CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education
Advanced Subsidiary Level and Advanced Level

COMPUTING

9691/02

Paper 2 : Practical Tasks

May/June 2003

This document consists of **4** printed pages.

SB (CW) QK11569/1
© CIE 2003

UNIVERSITY *of* CAMBRIDGE
Local Examinations Syndicate

[Turn over

1 A local football league has 10 teams. Details of the teams and the players are to be held on a computer system.

For each player, the league secretary wants to record on the computer their

- name
- address
- telephone number
- team played for.

For each team, the league secretary wants to record on the computer the

- name of the team manager and contact details
- number of games played by each team so far this season
- number of games won, drawn and lost by each team so far this season
- location of the home ground of each team.

The secretary will want to use the computer system to input a team name to find out the

- name of the manager
- manager's telephone number
- location of the ground
- names of the players
- number of games won, drawn and lost.

(a) At the beginning of each season, each player will have to complete a registration form. The league secretary will enter the data from these forms onto the computer system. Design the player's registration form. **[5]**

(b) A database consisting of the tables PLAYERS and TEAMS is needed.

   (i) Create a suitable PLAYERS table to hold all the players' details. **[5]**

   (ii) Create a suitable TEAMS table to hold all the details of the teams. **[3]**

(c) Set up a user-friendly system for the secretary to input a team name and output the details required above on two screens. The first screen should provide details of the team and the second, the names of the players in that team. Provide sufficient evidence to show that you have tested your system and that it works. **[9]**

2 Factors of a number are numbers that will divide into it exactly.

(a) State the output of the following algorithm. INT gives the integer part of a number, e.g. INT (3.2) = 3, INT (3.8) = 3 **[8]**

```
FOR N = 5 to 12
   S = 0
   OUTPUT N
          FOR X = 1 TO INT (N/2)
                Y = N/X
                IF Y = INT (N/X)
                        THEN
                                S = S + 1
                ENDIF
          NEXT X
   OUTPUT S + 1
NEXT N
END
```

(b) Using an array, amend the algorithm so that it will store the values of S and N, and output the values of N in order, according to the values of S, with the lowest value of S coming first. It should not be necessary to sort the values within the array before producing the required output. **[8]**

[Turn over

3 A group of 6 schools runs a sports day. In each event there is one competitor from each school. You have been asked to design a computerised system that will help the organiser to record the results.

- The results of each event will be entered into an event results screen.
- The staff must be able to enter each competitor's time/distance/height.
- The system will calculate and display the ranking order of the competitors for each event.

(a) Using suitable software, create an event results screen;

  (i) to allow a user to enter:

    The event
    The competitors' names
    The competitors' schools
    The competitors' times/distances/heights for that event.

  You should provide hard copy evidence of the existence of your screen. **[5]**

  (ii) that will automatically save the data from the screen when entry is completed.

    Enter a sample set of results into the event results screen.

    Provide evidence that the contents have been automatically saved to a results file on completion of the form. **[4]**

(b) It is necessary to test the validity of the data entered into the screen. Create a set of data which could be used to do this. Fully annotated hard copy evidence should be provided. **[7]**

The staff wants a medals screen which can be called up at any time. The medals screen will contain the total of bronze, silver and gold medals won by each school so far, where a gold medal is awarded to the winner, a silver medal to the second placed athlete and a bronze to the third placed athlete. It will also calculate the number of points gained by each school (3 points for gold, 2 points for silver and 1 point for bronze).

(c) Design and create the medals screen. Explain in detail how this was accomplished. **[6]**