

Bridging Exemption Test
Module Outline

Module: Fundamentals of Programming

Overview:

The test includes the parts on problem solving procedures using the C++ programming language. The questions will cover all the theory and practise which address easy-to-moderate tasks including pre-processor directives, constants, variables, data types, input and output, text files, control structures, function, and arrays. Answering booklets will be provided during the test.

Faculty / Programme Group:

- Civil
- Electrical and Biomedical
- Chemical and Energy
- Mechanical
- Science
- Software Engineering
- Network and Security
- Graphic and Multimedia Software
- Artificial Intelligence

Topics Covered:

- Introduction to Information Technology
- Number System and Integer Representation
- Programming Concept
- Programming Environment
- Technical Approaches (Pseudocode & Flowchart)
- Elementary Programming (Syntax, variables, and data types)
- Input and Output File and Text File
- Branching (if, if-else, switch)
- Looping (for, while, do-while)
- Pre-defined and User-defined Function
- Array

Module Test Contents:

Format:

- Consists of two parts: (100 marks)
 - Part A: Multiple Choice Questions (50 marks)
 - Part B: Structured Questions (50 marks)

Duration:

3 hours

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References:

1. Tony Gaddis (2021), Starting out with C++: From Control Structures through Objects, Brief Version, 10th edition. Pearson Education.
2. D. S. Malik (2018), C++ Programming: From Problem Analysis to Program Design, 8th edition. Cengage Learning.