higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

N300**(E)**(N13)H

NATIONAL CERTIFICATE

DATA MANAGEMENT: FARMING N5

(4090465)

13 November 2018 (X-Paper)
09:00–12:00

This question paper consists of 14 pages.

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
DATA MANAGEMENT: FARMING N5
TIME: 3 HOURS
MARKS: 200

INSTRUCTIONS AND INFORMATION

1. This question paper consists of TWO sections:

   SECTION A: THEORY
   SECTION B: PRACTICAL

2. SECTION B is done in the computer room. A hand-written EXAMINATION NUMBER in SECTION B is NOT acceptable.

3. Answer ALL the questions.

4. Read ALL the questions carefully.

5. Number the answers according to the numbering system used in this question paper.

6. Write neatly and legibly.

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SECTION A

QUESTION 1

1.1 Choose a term from COLUMN B that matches a description in COLUMN A. Write only the letter (A–L) next to the question number (1.1.1–1.1.10) in the ANSWER BOOK.

COLUMN A		COLUMN B	
1.1.1	A magnetic device that is used as external memory for magnetic storage of data	A	format
1.1.2	The process of rewriting parts of a file to contiguous sectors on a hard disk to increase the speed of access and retrieval	B	phishing
1.1.3	A program that can be used to manipulate numbers and analyse it	C	dot matrix
1.1.4	The command that will be given to prepare a diskette for first use or to erase all existing data on the diskette	D	defragmentation
1.1.5	This is an example of impact printers	E	parental control
1.1.6	An illegal operation whereby criminals send fake e-mails to obtain personal banking and other details from recipients	F	digital signature
1.1.7	A code attached to an e-mail to identify the sender to provide the receiver with means to encode a reply	G	hard disk
1.1.8	A method of sending text files from one computer to another by telephone line	H	spreadsheet
1.1.9	It includes several features designed to protect underage computers users	I	virus
1.1.10	A set of instructions that infects software and is introduced into executable programs	J	email
		K	thermal printer
		L	MS DOS

(10 × 1) (10)

1.2 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'True' or 'False' next to the question number (1.2.1–1.2.10) in the ANSWER BOOK.

1.2.1 CTRL + Z are a shortcut command for zipping a file.

1.2.2 Columns in an MS excel program are marked vertically from 1 to 1,048,576.

1.2.3 List view displays only the file names vertically.

1.2.4 Queries (database program) are based on tables and are used to retrieve groups of records quickly to be displayed frequently.

1.2.5 Hardware devices cannot be touched.

1.2.6 1000 bytes is equal to a kilobyte.

1.2.7 RAM is a permanent memory.

1.2.8 A CPU is composed of a control unit only.

1.2.9 Impact printers have many moving parts and they are noisy when printing.

1.2.10 The 'Backspace' key deletes all characters after the cursor.

(10 × 1) (10)

1.3 Various options are given as possible answers to the following statements. Choose the answer and write only the letter (A–D) next to the question number (1.3.1–1.3.10) in the ANSWER BOOK.

1.3.1 ... memory is usually fairly limited and forms only a small part of the total memory.

A RAM
B LAN
C RWM
D ROM

1.3.2 A binary digit is commonly called a ... and has a value of either zero or one.

A unit
B bit
C character
D binary unit

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1.3.3 This refers to the buying and selling of goods and services online on the internet.

A e-banking
B e-government
C e-commerce
D e-learning

1.3.4 This is a program that has been copyrighted, but the creator offers it to anyone to copy and to try out.

A Shareware
B Freeware
C Open source
D Firewall

1.3.5 An end user … is a legal contract between a software developer or vendor and the end-user of the software.

A copyright
B firewall
C license agreement
D software piracy

1.3.6 Displays the file names and thumbnails horizontally in different sizes and more information appears in the details pane at the bottom of the window.

A List
B Details
C Tiles
D Icons

1.3.7 When the computer is off and is then switched back on, it is called …

A warm boot.
B cold boot.
C restart.
D hot boot.

1.3.8 Which ONE of the following signs may not be used in file names.

A %
B @
C ?
D &

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1.3.9 ... characters are used to specify a group of files.

A Windows
B Computer icon
C Small view
D Wildcard

1.3.10 This is ONE example of anti-virus software.

A Dr Solomon
B Worm
C Trojan horse
D Notations

(10 × 1) (10)
[30]

QUESTION 2

2.1 What are the advantages of *graphical user interface?* (5)

2.2 Define the term *path name*. (2)

2.3 Name FIVE security measures that you can do to protect the damage of software, data and hardware in an information system. (5 × 2) (10)

2.4 What are the functions of a mouse? (5)
[22]

QUESTION 3

3.1 What do the following abbreviations stand for:

3.1.1 RSI

3.1.2 CTS

3.1.3 CVS

(3 × 3) (9)

3.2 Describe the difference between *backup* and *diskcopy*. (2 × 2) (4)

3.3 Explain how viruses enter a computer system. (5 × 2) (10)
[23]

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QUESTION 4

4.1 Give a brief difference between *operating systems* and *application software* and also give TWO examples of each. (8)

4.2 Explain how you activate Windows Explorer. (5)

4.3 What are the functions of each of the following?

4.3.1 Arithmetic logic unit

4.3.2 Printer

4.3.3 Stylus

4.3.4 Monitor

4.3.5 Twitter

(5 × 2) (10)

4.4 Explain the term *software piracy.* (2)

[25]

TOTAL SECTION A: 100

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SECTION B: (PRACTICAL)

This section is done on the computer. Use the font type Arial 12pt.

Your EXAMINATION NUMBER as well as the question number must appear as a header on each printout.

The PRINTOUTS you want to be marked must be placed in the cover/folder in the correct sequence.

WORD PROCESSING

QUESTION 5

This document has already been keyed in by the computer lecturer on the data diskette. The name of the document is QUEST 5. The following is a copy of the document saved as QUEST 5.

'I found Agrivi while searching online for a farm management program. I sent a message acquiring information about the software and within minutes I had a response followed by a Skype demonstration. I tested the software over the next few days and decided to buy a subscription.' ~ Brett Rovey

Brett Rovey is a third generation farmer on Rovey Dairy, a family farm based in Arizona. The farm locations are spread out between Palo Verde, Buckeye and Glendale. The Glendale location is about 3 miles from the stadium where the Arizona Cardinals play. The dairy farm was started by Brett's grandfather in 1943 and was later purchased by Brett's father Paul in 1978 who started steadily growing the business from 200 cows up to the 2 000 cows they have today.

Rovey Dairy has started farming their ground in 2012, to ensure sufficient quantities of quality feed for their cows. They farm around 2000 acres on fields spread out across 50 miles and the entirety of their production goes into feeding the cows. The farms grow a wide range of row crops, such as alfalfa, corn silage, sorghum silage, barley, sugar beets, bermuda grass and rye.

Due to an extensive amount of activities being performed on the farms at any given time, there was an issue with keeping things organised, especially due to the widespread fields which are gathered across several locations. Brett has spent time searching for a suitable solution that would streamline the production and get a much clearer insight into production costs, tasks, and other operations across the farms.

'Before switching to Agrivi we used numerous amounts of Excel documents and paper time sheets. This was a time consuming process and we still lacked information we needed. Many of the tasks were not recorded timeously and the output was missing valuable information.' ~ Brett Rovey

Having spreadsheets and written notes at multiple locations makes it impossible to share the data in an efficient way, not to mention having no real time insight into inventory, which is the key prerequisite for efficient usage of inputs across multiple farm locations. Furthermore, having a large number of fields puts an emphasis on being on top of costs per field and crop, to better plan the usage of inputs for the seasons to come.

'We needed a program that was always available, easy to use and had the capabilities to track all cost applied to our farming operation. Some of the most important activities we track are water usage, machinery cost and fertiliser.' ~ Brett Rovey

When it comes to their business, Rovey Dairy puts a heavy focus on cost effectiveness, following up with an ever-growing passion for improving their farm management practices. Their goal is to improve the produce quantity and quality due to the fact that everything they produce on the fields eventually ends up as cow feed, affecting the quality of milk they distribute all over the US.

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5.1 Open the document, save as QUEST 5 and insert your EXAMINATION NUMBER left and QUESTION NUMBER right as header. (2)

5.2 Change the entire document to Courier New 12pt and left alignment. (2)

5.3 Above the first paragraph, insert the main heading in uppercase, centre, bold and size 20pt.

ROVEY DAIRY FARM (4)

5.4 Change the second and third paragraphs to two columns with a line in between. (3)

5.5 Insert a page break before the paragraph 'We needed a program'. (2)

5.6 Change the appearance of the picture to 'Snip Diagonal Corner, white' and size to 6 cm height and 12 cm width.



(4)

5.7 In the last paragraph, apply 2 line spacing, change the paragraph to bold. (2)

5.8 Print the document and put in your folder. (1)
[20]

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SPREADSHEET

QUESTION 6A

6.1 6.1.1 Create the following document in the spreadsheet program. Use the exact cell references as indicated.

	A	B	C	D	E	F
1	ROVEY DAIRY FARM					
2						
3	WEEKLY COMMISSION					
4						
5	PROFIT	30%				
6	COMMISION	5%				
7						
8	PRODUCT PER KG	COST PRICE	PROFIT	SALES PRICE	TOTAL SALES	COMMISSION PAID
9						
10	Spinach	6.99				
11	Oranges	8.45				
12	Tomatoes	14.25				
13	Pears	16.99				
14	Apples	12.55				
15	Bananas	7.89				
16	Pumpkins	10.75				

(5)

6.1.2 Insert your EXAMINATION NUMBER and Question 6A on the right-hand side as a header. (2)

6.1.3 Adjust the column to fit ALL the data as indicated. (1)

6.1.4 Save the document as QUEST 6A.

6.1.5 Print the document on A4 Portrait with row and column headings or the gridlines. (2)

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QUESTION 6B

6.2 6.2.1 Retrieve the document QUEST 6A and immediately as save QUEST 6B. Also change Question 6A to 6B. (1)

6.2.2 Insert a row for TOTAL and a column for NUMBER SOLD between Sales Price and Total Sales as indicated below.

	A	B	C	D	E	F	G
1	**ROVEY DAIRY FARM**						
2							
3	WEEKLY COMMISSION						
4							
5	PROFIT	30%					
6	COMMISION	5%					
7							
8	PRODUCT PER KG	COST PRICE	PROFIT	SALES PRICE	NUMBER SOLD	TOTAL SALES	COMMISSION PAID
9							
10	Spinach	6.99	**A**	**B**	30	**C**	**D**
11	Oranges	8.45			14		
12	Tomatoes	14.25			36		
13	Pears	16.99			15		
14	Apples	12.55			12		
15	Bananas	7.89			20		
16	Pumpkins	10.75			16		
17	TOTAL	E					

(3)

6.2.3 Merge and centre cell range A1–G1 and change the font size to 20pt and Bold. (3)

6.2.4 Give the formulae and/or function for cells marked with letter of the alphabet. Use cell references and absolute addresses where applicable. Copy the formulae as indicated to complete the spreadsheet.

A PROFIT = 30% of the COST PRICE. Make use of an absolute cell reference.
B SALES PRICE = COST PRICE plus PROFIT.
C TOTAL SALES = SALES PRICE multiply by NUMBER SOLD.
D COMMISSION PAID = 5% of TOTAL SALES. Make use of an absolute cell reference.
E Calculate the total of each column.

(5 × 3) (15)

6.2.5 Display ALL amount as currency with two decimals and adjust the column widths if necessary. (2)

6.2.6 Insert horizontal and vertical line as indicated with the method which you are familiar with. (3)

6.2.7 Sort the records according to the product in alphabetical order. (2)

6.2.8 Print the document on A4 landscape without row and column headings or the gridlines. (2)

QUESTION 6C

6.3 6.3.1 Use the document QUEST 6B to create a column graph indicating the commission paid of each product. (2)

6.3.2 The following must appear in the graph:

TITLE: COMMISSION PAID
EXAMINATION NUMBER
QUESTION 6C
Y-axis: WEEKLY STATEMENT (5)

6.3.3 Display the legend on the right of the graph (commission paid). (1)

6.3.4 Print the graph on a Landscape page. (1)

[50]

DATABASE

QUESTION 7

7.1 7.1.1 Open Database Programme and create a database COMMISSION and your EXAMINATION NUMBER.

7.1.2 Create a Table and name it as follows: ROVEY DAIRY FARM, QUESTION 7A EXAMINATION NUMBER.

7.1.3 Use the field names and formatting as indicated below.

FIELD NAME	INFORMATION
PRODUCT	Consists of a maximum 20 characters
CUSTOMER	Consists of a maximum 10 characters
COST PRICE	Will not exceed R9 999.
NUMBER ORDER	Number (integer)
COMMISSION PAID	Will not exceed R9 999
SALES DATE	Format (yyyy/mm/dd)

7.1.4 Save the information and make a printout of the structure. Do NOT print any properties. (10)

7.2 Key in the following records on the table.

ITEM NO:	PRODUCT	CUSTOMER	COST PRICE	NUMBER ORDER	COMMISSION PA	SALES DATES
1	Spinach	Malala J	R 6.99	30	R 21.99	2016/12/15
2	Oranges	Siphuma B H	R 8.45	14	R 14.99	2016/12/15
3	Tomatoes	Aliali P	R 14.25	36	R 109.65	2016/12/16
4	Pears	Julia M	R 16.99	15	R 64.95	2016/12/17
5	Apples	Doris B	R 12.55	12	R 28.35	2016/12/18
6	Bananas	Nyambi W	R 7.89	20	R 18.68	2016/12/17
7	Pumpkins	Neshee N	R 10.75	16	R 27.74	2016/12/19

Save the document and make a PRINTOUT of ALL the records. PRINTOUT must fit on A4 page in landscape. (10)

7.3 Create a query which will include the following fields

PRODUCT	COST PRICE	COMMISSION PAID

7.3.1 Sort the contents of the database in ascending order according to the product.

7.3.2 Add the criteria to select only the products which have less than R50.00 commission paid.

7.3.3 Save as QUESTION 7B with your EXAMINATION NUMBER and make ONE PRINTOUT of the query. (10)

[30]

TOTAL SECTION B: 100
GRAND TOTAL: 200

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