

G12 ECZ COMPUTER STUDIES P2 2016 SOLUTIONS

Grade 12 ECZ Computer Studies Paper 2 (Practical), 2016 (7010/2)

1 hour 30 minutes | 2 questions, answer both, 30 marks (practical)

ACTICAL paper (spreadsheet + database, done live in software). The full question paper appears first — the exact formulas/steps/answers ea

EXAMINATIONS COUNCIL OF ZAMBIA

Examination for School Certificate Ordinary Level

Computer Studies

7010/2

Paper 2 Practical

Monday

28 NOVEMBER 2016

DAY ONE PAPER

Time: 1 hour 30 minutes

Instructions to Candidates

- 1 There are **two** questions in this paper, answer both.
- 2 You are required to use a word document where you will be pasting your screen shots.
- 3 Save the word document with the name EVIDENCE. Type your full name, Examination number, centre name in the header as shown below.

SURNAME_FIRSTNAME_EXAM NUMBER_CENTRE NAME.
- 4 At the end of the examination print out all your screen shots from the document you saved as EVIDENCE.

NOTE: DO NOT WRITE ANYTHING ON YOUR **EVIDENCE** DOCUMENT

Information for candidates

The number of marks is shown in brackets [] at the end of each question or part question.

The total number of marks for this paper is 30.

Cell phones are not allowed in the examination room.

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1 Use a spreadsheet program to answer this question.

(a) Open a new worksheet and type the data below.

	A	B	C	D	E	F	G	H	I	J
1	Quarter	1				2				
2	Month	April	May	June	Sub-total	July	Aug	Sept	Sub-total	
3	Number of items	6	4	4		10	4	9		
4	Income	14413	12985	9946		4372	1872	33934		
5	Expenditure	6794	6946	9626		21873	1419	16912		
6										
7										

(b) Insert a new row above row 1. [2]

(c) In Cell A1, enter the title SKF1 Limited 2015. [1]

(d) Merge the cells B2 to E2 and F2 to H2. [1]

(e) In Cell E4, use a function to calculate the number of items sold for April, May and June. [2]

(f) In Cell E5, use a function to calculate the average income for April, May and June. [1]

(g) In Cell E6, use a function to calculate the total expenditure for April, May and June. [2]

(h) In Cell I4, enter a function to calculate the total number of items sold for July, August and September. [2]

(i) In Cell I5, enter a formula that will calculate the average income for July, August and September. [1]

(j) In Cell I6, use a function to calculate the total expenditure for July, August and September. [2]

Click on show formula, take a screen shot of the worksheet and place it in the EVIDENCE document.

Save and close the spreadsheet.

2 Use a database program to answer this question.

- (a) Create a database table with the following field names and data types:

[3]

Field Name	Data type
Code	Numeric/integer (this field contains unique data)
Province	Text
Product	Text
Stock	Numeric/integer
Reorder	Numeric/integer
Price	Numeric/currency
Special	Boolean/logical (to be displayed as YES/No)

- (b) Select an appropriate field and set it as the primary key.

[1]

Take a screen shot showing the field names and data types used. Place this copy of the screen shot in the EVIDENCE document.

- (c) Enter the following records in the database table and save it as stock control:

[3]

CODE	PROVINCE	PRODUCT	STOCK	REORDER	PRICE	SPECIAL
4010	Northern	Groundnuts	100	50	85	
5020	Muchinga	Millet	79	50	80	
4180	Eastern	Soya beans	41	50	72	√
5060	North-Western	Sweet Potatoes	80	50	52	
4190	Luapula	Fish	164	50	38	
5560	Central	Sorghum	28	50	46	√

Take a screen shot and place it in the EVIDENCE document.

- (d) Produce a query which:

- (i) sorts the data into ascending order of province.

[1]

- (ii) contains a new field called cost which is calculated at run-time. This field will calculate the price multiplied by Reorder. [Price] * [Reorder]

[3]

- (iii) shows only the records where the stock is 50 or less and the product is a special order,

[2]

- (iv) shows only the Fields **Province**, **Product**, **Stock**, **Price**, **Reorder**, **Special** and **Cost**.

[2]

Take a screen shot of the query designed and place it in the EVIDENCE document.

Print the EVIDENCE document

Save and close the database.

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EXAMINATIONS COUNCIL OF ZAMBIA

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Paper 2 Practical

Tuesday

29 NOVEMBER 2016

DAY TWO PAPER

Time: 1 hour 30 minutes

Instructions to Candidates

- 1 There are **two** questions in this paper, answer both.
- 2 You are required to use a word document where you will be pasting your screen shots.
- 3 Save the word document with the name EVIDENCE. Type your full name, Examination number, centre name in the header as shown below.
SURNAME_FIRSTNAME_EXAM NUMBER_CENTRE NAME.
- 4 At the end of the examination print out all your screen shots from the document you saved as EVIDENCE.

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Information for candidates

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1 Use a spreadsheet program to answer this question.

(a) Open a blank spreadsheet and type the data below.

	A	B	C	D	E	F	G
1							
2	Month	Alligator	Lion	Buffalo	Gorilla	Elephant	Total
3	January	44.8	9.7	27	27.22	25.18	
4	February	96.7	65.41	38	87.94	52.15	
5	March	28	33.6	41.1	65.83	4.85	
6	April	34	66.4	43.6	27.14	46.8	
7	May	34.14	8.7	33.6	58.41	43.7	
8	Total Donations						
9	Average						

[2]

(b) Merge cells **A1** to **G1**.

[1]

(c) In the merged cells, type the title "Donations Per Month Per Species" and change the font size to 23 pt.

[1]

(d) In Cell **G3**, type the formula to calculate the total for the month of January. Replicate the formula through **G7**.

[2]

(e) In Cell **B8**, type the formula to calculate the total donations for each specie. Replicate the formula through to **G8**.

[2]

(f) In Cell **B9** type a function to calculate the average donations for Alligators. Replicate the formula through to **G9**.

[2]

(g) Take a screen shot of the spreadsheet and paste it in the EVIDENCE document. Make sure that the formulas and grid lines are displayed.

[2]

(h) Using the data in the Cell ranges, **B2 : F2** and **B9: F9**, create a pie chart. Format this pie chart to show percentages and category names only. Move the pie chart on a new worksheet.

[3]

Take a screen shot and paste it in the EVIDENCE document, crop it where necessary.

Save and close the spreadsheet program.]

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2 Use a database program to answer the questions that follow.

- (a) Create the database table with the following file structure:

Field Name	Data type	
First name	Text	
Surname	Text	
Position	Text	
Salary	Numeric/Currency	
Staff_number	Numeric	[2]

- (b) Select an appropriate field and set it as the Primary Key. (Take a screen shot and paste it in your EVIDENCE document) [1]

- (c) Enter the following records shown below in the database created.

STAFF NUMBER	FIRST NAME	SURNAME	POSITION	SALARY
18	OLIVER	JONES	WEB DESIGNER	2150
21	BESA	KWACHA	PROGRAMMER	2400
41	PATIENCE	MWEMENA	NETWORK MANAGER	3400
53	GODWIN	KATUBA	SYSTEMS ANALYST	1340

(Take a screen shot and place it in the EVIDENCE document) [2]

A company has decided to give all the employees a 5% pay rise.

- (d) Produce a query which:

(i) sorts the data in descending order of SALARY, [1]

(ii) contains two new fields, one will be called Payrise and the other one will be called New Salary:

Pay_rise = [5%] * [Salary] [3]

New_Salary = [Payrise] + [Salary], [3]

(iii) does not show the field STAFF NUMBER and SURNAME. [1]

- (e) Take screen shots of the query in both design view and datasheet view. Place them in the EVIDENCE document. [2]

Print the EVIDENCE document.

Save and close the database.

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EXAMINATIONS COUNCIL OF ZAMBIA

Examination for School Certificate Ordinary Level

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Paper 2 Practical

Wednesday

30 NOVEMBER 2016

DAY THREE PAPER

Time: 1 hour 30 minutes

Instructions to Candidates

- 1 There are **two** questions in this paper, answer both.
- 2 You are required to use a word document where you will be pasting your screen shots.
- 3 Save the word document with the name EVIDENCE. Type your full name, Examination number, centre name in the header as shown below.
SURNAME_FIRSTNAME_EXAM NUMBER_CENTRE NAME.
- 4 At the end of the examination print out all your screen shots from the document you saved as EVIDENCE.

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Information for candidates

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1 You are required to use Microsoft Excel Spreadsheet to answer this question.

- (a)** Open a blank worksheet and enter the results data below and take a screenshot, pasting it in EVIDENCE.

	A	B	C
1	Name	Mark	Action
2	Mwaka Lundu	27	
3	Mashila Mukuni	40	
4	Chikondi Banda	78	
5	Akufuna Aka	54	
6	Chinyemba Kawina	32	
7	Suwilanjji Sinkala	10	
8	Muuka Manongo	65	
9	Nadim Aijaz	97	

- (b)** Add all borders from A1 to C10. [2]
- (c)** Insert a column to the right of column A. Take a screenshot and paste it in the Evidence document. [1]
- (d)** Type the label "Class" in the new column B1. Enter "12R" as class for the first 4 learners and "12S" as class for the last 4 learners. Take a screenshot and paste it in the Evidence document. [2]
- (e)** Insert a row above row 1. In the new row you have inserted, type at A1 the label : Results Analysis for Grade 12". Take a screenshot of this entry and paste it in the Evidence document. [2]
- (f)** At A11 type the label "Average" and in C10 enter the function to calculate the average mark for all learners. Take a screenshot of this and paste it in the Evidence document. [3]
- (g)** At D3 under Action column, enter the formula
= IF (C3 > 51, "Pass", IF(C3 > = 41, "Resit. "Fail").
Copy this formula down the column from D3 to D10. Take a screenshot of this entry and paste if in the Evidence document.. [3]
- (h)** Show formula, and paste your screenshot in the Evidence document. [1]

2 Open Microsoft Access to answer this question.

- (a)** Create the database tables below. Fields are indicated for each table below.

Tbl StudentFields

StudentId
Title
Surname
Firstname

Tbl Lesson Fields

LessonNo
StudentID
InstructorId
Datestated
Starttime
Lengthoflesson
Drop-off-point
Lesson type

Tbl Instructor Fields

InstructorId
Title
Surname
Firstname
Address
HometelNo
MobileNo

TbllessonType Fields

LessonType
Cost.

[8]

Take a screenshot of this design and paste it in the evidence document.

- (b)** Select a Primary key for each of the tables in **(a)**. Take a screenshot and paste it in the EVIDENCE document.

[1]

- (c) (i)** Enter the following data in Tbl instructor.

InstructorID	Title	Surname	Firstname	Address	Hometel	Mobile
1	Mr	Mulenga	Henry	Lusaka	247472	0721010112
2	Mr	Habanyama	Clifford	Monze	903421	0724333511
3	Mr	Chishiba	Allan	Masaiti	263901	0746230100

- (ii)** Enter the following data in Tbl lesson.

Lesson No	Student ID	Instructor	Date	Starttime	Length of lesson	Collection Point	Drop point	Lesson type
1	1	1	26/07/2009	09 hours	1	Home Add.	Home	Standard
2	2	1	24/07/2009	11 hours	2	Home Add	Home	Standard
3	3	1	16/07/2009	14 hours	1	Home Add	Home	Standard

- (iii)** Enter the following data in Tbl lesson type.

Lesson type	Cost
Introductory	600
Pass Plus	700
Standard	800
Test	1200

[3]

Take a screenshot of each of the tables in **(c)** and paste it in the EVIDENCE document.

- (d)** Define the relationships of the four database tables you have created. [3]

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Take a screen shot of the relationships in **(e)** you defined and paste it in the EVIDENCE document.



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Question Q1. Use a spreadsheet program. (a) Open a new worksheet and type the given quarterly data (Quarter/Month/Number of items/Income/Expenditure for Apr-Jun with Sub-total column E, and Jul-Sep with Sub-total column I). [2] (b) Insert a new row above row 1. [1] (c) In Cell A1, enter the title SKF1 Limited 2015. [1] (d) Merge the cells B2 to E2 and F2 to H2. [1] (e) In Cell E4, use a function to calculate the number of items sold for April, May and June. [2] (f) In Cell E5, use a function to calculate the average income for April, May and June. [1] (g) In Cell E6, use a function to calculate the total expenditure for April, May and June. [2] (h) In Cell I4, enter a function to calculate the total number of items sold for July, August and September. [2] (i) In Cell I5, enter a formula that will calculate the average income for July, August and September. [1] (j) In Cell I6, use a function to calculate the total expenditure for July, August and September. [2]

(a)-(d) Type the data into the worksheet exactly as given. Then insert a blank row above row 1 (right-click the row-1 header -> Insert, which shifts every existing row down by one, so the old row 1 'Quarter' becomes row 2, old row 2 'Month' becomes row 3, old row 3 'Number of items' becomes row 4, old row 4 'Income' becomes row 5, and old row 5 'Expenditure' becomes row 6). Type the title 'SKF1 Limited 2015' into cell A1. Select B2:E2, then Home -> Merge & Center (Merge Cells); repeat for F2:H2.

Answer: (e) After the row-insert, the 'Number of items' row is now row 4. Number of items sold Apr-Jun = SUM(B4:D4). Formula for E4: =SUM(B4:D4) -> result $6+4+4 = 14$.

Answer: (f) The 'Income' row is now row 5. Average income Apr-Jun = AVERAGE(B5:D5). Formula for E5: =AVERAGE(B5:D5) -> result $(14413+12985+9946)/3 = 12\ 448$.

Answer: (g) The 'Expenditure' row is now row 6. Total expenditure Apr-Jun = SUM(B6:D6). Formula for E6: =SUM(B6:D6) -> result $6794+6946+9626 = 23\ 366$.

Answer: (h) Total items sold Jul-Sep = SUM(F4:H4). Formula for I4: =SUM(F4:H4) -> result $10+4+9 = 23$.

Answer: (i) Average income Jul-Sep = AVERAGE(F5:H5). Formula for I5: =AVERAGE(F5:H5) -> result $(4372+1872+33934)/3 = 13\ 392.67$ (2 d.p.).

Answer: (j) Total expenditure Jul-Sep = SUM(F6:H6). Formula for I6: =SUM(F6:H6) -> result $21873+1419+16912 = 40\ 204$.

Question Q2. Use a database program. (a) Create a database table with fields Code (numeric/integer, unique), Province (text), Product (text), Stock (numeric/integer), Reorder (numeric/integer), Price (numeric/currency), Special (Boolean/logical, displayed as Yes/No). [3] (b) Select an appropriate field and set it as the primary key. [1] (c) Enter the 6 given records (Code/Province/Product/Stock/Reorder/Price/Special, e.g. 4010/Northern/Groundnuts/100/50/85/blank ... 4180/Eastern/Soya beans/41/50/72/Yes ... 5560/Central/Sorghum/28/50/46/Yes) and save as 'stock control'. [3] (d) Produce a query which: (i) sorts the data into ascending order of province [1] (ii) contains a new calculated field 'Cost' = [Price]*[Reorder] [3] (iii) shows only records where Stock is 50 or less AND the product is a Special order [2] (iv) shows only the fields Province, Product, Stock, Price, Reorder, Special and Cost. [2]

(a)-(c) Create the table with each field set to the exact data type listed (Code as an integer field marked to hold unique values, Province/Product as Text, Stock/Reorder as Integer, Price as Currency/Numeric, Special as a Yes/No (Boolean) field), then enter the 6 given records exactly as shown and save the table with the name 'stock control'.

Answer: (b) The **PRIMARY KEY** should be set on the **CODE** field, since the question states this field 'contains unique data' — a primary key must uniquely identify every record, and Code is the only field guaranteed not to repeat.

Answer: (d)(i) Sorting the Province field in **ASCENDING (A-Z)** order gives this record order: Central (Sorghum), Eastern (Soya beans), Luapula (Fish), Muchinga (Millet), North-Western (Sweet Potatoes), Northern (Groundnuts) — note 'North-Western' sorts before 'Northern' because the hyphen character comes before the letter 'e' when compared letter-by-letter.

Answer: (ii) Add a new calculated field named Cost with the expression: Cost: [Price]*[Reorder]. Calculated values: Groundnuts 85x50=4 250; Millet 80x50=4 000; Soya beans 72x50=3 600; Sweet Potatoes 52x50=2 600; Fish 38x50=1 900; Sorghum 46x50=2 300.

Answer: (iii) Query criteria: Stock <= 50 AND Special = Yes. Checking all 6 records, only two satisfy BOTH conditions: Code 4180 (Eastern, Soya beans, Stock 41, Special Yes) and Code 5560 (Central, Sorghum, Stock 28, Special Yes). All the other records either have Stock above 50, or are not marked Special, so they are excluded.

(iv) In the query design grid, untick/remove the Code field's 'Show' checkbox (or simply do not add it to the grid) so only Province, Product, Stock, Price, Reorder, Special and the calculated Cost field are displayed in the query's results.

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