Cambridge International AS & A Level

INFORMATION TECHNOLOGY **9626/02**

Paper 2 Practical **February/March 2022**

2 hours 30 minutes

You will need: Candidate source files (listed on page 2)

INSTRUCTIONS
- Carry out every instruction in each task.
- Save your work using the file names given in the task as and when instructed.
- You must **not** have access to either the internet or any email system during this examination.
- You must save your work in the correct file format as stated in the tasks. If work is saved in an incorrect file format, you will **not** receive marks for that task.

INFORMATION
- The total mark for this paper is 90.
- The number of marks for each question or part question is shown in brackets [ ].

[Turn over

You have been supplied with the following source file:

M22trips.csv

You must use the most efficient method to solve each task. All documents produced must be of a professional standard and suit the business context.

You work for Tawara High School and will design an entity relationship diagram for a database. The database will hold details about students, their teachers and their classes. Tawara High School will use the database when producing the school's timetable.

The school has a weekly timetable that does not change.

- *Each student studies a number of subjects.*
- *For each subject studied, each student is a member of one class which has 4 lessons a week.*
- *Each subject on the timetable has more than one class.*
- *Each lesson has a single teacher, but classes can have a different teacher for each of the 4 lessons.*

1   Create a new document. Save this document in **rich text format** with the file name **Evidence_** followed by your centre number_candidate number
e.g. Evidence_ZZ999_9999

Create in your Evidence Document a conceptual entity relationship diagram to design this database.

Save your Evidence Document.   [32]

You will create a small database for the Geography department to hold details of 6 field trips to different places.

Use your local currency where appropriate. Format this to 2 decimal places.

2   Open and carefully examine the data in the file **M22trips.csv**

Analyse the contents of this file and create a data dictionary in your Evidence Document for a database normalised to first normal form (1NF). Do not include the data in the *To Pay* column.

Save your Evidence Document.   [17]

3   Use your data dictionary and the file *M22trips.csv* to create a database to 1NF. Do not include the data from the *To Pay* column in your database. Save your database as **THS_1NF_** followed by your centre number_candidate number
e.g. THS_1NF_ZZ999_9999   [6]

4   Use the same data to create a relational database normalised to third normal form (3NF).

Save your database as **THS_3NF_** followed by your centre number_candidate number
e.g. THS_3NF_ZZ999_9999   [24]

5 Use this database to create and appropriately label a report to identify all students who have not fully paid for each trip. The amount a student still has to pay for a trip must be called 'outstanding balance' in the report.

- Group the report by the destination for the trip, with only the name of the destination in the group header.
- Display only the student ID, name and outstanding balance for each student within each group.
- Sort the data within each group into descending order of the outstanding balance.
- Include the total outstanding balance for each destination in the report.
- Include the total outstanding balance for all destinations together in the report.
- Make sure that the data fits within the width of a single portrait A4 page.
- Place your name, centre number and candidate number at the bottom right of each page.

Save the report within your *THS_3NF* database.   [11]

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