



| MODULE NAME:            | MODULE CODE: |
|-------------------------|--------------|
| DATABASE (INTERMEDIATE) | DATA6212     |
| DATABASE (INTERMEDIATE) | DATA6212d    |
| DATABASE (INTERMEDIATE) | DATA6212p    |
| DATABASE (INTERMEDIATE) | DATA6222     |
| DATABASE (INTERMEDIATE) | DATA6222d    |

|                        |                                  |
|------------------------|----------------------------------|
| ASSESSMENT TYPE:       | TEST (PAPER ONLY)                |
| TOTAL MARK ALLOCATION: | 60 MARKS                         |
| TOTAL HOURS:           | 1 HOUR (+5 minutes reading time) |

**SETUP TIME - SPECIAL INSTRUCTIONS:**

1. For practical IT tests or exams written on campus, the usual reading time is replaced by an **additional 30-minute setup time** allocated for setup, saving and upload activities.
2. Students are allowed to make notes during the 30-minute setup time.
3. Students are allowed to **start working** on their practical solutions as soon as the 30-minute setup time starts.

**INSTRUCTIONS:**

1. Please adhere to all instructions in the assessment booklet.
2. Independent work is required.
3. Five minutes per hour of the assessment to a maximum of 15 minutes is dedicated to reading time before the start of the assessment. You may make notes on your question paper, but not in your answer sheet. Calculators may not be used during reading time.
4. You may not leave the assessment venue during reading time, or during the first hour or during the last 15 minutes of the assessment.
5. Ensure that your name is on all pieces of paper or books that you will be submitting. Submit all the pages of this assessment's question paper as well as your answer script.
6. Answer all the questions on the answer sheets or in answer booklets provided. The phrase 'END OF PAPER' will appear after the final set question of this assessment.
7. Remember to work at a steady pace so that you are able to complete the assessment within the allocated time. Use the mark allocation as a guideline as to how much time to spend on each section.

**Additional instructions:**

1. This is an OPEN BOOK assessment.
2. For open book assessments the students may have open access to all resources inclusive of notes, books (hardcopy and e-books) and the internet. These resources may be accessed as hard copies or as electronic files on electronic devices. All electronic devices batteries must be fully charged before the assessment as no charging of devices will be permitted during the sitting of the assessment. The IIE and associated brands accept no liability for the loss or damage incurred to electronic devices used during open book assessments.
3. Calculators are allowed.

4. *Answer All Questions.*
5. *Instructions for assessments including practical computer work:*
  - *Use of good programming practice and comments in code is compulsory.*
  - *Save your application in the location indicated by the administrator (e.g., the Z:\ drive or your local drive).*
  - *Create a folder as follows: use the module code and your own student number and create a folder with a folder name as per the format shown here:*
  - ***StudentNumber\_ModuleCode\_Test.*** *Save all files (including any source code files, template files, design files, image files, text files, database files, etc.) within this folder.*
  - *E.g., if your student number is 12345, and you are writing an examination for the module DATA6212, create a folder named **12345\_Data6212\_Test** and use this throughout the session to save all your files.*
  - ***Important:*** *Upon completion of your assessment, you must save and close all your open files and double click the ExamLog application on your desktop.*  
*You must follow the instructions carefully to ensure that the information about the files that you have submitted for this assessment has been logged on the network.*  
*Specify the location of your source code on your question paper.*

**Question 1****(Marks: 40)**

This question relates to creating and altering tables, as well as implementing constraints and referential integrity. Answer all the questions below by creating the necessary script.

**Q.1.1** You are required to create the following tables in a database named COFFEELIST: (20)

| COFFEE       |                      |             |
|--------------|----------------------|-------------|
| COFFEE_CODE  | VARCHAR(5) NOT NULL  | PRIMARY KEY |
| COFFEE_NAME  | VARCHAR(40) NOT NULL |             |
| COFFEE_BRAND | VARCHAR(40) NOT NULL |             |
| STRENGTH     | VARCHAR(40) NOT NULL |             |
| PRICE        | SMALLMONEY NOT NULL  |             |

| STORES     |                      |             |
|------------|----------------------|-------------|
| STORE_CODE | VARCHAR(5) NOT NULL  | PRIMARY KEY |
| STORE_NAME | VARCHAR(20) NOT NULL |             |
| ADDRESS    | VARCHAR(50) NOT NULL |             |
| CITY       | VARCHAR(20) NOT NULL |             |

| AVAILABILITY    |                     |  |
|-----------------|---------------------|--|
| COFFEE_CODE     | VARCHAR(5) NOT NULL | PRIMARY KEY<br>FOREIGN KEY REFERENCES<br>COFFEE(COFFEE_CODE) |
| STORE_CODE      | VARCHAR(5) NOT NULL | PRIMARY KEY<br>FOREIGN KEY REFERENCES<br>STORES(STORE_CODE)  |
| AVAILABLE_STOCK | SMALLINT NOT NULL   |  |

**Q.1.2** Populate the tables created in Question 1.1 with the following data: (10)

| COFFEE_CODE | COFFEE_NAME         | BRAND        | STRENGTH | PRICE |
|-------------|---------------------|--------------|----------|-------|
| C001        | San Remo            | Roastmasters | 9        | R350  |
| C002        | Sweet Italian Blend | Mastertons   | 5        | R230  |

|      |                |              |   |      |
|------|----------------|--------------|---|------|
| C003 | The Great Dane | Terbodore    | 8 | R365 |
| C004 | Black Honey    | Truth Coffee | 6 | R117 |
| C005 | Pure Arabica   | Hazz Coffee  | 7 | R95  |

| STORES     |                   |                         |              |
|------------|-------------------|-------------------------|--------------|
| STORE_CODE | STORE_NAME        | ADDRESS                 | CITY         |
| ST001      | Local Grind       | 167 Pert Road           | Johannesburg |
| ST002      | Club Coffee       | 5 Second Avenue         | Gqeberha     |
| ST003      | Boston Barista    | 33 Bertha Mkhize Street | Durban       |
| ST004      | Jacked Up Coffee  | 27 Bram Fischer Road    | Durban       |
| ST005      | Impresso Espresso | 210 Du Toit Street      | Tshwane      |

| AVAILABILITY |            |                 |
|--------------|------------|-----------------|
| COFFEE_CODE  | STORE_CODE | AVAILABLE_STOCK |
| C002         | ST001      | 13              |
| C002         | ST004      | 9               |
| C003         | ST005      | 8               |
| C004         | ST003      | 5               |
| C004         | ST001      | 9               |

**Q.1.3** Alter the AVAILABILITY table to add a column as specified below: (5)

| AVAILABILITY  |          |
|---------------|----------|
| STOCK_ORDERED | SMALLINT |

**Q.1.4** Update the contents of the AVAILABILITY table to populate the new STOCK\_ORDERED field for COFFEE\_CODE 'C004' and STORE\_CODE 'ST003' that was added in Question 1.3. Use the data as specified below to populate the field: (5)

| AVAILABILITY |            |               |
|--------------|------------|---------------|
| COFFEE_CODE  | STORE_CODE | STOCK_ORDERED |
| C004         | ST003      | 3             |

**Question 2****(Marks: 20)**

**Q.2.1** Write a query that will display the name and brand of all coffee that are not available in any of the stores. (5)

Sample Results:

| COFFEE_NAME  | BRAND       |
|--------------|-------------|
| San Remo     | Roasmasters |
| Pure Arabica | Hazz Coffee |

**Q.2.2** Write a query to generate a report indicating the total available packs of coffee for each coffee name. The report should display the coffee name, brand, and total available packs of coffee. Arrange the report so that the coffee names are arranged in alphabetical order. (10)

Sample Results:

| COFFEE_NAME         | BRAND        | TOTAL_AVAILABLE |
|---------------------|--------------|-----------------|
| Black Honey         | Truth Coffee | 14              |
| Pure Arabica        | Hazz Coffee  | NULL            |
| The Great Dane      | Terbodore    | 8               |
| San Remo            | Roastmasters | NULL            |
| Sweet Italian Blend | Mastertons   | 22              |

**Q.2.3** Write a query that will indicate which store has the most packs of coffee with COFFEE\_CODE 'C002' in stock. Display the store name, address, city, coffee name, brand, and total number of packs available at the store. (5)

Sample Results:

| STORE_NAME  | ADDRESS       | CITY         | COFFEE_NAME         | BRAND      | AVAILABLE_STOCK |
|-------------|---------------|--------------|---------------------|------------|-----------------|
| Local Grind | 167 Pert Road | Johannesburg | Sweet Italian Blend | Mastertons | 13              |

**END OF PAPER**