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CANDIDATE IDENTIFICATION NUMBER		SUBJECT CODE <b>0796</b>	PAPER NUMBER <b>3</b>
FOR OFFICIAL USE ONLY (Candidate Random CODE):			
<b>GENERAL CERTIFICATE OF EDUCATION (GCE) BOARD ADVANCED LEVEL EXAMINATION</b>			
SUBJECT TITLE <b>INFORMATION &amp; COMMUNICATION TECHNOLOGIES</b>		SUBJECT CODE <b>0796</b>	PAPER NUMBER <b>3</b>
EXAMINATION DATE: <b>JUNE 2021</b>			

**TWO HOURS**  
Day 1

Enter the information required in the shaded boxes.  
Do not write in pencil.

You are reminded of the necessity for good English and orderly presentation in your answer.  
Your results must be recorded in the spaces provided in this question booklet. Candidates must allow for themselves enough time to complete and check their work where these are required.  
The supervisor will guide you on how to save your files but usually you will be expected to save all your work in one folder named *Candidate folder* that will be created in your desktop.

When an imperative programming language is required to write program code, either **Standard |ISO|Pascal** or **|ANSI|C** programming language may be used.

You should ensure all your work is collected and printed before leaving the examination room. All printed work should be inserted in this booklet and well stapled.

CAREFULLY HANDLE ALL EQUIPMENT PUT AT YOUR DISPOSAL to avoid accidents that may lead to a disaster or system failure. Report any case of system or device malfunction to your supervisor.

Answer **ALL TASKS**.

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**Task A: Databases (21 marks)**

A car dealer has 10 brokers (middle men who look for buyers) in his car shops in the towns of Douala, Kumba, Buea and Bamenda.

Part of the information about the sales of his cars is found in a workbook named **Trans-Business** found in the *Candidate Folder*. This workbook contains two sheets named **Broker** and **Sales**. The personal information of the brokers is stored in the sheet named **Broker** while the transaction carried out by the brokers is recorded in the sheet named **Sales**.

The table below shows the description of the cars found in the car shops in the four towns.

Table 1: Cars

CarCode	CarName	UnitPrice
AB1	Toyota Avensis	2500000
CD2	Toyota Corolla	2300000
M41	BMW Picnic	2625000
AB2	Mercedes 220	1800000
NS3	Mercedes 300	3000000

1. Create a database named **CarSalesDB**. (1 mark)
2. Create the table above in the created database and save it as **Cars**. (2 marks)
3. Complete the table below by stating the properties of the fields of the Cars table. (2 marks)

Field name	Data type
CarCode	
CarName	
UnitPrice	

4. Import the two tables (one after the other) from the **Trans-Business** workbook into the database. The **Trans-Business** workbook is found in the candidate folder.  
**[Hint: Right click on a table name in the object pane and select Import → Excel. Using the wizard, browse to the Excel workbook. Use the first row of each table as the field names. Ensure that no extra columns or rows are added to each of the tables, else delete such columns and rows after the import].** (4 marks)
5. State the possible keys of the database.  
 Primary key(s) \_\_\_\_\_ (2 marks)  
 Foreign key(s) \_\_\_\_\_ (1 mark)  
 State the composite keys if any \_\_\_\_\_ (2 marks)
6. By Studying the three tables, create the relationship linking the three tables in the database.

Draw a labelled diagram of the created relationship in the space below.

(3 marks)

7. Use query to produce a summary that will show the cars sold by the various brokers in the various towns on the 14/02/2020 and 15/02/2020. **Save the query as 14Sales15.**

From the database, print the Cars and Sales tables and the 14Sales15 query.

(4 marks)

**Task B: Spreadsheet (19 marks)**

This task is based on the workbook named **Trans-Business** found in the *Candidate Folder*. The workbook contains two sheets named Broker and Sales.

Open **Trans-Business** workbook.

1. Make a copy of the **Sales** sheet. Rename the sheet as **ESales**. (2 marks)

2. Copy the data in the **Cars** table from the **CarSalesDB** database and paste it in a new sheet in **Trans-Business**. Rename this sheet as **Cars**. (2 marks)

3. In the **ESales** sheet create a new field in column E, named *Unit Price*. Use the LOOKUP function to invoke the unit price from the **Cars** sheet. You can do a manual insertion if you do not know how to use the LOOKUP function but it will lead to mark reduction. Write down the formula you have used in cell E7 in the line below.

(3 marks)

4. Create another field in column F named *Total Amount* to calculate the total amount sold by each broker. This field gives the product of the quantity and the unit price.

Write down the formula you have used in cell F6 in the line below.

(3 marks)

5. Given that each broker is given 5% of the total amount as bonus, calculate the *Bonus* for each broker in column G. Write down the formula you have used in cell G3 in the line below.

(3 marks)

6. Create a summary table of the total bonus (given in Table 2 below) to be given to each broker at the bottom of the **ESales** table starting at A25. By ordering the table of sales by the BrokerID, use an appropriate function to calculate the total bonus to be received by each broker.

Copy the total bonus from your spreadsheet into the table below.

(2 marks)

Table 2: Bonuses

BrokerID	BrokerName	Total Bonus
C001	Atabong Colins	
C002	Ashu Peter	
C003	Beatrice Ngwa	
C004	Benard Ituka	
C005	Hannah Matike	
C006	Ngomba Gerald	
C007	Adamu Hans	
C008	Joseph Kalu	
C009	Kale Justine	
C010	Mbaku Paul	
<b>Total</b>		

Write down the formula you have used to calculate the total bonus for the following:

Ashu Peter \_\_\_\_\_ (2 marks)

Bernard Ituka \_\_\_\_\_ (2 marks)

7. Insert All Borders in the range A1:G23. (1 mark)
8. Format the range E2:G23 to thousand separator and zero decimal place. (1 mark)

Print the ESales sheet.

**Task 3: Web Authoring Tool (11 marks)**

The design of a web page is given in the box below.

**Four African Arab Countries**

The African Arab countries are found in the northern part of African.

The Arab countries are given below.

1. Egypt
2. Morocco.
3. Lybia
4. Tunisia

Write an HTML code to produce the expected webpage. Your code shall be evaluated following the guide.

- (a). The title of the page is Arab. (2 marks)
- (b). The H1 cantered header. (2 marks)
- (c). Grey background color. (2 marks)
- (d). The first paragraph. (2 marks)
- (e). The ordered list. (3 marks)

Save your web page as Arab.html and print a copy.

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**TWO HOURS**  
Day 2

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*When an imperative programming language is required to write program code, either **Standard [ISO]Pascal** or **[ANSI]C** programming language may be used.*

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**Answer ALL TASKS.**

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**Task A: Databases (21 marks)**

A car dealer has 10 brokers (middle men who look for buyers) in his car shops in the towns of Douala, Kumba, Buea and Bamenda.

Part of the information about the sales of his cars is found in a workbook named **Car Sales** found in the **Candidate Folder**. This workbook contains two sheets named **Broker** and **Sales**. The personal information of the brokers is stored in the sheet named **Broker** while the transaction carried out by the brokers is recorded in the sheet named **Sales**.

The table below shows the description of the cars found in the car shops in the four towns.

Table 1: Cars

CarCode	CarName	UnitPrice
AB1	Toyota Avensis	2500000
CD2	Toyota Corolla	2300000
M41	BMW Picnic	2625000
AB2	Mercedes 220	1800000
NS3	Mercedes 300	3000000

1. Create a database named **CarSalesDB**. (1 mark)
2. Create the table above in the created database and save it as **Cars**. (2 marks)
3. Complete the table below by stating the properties of the fields of the Cars table. (2 marks)

Field name	Data type
CarCode	
CarName	
UnitPrice	

4. Import the two tables (one after the other) from the **Car Sales** workbook into the database. The **Car Sales** workbook is found in the candidate folder.  
 [Hint: Right click on a table name in the object pane and select Import → Excel. Using the wizard, browse to the Excel workbook. Use the first row of each table as the field names. Ensure that no extra columns or rows are added to each of the tables, else delete such columns and rows after the import]. (4 marks)
5. State the possible keys of the database.
  - Primary key(s) \_\_\_\_\_ (2 marks)
  - Foreign key(s) \_\_\_\_\_ (1 mark)
  - State the composite keys if any \_\_\_\_\_ (2 marks)

6. By Studying the three tables, create the relationship linking the three tables in the database.  
Draw a labelled diagram of the created relationship in the space below. (3 marks)

7. Use query to produce a summary that will show the cars sold by the various brokers in the various towns on the 13/02/2020 and 14/02/2020. Save the query as 13Sales14.  
From the database, print the Cars and Sales tables and the 13Sales14 query. (4 marks)

**Task B: Spreadsheet (19 marks)**

This task is based on the workbook named **Car Sales** found in the *Candidate Folder*. The workbook contains two sheets named **Broker** and **Sales**.

Open **Car Sales** workbook.

1. Make a copy of the **Sales** sheet. Rename the sheet as **ESales**. (2 marks)
2. Copy the data in the **Cars** table from the **CarSalesDB** database and paste it in a new sheet in **Car Sales**.  
Rename this sheet as **Cars**. (2 marks)
3. In the **ESales** sheet create a new field in column E, named *Unit Price*. Use the LOOKUP function to invoke the unit price from the **Cars** sheet. You can do a manual insertion if you do not know how to use the LOOKUP function but it will lead to mark reduction. Write down the formula you have used in cell E3 in the line below. (3 marks)

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4. Create another field in column F named *Total Amount* to calculate the total amount sold by each broker. This field gives the product of the quantity and the unit price.  
Write down the formula you have used in cell F4 in the line below. (3 marks)

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5. Given that each broker is given 5% of the total amount as bonus, calculate the *Bonus* for each broker in column G. Write down the formula you have used in cell G5 in the line below. (3 marks)

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6. Create a summary table of the total bonus (given in Table 2 below) to be given to each broker at the bottom of the **ESales** table starting at A25. By ordering the table of sales by the **BrokerID**, use an appropriate function to calculate the total bonus to be received by each broker.  
Copy the total bonus from your spreadsheet into the table below. (2 marks)

Table 2: Bonuses

BrokerID	BrokerName	Total Bonus
C001	Atabong Colins	
C002	Ashu Peter	
C003	Beatrice Ngwa	
C004	Benard Ituka	
C005	Hannah Matike	
C006	Ngomba Gerald	
C007	Adamu Hans	
C008	Joseph Kalu	
C009	Kale Justine	
C010	Mbaku Paul	
<b>Total</b>		

Write down the formula you have used to calculate the total bonus for the following:

Atabong Colins \_\_\_\_\_

Joseph Kulu \_\_\_\_\_

(2 marks)

7. Insert All Borders in the range A1:G23. (1 mark)
8. Format the range E2:G23 to thousand separator and zero decimal place. (1 mark)

Print the ESales sheet.

### Task 3: Web Authoring Tool (11 marks)

The design of a web page is given in the box below.

#### Four African Countries Along the Equator

The equator spans the middle part of the map of Africa. Some African countries found along the equator are:

1. Cameroon
2. Nigeria.
3. Congo
4. Ghana

Write an HTML code to produce the expected webpage. Your code shall be evaluated following the guide.

- (a). The title of the page is Equator. (2 marks)
- (b). The H1 centered header. (2 marks)
- (c). Grey background color. (2 marks)
- (d). The first paragraph. (2 marks)
- (e). The ordered list. (3 marks)

Save your web page as Equator.html and print a copy.