
3. Use advanced controls and multiple controls in a business application
4. Use a database and database controls in a business application
5. Demonstrate knowledge of structured and object-oriented programming techniques through the process of subprograms, selection, and repetition in projects
6. Use GUI design principles in all projects

*Safety and infection control are adhered to during all aspects of this task.*

*The student completed task within the time limited.*

**Points earned**

**Total possible points (8)**

**Total points earned for all sections (A)**

**Total possible points for all sections (B) 40**

**Student/candidate score (divide A/B)**