![ieb assessment matters logo]

COMPUTER APPLICATIONS TECHNOLOGY: PAPER II

Time: 3 hours   180 marks

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1.   This question paper consists of 16 pages and an insert (HTML Tag List and Input Mask Character Sheet) of two pages. Please check that your question paper is complete.

2.   You may only use a text-based editor for the HTML section, namely Notepad, Notepad++, WordPad or Komodo text editor.

3.   You must answer ALL the questions. Please read the entire question before attempting a solution. Do not do more than is required by the question.

4.   Take note of the mark allocation to ascertain the complexity of the solution required and the amount of time to spend on each question.

5.   Save your work regularly.

6.   If a formula/function such as a complicated *if* statement does not work, indicate the question number, give a brief explanation, and paste a screenshot of the spreadsheet or database into the **Screenshots** document to obtain part marks; you may then leave it out of the spreadsheet or database solution.

7.   Make a backup copy of all database files **before** you start your examination.

8.   All word-processing documents should be set up as follows (unless other instructions are given)
      • The default for measuring units – centimetres (cm)
      • Language – English (South Africa)
      • Page size – A4
      • Margins – 2,54 cm

9.   Note that you may use the *offline* help function available in each application.

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10. Figures in the question paper have a border. When a figure is provided as part of a question, you are not expected to add the border unless specifically instructed to do so.

11. All data files listed in Instruction 12 can be found on the network drive that has been allocated for this examination. Please note that all solutions must be saved to your examination folder on this network drive.

12. You have been supplied with an examination folder called *LearnerFiles*. In this folder are two folders of which one is hidden. Refer to **Figure 1** below and check that the following folders and files exist in *LearnerFiles*:
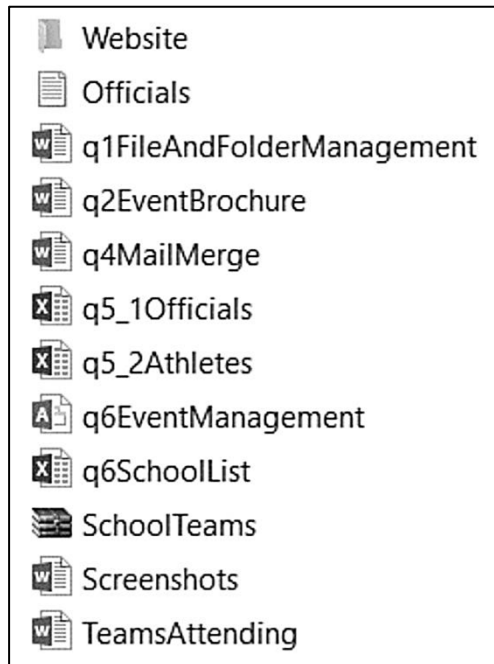

Figure 1

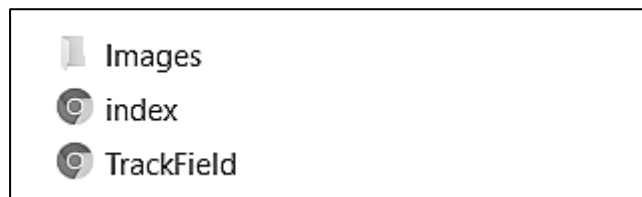The *Website* folder contains two files and one subfolder. Refer to **Figure 2** below.

Figure 2

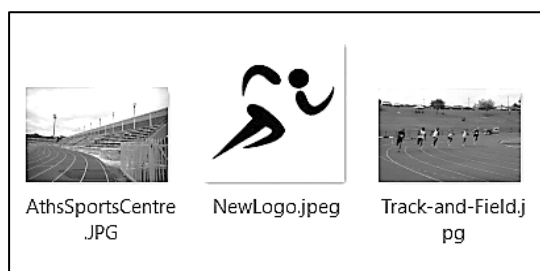The *Images* subfolder within the *Website* folder contains three files. Refer to **Figure 3** below.

Figure 3

Read the scenario below that describes the background to the practical tasks you are required to perform.

SCENARIO

Your school has been selected to organise and run this year's edition of the inter-schools' athletics competition. The sports department is seeking assistance from the Grade 12 learners for various duties. You have chosen to assist with the computer applications duties.

QUESTION 1   File and Folder Management

1.1   A folder, called *LearnerFiles,* containing the data files for this examination has been provided to you. Rename this folder to your examination number.   (1)

1.2   Change the folder properties of your examination folder to display the file extensions. Take a screenshot and insert it in the file called **q1FileAndFolderManagement.docx**.   (1)

1.3   In your examination folder, there is a compressed folder called *SchoolTeams*. Extract this folder to a new folder called *NewTeams2018*.   (2)

1.4   There is a hidden folder called *OldFiles2017* in your examination folder. Locate this folder and change its properties so that it is no longer hidden.   (2)

1.5   Edit the document properties of the file called **TeamsAttending.docx** so that your exam number appears as an additional author. Take a screenshot and insert it in the file called **q1FileAndFolderManagement.docx**.   (2)

1.6   Locate the file created by Jessica Mankowski. Take a screenshot showing the search criteria and the search results and insert it in the space provided in **q1FileAndFolderManagement.docx**.   (2)

1.7   Whilst using Excel, the computer you have been assigned to use displays the following message on the screen.
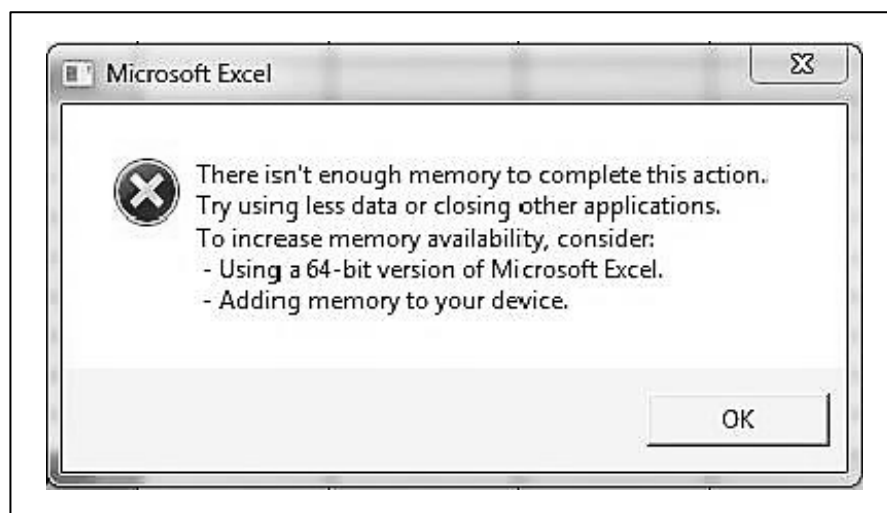

Figure 4

Check the amount of RAM on your computer, record it in the space provided and then insert a screenshot showing how much RAM is available in **q1FileAndFolderManagement.docx**.   (2)

1.8   On further investigation you suspect that the computer may have a fragmented hard disk. Give the steps you would take to analyse and defragment the disk. Type your answer in the space provided in **q1FileAndFolderManagement.docx**.   (4)

1.9   Open the text editor you are using for HTML development. In the help tab click the "About …" button and take a screenshot of the pop-up that shows the information about the text editor you are using and insert it in the space provided in the **q1FileAndFolderManagement.docx**. Refer to the example shown below:

Figure 5

(1)

Save and close the file **q1FileAndFolderManagement.docx**.

1.10   Create a new folder in your examination folder and name it *AnswerFiles-YourExamNumber*.   (1)

1.11   Move **q1FileAndFolderManagement.docx** to the folder *AnswerFiles-YourExamNumber*.   (1)

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QUESTION 2   Word Processing

An event brochure must be prepared for the athletics competition at the school. Open the document called **q2EventBrochure.docx** and perform the following tasks to produce the final brochure.

2.1   Adjust the page setup as follows:

2.1.1   Change the orientation to landscape.   (1)

2.1.2   Ensure that the margins are 1,5 cm all round.   (2)

2.1.3   Change the size of the page to 29 cm wide and 20 cm high.   (2)

2.2   Columns will be used to enhance the layout of the document. Modify the document as follows:

2.2.1   Change the layout of the whole document so that it has three columns.   (2)

2.2.2   Ensure that each column has a width of 7,5 cm.   (2)

2.2.3   Insert a line between the columns.   (1)

2.3   Add an image as directed below:

2.3.1   Insert the image called **Track-and-Field.jpg** from the *Images* subfolder in the *Website* folder at the top of the middle column and position it to the left relative to the column.   (3)

2.3.2   Resize the image so that it has a height and width of 2 cm.   (3)

2.3.3   Ensure that text is wrapped tightly and appears only to the right of the image.   (1)

2.3.4   Insert the text "200 m Race" as a caption below the image.   (1)

2.4   Find the text "Behavioural Benefits" and insert the following endnote:

Sport does build character!   (3)

2.5   Highlight the last paragraph in yellow.   (1)

Insert your exam number in the header of the document. Save the file as **q2EventBrochure-YourExamNumber.docx** in the folder called *AnswerFiles-YourExamNumber* that you created earlier.

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QUESTION 3   Word Processing

All correspondence about the athletics competition will be printed on a letterhead.

3.1   Design the letterhead template as instructed below:

      3.1.1   Open a new Word document and save it as **q3LetterHead-YourExamNumber.docx** in the folder called *AnswerFiles-YourExamNumber* that you created earlier.   (1)

      3.1.2   In the header section, insert a table with two columns and one row.   (2)

      3.1.3   Split the first column so that it has two rows.   (1)

      3.1.4   Resize the first column so that it is 12 cm wide and the second is 4 cm wide.   (1)

3.2   Insert WordArt into the first row of the first column. The text should read:

You may choose any WordArt style.   (1)

3.3   In the centre of the second row of the first column insert the following text as superscript:

                        "Honesty, Commitment, Character"   (2)

3.4   Add the following text in the last column:

      P. O. Box 4598
      Green Acres

      (011) 645 7891
      admin@dsaths.org
      www.dsaths.org   (1)

3.5   Ensure that the only border that is visible is the bottom border. Refer to the example given below.

Figure 6   (1)

3.6   The letterhead must also include a footer.

      3.6.1   Enter the text as shown in the figure below into the footer.

                Youth development is our business.

Figure 7   (1)
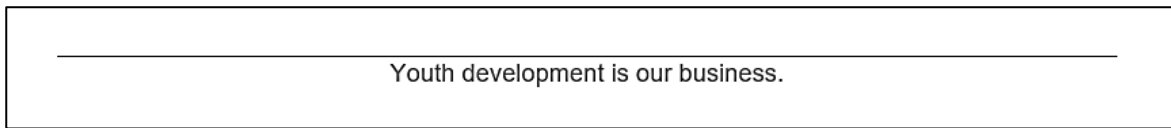
      3.6.2   Use the Arial font for the text.   (1)

      3.6.3   Insert a line just above the text in the footer.   (1)

      3.6.4   Ensure that only the footer is visible in subsequent pages. (2)

Save the letterhead.

3.7   Save the letterhead as a template called **q3LHTemplate-YourExamNumber** in the folder called *AnswerFiles-YourExamNumber* that you created earlier*.*   (1)

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QUESTION 4   Mail Merge

Open the Word document called q4MailMerge.docx and prepare the document as follows.

4.1   Merge the document as follows:

      4.1.1   Use the text document called **Officials.txt** as the data source.   (1)

      4.1.2   Filter the data so that only officials who are managers receive the form.   (1)

      4.1.3   Replace the text <<Name>>, <<Surname>>, <<Team>> and <<Designation>> with the appropriate fields from the data source.   (2)

4.2   Insert radio buttons next to the Team Gender label as follows:

      4.2.1   Insert a 5 cm left tab stop with a dotted leader between the label and the first radio button.   (1)

      4.2.2   The managers should be able to choose from only the following options:

              Co-Ed, Boys, Girls   (2)

      4.2.3   Edit the properties of the radio buttons so that the **Co-Ed** button is selected by default.   (1)

4.3   Insert a text input field at the 5 cm tab stop so that managers can input team captains' names.   (1)

4.4   Insert a date picker at the 5 cm tab stop so that the date of completion of this form can be recorded.   (1)

4.5   Finish and merge the document so that only the first two records are saved as individual documents. Save the documents as **q4MergeRec_1.docx** and **q4MergeRec_2.docx** in the folder called *AnswerFiles-YourExamNumber* that you created earlier.   (4)

4.6   Restrict editing so that users can only fill in the forms. Leave the password blank.   (2)

Save the merged document as **q4MailMerge-YourExamNumber** in the folder called *AnswerFiles-YourExamNumber* that you created earlier.

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QUESTION 5   Spreadsheets

5.1   Open the spreadsheet called **q5_1Officials.xlsx** and make the following changes:

    5.1.1   Change the colour of the *Officials* tab to green.   (1)

    5.1.2   Apply the following changes to the range A1 to F1:

        (a)   Merge the cells A1 to F1.   (1)

        (b)   Align the text to the right.   (1)

        (c)   Change the font size to 22 pt.   (1)

        (d)   Change the fill of the merged cells so that they have a green thin diagonal crosshatch pattern.   (2)

        (e)   Ensure that the merged cells have a double-line border.   (1)

    5.1.3   Filter the data so that only the coaches are visible.   (3)

    5.1.4   The single-sex schools are paired by gender so that they make up one team with both boys and girls. A random selection must be made for this pairing. The girls' schools have already been assigned a number between 1 and 4.

        Use any appropriate functions or formulas and column G to assign a random number between 1 and 4 to the boys' schools. Ensure that there are no duplicate numbers assigned. The random number between 1 and 4 that is generated must appear in column F.   (4)

    5.1.5   Use conditional formatting for the cells in column E as follows:

        (a)   All co-ed schools must have a green strikethrough font.   (2)

        (b)   All boys' schools must have a blue fill.   (1)

        (c)   All girls' schools must have a solid thin outline border.   (1)

    Save the spreadsheet as **q5_1Officials-YourExamNumber** in the folder called *AnswerFiles-YourExamNumber*.

5.2   Open the spreadsheet called **q5_2Athletes**. Note that the spreadsheet contains the following worksheets and data:

- *Athletes* – the data of all athletes entered for the competition
- *Competition_Details* – the details of venue, dates and organisers
- *Classification* – a table with classification codes and corresponding descriptions
- *Summary* – a summary of statistics

Make the following changes to the worksheet labelled *Athletes*.

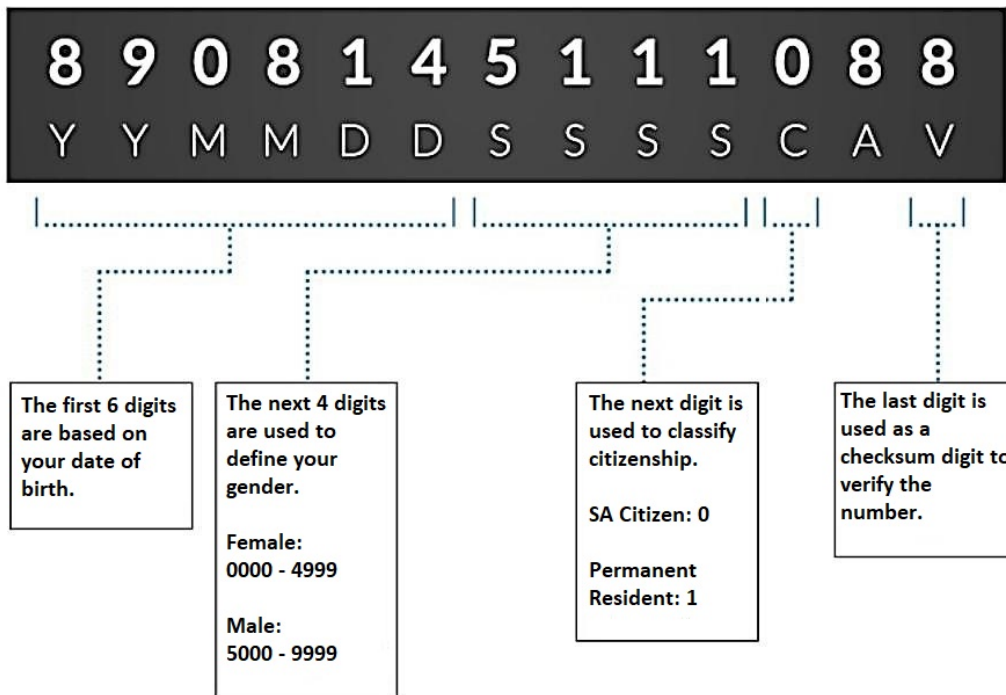5.2.1   The South African ID number is set up as shown in the figure below:

Figure 8

[Source: <http://compareguru.co.za>]

Characters 7 to 10 are assigned a value from 0000 to 4999 for females, while a value from 5000 to 9999 is assigned for males. Essentially, the seventh character indicates the gender of the person. If it is greater than 4, the person is male, otherwise the person is female. In cell **D2** insert a function to determine the gender of the athlete and copy the function to **D3:D199**. Note that the first five results should appear as shown below:

	A	B	C	D	E	
1	SURNAME	FIRST_NAME	NAT_ID	GENDER	DOB	
2	Neethling	Ezra	0504286124124	MALE	28 April 2005	L
3	Gerber	Sylvester	0102185624129	MALE	18 February 2001	L
4	Matthews	Zolani	0403139719128	MALE	13 March 2004	L
5	Francis	Benedict	0301238700142	MALE	23 January 2003	L
6	Hattingh	Tanja	0401123416059	FEMALE	12 January 2004	L

Figure 9   (7)

5.2.2   The cut-off date for the calculation of age groups is given in the worksheet called *Competition_Details*. Use the date given in **B6** and the date of birth of each athlete (Column E) to determine the age group into which each athlete falls in column **G** in the *Athletes* worksheet. Ensure that the date is rounded down and that there are no decimal places.   (4)

5.2.3   In cell **I2**, use an HLOOKUP function to determine the qualification of the athlete given the classification in column **F**. Expand the calculation to cell **I199**.   (3)

Note that all the changes below must be applied to the worksheet labelled *Summary*.

5.2.4   In cells **B2** to **B11**, determine the number of athletes per school.   (4)

5.2.5   In cell **B13**, determine the ratio of the number of athletes with a "National Standard" classification to the total number of athletes. Format your answer as a percentage.   (6)

5.2.6   Create a chart in the *Summary* worksheet as directed below:

(a)   Use the data given in **A16:B22**.   (1)

(b)   The chart type must be 3D Pie Chart.   (1)

(c)   The legend must appear to the right of the chart.   (1)

(d)   Change the legend's text colour to white.   (1)

(e)   Use the image called **Track-and-Field.jpg** from the *Images* subfolder in the *Website* folder as a background to the chart.   (2)

(f)   The chart title "Number of Athletes Per Age Group" must appear at the top of the chart.   (1)
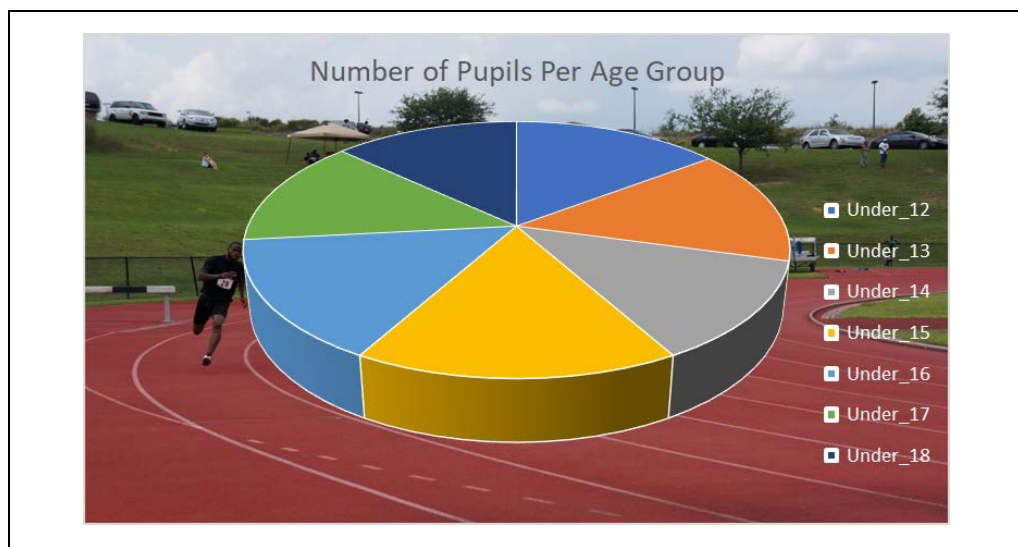
Your chart should be similar to the one shown below:

Figure 10

Save the document as **q5_2Athletes-YourExamNumber** in the folder called *AnswerFiles-YourExamNumber*.

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QUESTION 6   Databases

The actual meeting recording and race management will be done using a database called **q6EventManagement.accdb**. Follow the instructions below to prepare the database for use on the day(s) of the competition.

Open the database called **q6EventManagement.accdb**.

6.1   All the changes below must be applied to the table called *tblAthletes.*

      6.1.1   Modify the table so that a suitable field is set as the primary key.   (2)

      6.1.2   Use an appropriate method to ensure that 13 digits between zero and nine only, can be entered in the NAT_ID field.   (3)

      6.1.3   Use a list box so that users can only enter "Male" or "Female" in the gender field.   (3)

      6.1.4   Modify the SCHOOL field so that it looks up its value from *tblSchool*. Ensure that only the SchoolName field appears.   (3)

6.2   Create a relationship between the CLASSIFICATION field in *tblAthletes* and the CODE field in *tblClassification* as follows:

      6.2.1   The relationship must be a one-to-many relationship.   (2)

      6.2.2   Ensure that data updated in *tblClassification* is also automatically updated in *tblAthletes.*   (2)

6.3   Modify the *tblEventManager* table so that an athlete can only be entered once per event.   (2)

6.4   Modify the DESCRIPTION field in the *tblClassification* table as instructed below. In the event that you encounter warnings, click "Yes" to continue and "Yes" again to test data with the new rules.

      6.4.1   Change the field size to 25 characters.   (1)

      6.4.2   Ensure that the field can never be left blank.   (1)

      6.4.3   Ensure that there can be duplicated data in the field.   (2)

6.5   Create a form as follows:

    6.5.1   The form must have all the fields from *tblEventList*.   (2)

    6.5.2   The form must have the following fields from *tblEventManager*:

        (a)   <u>Athlete</u>

        (b)   <u>TimeOrDistance</u>

        (c)   <u>Position</u>   (2)

    6.5.3   The form must be grouped by *tblEventList*   (1)

    6.5.4   Edit the form header so that it reads:

        Event Manager   (1)

    6.5.5   Change the font colour of all labels in the main form to white.   (1)

    6.5.6   Insert the image called **Track-and-Field.jpg** from the *Images* subfolder in the *Website* folder as a background stretched over the entire main form. See example below.
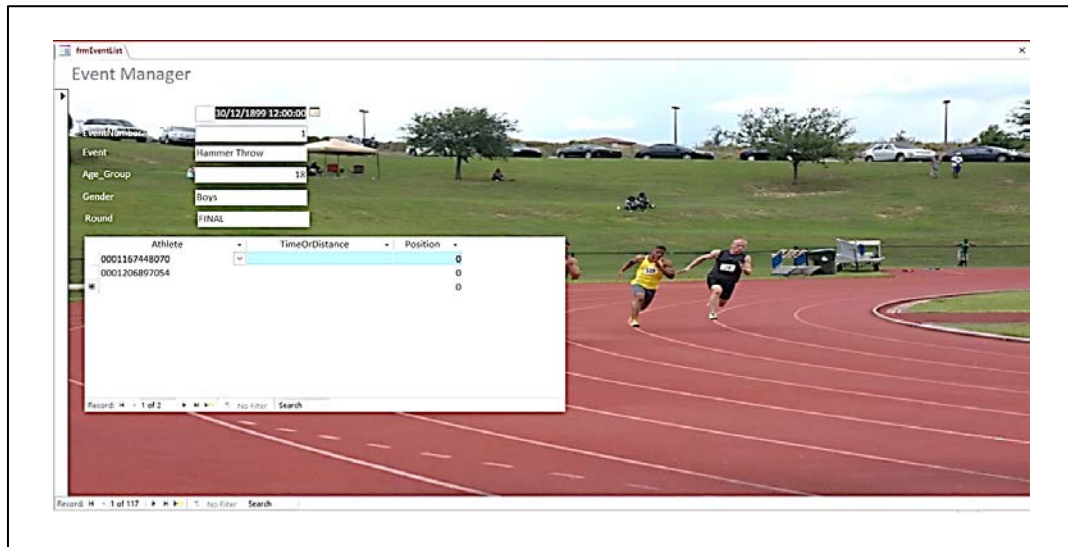

Figure 11   (2)

6.6   Create queries as follows:

    6.6.1   Create a query called *qryNationalAthletes* that will display only the names and surnames of the athletes who have a classification of "National Standard".   (3)

    6.6.2   Create a query called *qryClassSummary* that will display only the total number of athletes per classification. Only the <u>DESCRIPTION</u> field and the number of respective athletes must be displayed.   (3)

6.7   Create a report as follows:

    6.7.1   Create a report called *rptAthletes* using the following fields from *tblAthletes*:

        (i)   <u>SURNAME</u>

        (ii)   <u>FIRST_NAME</u>

        (iii)   <u>NAT_ID</u>

        (iv)   <u>CLASSIFICATION</u>

        (v)   <u>SCHOOL</u>   (1)

    6.7.2   Group the report by <u>CLASSIFICATION</u> then by <u>SCHOOL</u>.   (1)

    6.7.3   In the group footer insert a calculation to determine the number of athletes per <u>CLASSIFICATION</u>.   (2)

Save and close the database **q6EventManagement.accdb**.

[40]

QUESTION 7   HTML

In order to gain support and raise hype about the competition you have decided to use a website. Apply the following instructions to set up the site.

Note that all the changes below must be applied to the page called **index.html** in the *Website* folder.

7.1   Edit the page so that the title of the index page includes your examination number.   (1)

7.2   Insert the image **AthsSportsCentre.jpg** in the *Images* subfolder as background image for the page.   (2)

7.3   Change the heading "Inter-School Athletics – 2018" so that:

    7.3.1   It is aligned in the centre.   (1)

    7.3.2   The font colour is blue.   (1)

7.4   Insert the image **NewLogo.jpeg** in the *Images* subfolder as follows:

    7.4.1   Insert just below the heading.   (1)

    7.4.2   Adjust the size to 200 px width and 100 px height.   (2)

    7.4.3   Centre align the image.   (1)

7.5   Insert a blue line immediately below the image.   (1)

7.6   Find the heading "Track and Field Competitions" and set a hyperlink to the page called **TrackField.html**.   (2)

Save and close the HTML file **index.html**.

Open **TrackField.html** in the *Website* folder and apply the following changes:

7.7   Insert the following table exactly as it is shown here.

Track Events			
100 m	200 m	800 m	1 500 m
Field Events			
Long Jump	Triple Jump	Hammer Throw	Discus

Figure 12

To achieve this, follow the instructions given below:

7.7.1   Modify the first and third rows to span four columns each.   (2)

7.7.2   Ensure that rows one and three are heading rows.   (2)

7.7.3   Ensure that the table has a border of 5 px.   (2)

Save and close the HTML file **TrackField.html**.

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Total: 180 marks