



*National Skill Competition*



# *Information Technology*

*Test Project*



*Skill Area: PROGRAMMING*

**National Skills Competition Date: March 30 and 31, 2005**

## Skills Jamaica Competition March 30-31, 2005

### General Instructions

- (1) Each competitor will be required to carry out the test project as specified on the schedule to be handed out two days before the competition.
- (2) The time will be specified according to the test project.
- (3) Minor adjustments may be made to the test project on the day of the competition where a new test project will be issued to the competitor.
- (4) Competitors are expected to identify all equipment/ materials/ingredients needed and submit list to the competitions committee no later than January 28, 2004.**
- (5) Please note that all competitors should provide their own small tools and utensils.**
- (6) Competitors will be given a schedule two days before the competition. Debriefings will also be conducted for all competitors on March 28, 2004.
- (7) All competitors will get an opportunity to arrange work areas the day before the competition. Where applicable competitors for the second day will arrange their work areas on the evening of day one. Competitors who fall in the second shift will get an opportunity to do their preparation at offsite locations (to be decided) where necessary.
- (8) All competitors should be present for the opening ceremony along with their instructors/coaches.
- (9) Rehearsal for the opening ceremony will be held on the evening of March 28, 2005 in the Indoor Sports Centre.

**National Skills Competition  
Programming  
Test Project - 2005**

**Time 12 hours**

The COLLEGE OF EXCELLENCE is a forward-looking educational institution that is embracing information technology in a big way to manage its processes. The College of Excellence wants to automate its library operations, specifically the **cataloguing** and **circulation** aspects of its operations.

You are required to develop a software solution using any of the following technologies.

1. Front End: Visual Basic / Java / Visual C++.
2. Database: MS Access
3. Connectivity: Use ODBC drivers for Visual Basic and Visual C++. Use JDBC drivers for Java

**The software solution should comply with the following specifications.**

**User & Admin Module**

This module deals with adding, updating and deleting users.

- 1 Add users. Information about the user includes username, firstname, lastname, address and department. Users can either be an Administrator or a Student.
- 2 Update user information. Each user can update their profile.
- 3 Delete users. Only the administrator can delete users.

**Catalog Module**

This module will allow the administrator to store information about the books in the library. The administrator can also update and delete book information.

Catalog functionalities include: -

1. Add a book to the catalog. Information about the book includes barcode, booktitle-, author, version, and book category.
2. Update/Delete book details.
3. Search for the specific book based on the barcode or book category. If the book/books are found, display the book details else display an appropriate message.

## Circulation Module

This module deals with the issue and return of the books. Only the administrator can access this module.

**Issue:** The administrator will enter the barcode of the book being borrowed and the username of the borrower. (Only the users of the system can borrow books from the library). Before storing the issue details, display all the details of the book that are borrowed on the screen. Also store the date of issue and the date of return for the book. Date of return should be set 15 days from the issuing date of the book. If the user does not exist or the book information is not in the catalog, display an appropriate error message.

**Return:** The administrator will enter the barcode of the book and username of the borrower. The system should display the book title, date of issue and date of return matching the barcode and username entered. If no details exist, display an appropriate error message. If the system date exceeds the date of return, display a message **“You are returning the book late”** else update the information that the book is returned.