



# Computer Applications Olympiad

A project of the Institute of IT Professionals South Africa.

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## FIRST ROUND QUESTION PAPER 2017

Not to be used before 8 May 2017

### INSTRUCTIONS TO THE CANDIDATES

1. All answers must be typed or pasted in the document **AnswerSheet**.
2. You may do the questions in any order, but you have to make sure the answers are placed correctly on the answer sheet. Save the answer sheet as instructed by your teacher.
3. The files you need to answer the questions have been provided to your school. Ask your teacher/invigilator where to find them.
4. The paper must be completed under "examination conditions". No communication (oral, electronic or any other form) with other contestants is permitted.
5. You may use the application of your choice and, if necessary, convert the data as it suits you.
6. You have one hour (60 min.) to complete this paper. After one hour you may be given time to print your answer sheet, but no additions or alterations to the answers or files will be allowed.
7. All marking is done from hard copy, i.e. from the printed answer sheet.
8. Each correct answer counts four (4) marks.
9. You need to store your files where you found them and where your teacher can access them in case the judges want to see how you obtained the answer. **Do not delete any of the files. Do not attempt to modify any files after the end of the contest.**
10. For all questions, if the answer is a number just give the number without any units.

### Section A: Word Processing

Over the years, there have been numerous studies to show how playing different types of background music can influence shopping behaviour. Everything from music volume to tempo can all play a part in how consumers spend money and behave in shops. The document file **Music in Retail Stores** discusses some of the issues that owners need to consider. Use word processing features to answer the following questions.

1. What is the font size of most of the text in the document?
2. How many rows are in the table in the document?
3. What is the point size of the Art page border?
4. What is the exact width of the centre/middle column in the table?
5. What word in the document is linked to the bookmark 'Extreme'?
6. How many times is the word 'customers' found in the document?
7. What is the width of the spacing between the two columns under the heading 'Genre'?
8. What style of page numbering is used in the document?
9. What is the Webdings decimal character code for the musical notes used as bullets in the table?

## Section B: Spreadsheet

*Note: Sections B and C use very similar data but some of the fields and data are different. All answers to Section B must come from the **HotHits** sheet of the Excel **spreadsheet** file.*

The Billboard Hot 100 is a chart that ranks the best-performing songs of the United States in any given year. Its data, published by Billboard magazine and compiled by Nielsen SoundScan, is based collectively on each song's weekly physical and digital sales, as well as airplay and streaming.

The spreadsheet file **BBHot100HitsR1** contains information on the songs which made it into the Billboard Hot 100 hits between 2001 and 2016.

1. Where the BPM (beats per minute) is given, what is the range (i.e. the difference between highest and lowest) of these values?
2. In which year did Kelly Clarkson have the most hits on the Billboard Hot 100 hits?
3. For those songs where the length is given, how long is the longest song? Give your answer in seconds, to the nearest second.
4. The number five appears in the title of four songs. What is the title of the shortest song in which it appears?
5. Track number 1 appears most often. Which track number appears the 7th most times?
6. For all the songs where a length is given, what is the average song length? Give your answer in seconds, to the nearest second.
7. How many titles by the same artist(s) appear on the Billboard Hot 100 hits in two consecutive years?

## Section C: Database

*Note: Sections B and C use very similar data but some of the fields and data are different. All answers to Section C must come from the Access **database** file.*

The Billboard Hot 100 is a chart that ranks the best-performing songs of the United States in any given year. Its data, published by Billboard magazine and compiled by Nielsen SoundScan, is based collectively on each song's weekly physical and digital sales, as well as airplay and streaming.

The database **Hot100** contains some details of all the songs for the period 2001-2012. In the questions below, a 'solo performing artist' is an artist who performs by himself or herself and so only their name appears in the database as the artist.

1. How many songs are there in the database?
2. What is the title of the song with the longest playtime?
3. Of the titles in the database **released in 2010** how many had a playtime greater than 3:59?
4. Some albums include more than one song that appeared in the Billboard Hot 100. In 2003, which album included the largest number of R&B songs to have appeared in the Billboard Hot 100?
5. Which solo performing artist appears the most times in the database?

## Section D: PowerPoint

To answer the questions you should open and view the presentation **Music Genres**. All text on the slides should be clearly visible.

1. What transition is applied to most of the slides in the presentation?
2. What is the aspect ratio of the slides in the presentation? (Give the letter of the correct answer).
  - A. 4:3
  - B. 16:9
  - C. 16:10
3. Each bullet point on the 'Rock Music' slide has two animations applied. Name any one of them.
4. The 'Jazz' slide has a number of design flaws. The slide can be improved by:
  - (i) resizing the image and moving it so that it does not cover any text
  - (ii) fading the image and sending it behind the text
  - (iii) applying three animations instead of two to each bullet point.Which are correct? (Give only the letter of the correct answer).
  - A. Only (i)
  - B. (i) or (ii)
  - C. (ii) and (iii)
  - D. (i), (ii) and (iii)