higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE

DATA MANAGEMENT: FARMING N5

(4090465)

9 November 2022 (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. The question paper comprises of two sections, namely:

   SECTION A: Theory (100 marks)

   SECTION B: Word processing/Text manipulation, spreadsheet and database (100 marks)

   SECTION A must be answered in the ANSWER BOOK, which must be placed on top of all the printouts in the yellow folder.

   SECTION B is done on the computer with the aid of word processing, spreadsheet and database programs. Each printout must have the examination number and the question number printed either as a header or a footer (as per instruction). Handwritten examination numbers and question numbers are NOT acceptable. The printouts must be placed in the folder in the correct sequence. Candidates using continuous paper must tear the pages apart before handing them in.

2. The time allocated for the question paper is three hours.

3. NO additional printing time is allowed.

4. In the event of a power failure or a computer or printer breakdown, the invigilator must make the necessary arrangements for the candidates to continue and the actual time lost must be added.

5. If there is a problem with certain printers, e.g. does not print, send a report with your centre's answer sheets.

6. A candidate may have in his/her possession a typing ruler, a dictionary and a list of ASCII codes. Spellcheck may be used.

7. Each answer must be printed on a separate sheet of paper and on one side of the paper only. Printouts must be placed in the examination folders immediately.

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8. Do NOT staple answer sheets together. Marks will be subtracted for printing on both sides of the paper, as well as stapling answer sheets.

9. At the conclusion of the examination session, all printouts that a candidate wishes TO BE MARKED must be placed in the examination folder and all OTHER PRINTOUTS, together with the examination folder, MUST be handed to the invigilator. NO printouts may be removed from the examination room or put into waste paper bins. Printouts not submitted for marking must be collected at the end of each session and must be destroyed at the end of the day. Only one printout per question or subsection of a question may be handed in.

10. Printouts to be marked must be arranged in the same order as that of the questions in the examination paper. Marks will be subtracted for answer sheets not arranged in numerical order.

11. Printouts may be on A4 sheets of paper or on continuous computer paper, unless a specified paper size is required in a question, or a letterhead is supplied.

12. All work on the computer should be saved at regular intervals to prevent loss of work in the event of a power failure. NO additional time may be allowed for lost work. It is the candidates' responsibility to protect their answers from obliteration.

13. In order to print the original and the edited attempts of the answers, candidates are reminded to save their work after each section before it is printed.

14. Note that no paper may be taken out of the examination room, including question papers. ALL sheets of paper must be handed in. Question papers may be given to candidates at the end of the last session.

15. In the event of an examination paper being examined in more than one session, the invigilator must ensure that all the candidates' answers are removed from the hard disks or the network before the candidates for the next session are allowed into the room.

16. NO candidate may print his/her work for another candidate, make his/her disk/storage device available to another candidate or access other candidates' work on the network.

17. Any attempt to access information from or transfer information to another candidate in whatever manner is a contravention of the examination rules and regulations, and will be treated as an irregular act.

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SECTION A

QUESTION 1

Various options are given as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question number (1.1–1.10) in the ANSWER BOOK.

1.1 Why is it important to make regular back-ups of work on a computer?

A Preventing loss of data
B Complying with the law
C Protecting the computer
D Increasing storage capacity

1.2 The … option included in the control panel allows you to install and uninstall programs.

A add and remove programs
B add hardware
C sounds and audio devices
D display

1.3 The shape of the cursor that lets you know a word or image on a webpage will link you to another webpage:

A Arrow
B Double line
C Straight line
D Hand

1.4 Each webpage has a unique address called a/an …

A URL.
B ISP.
C HTML.
D UPS.

1.5 What is the best way to protect a computer against data loss?

A Shut down the computer
B Make regular backups
C Change the password
D Do not use weblogs

1.6 Which type of printer prints the fastest?

A Laser
B Inkjet
C Bubble jet
D Dot matrix

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1.7 Which of the following is a characteristic of broadband connection?

A Need a 56k modem to connect
B Uploading of music files
C More expensive the longer the connection
D Fast, always-on connection

1.8 Choose one statement that is false about virtual communities:

A It is an online community.
B As it is a community, people can see each other when communicating.
C People can share ideas, interests, etc.
D A webcam is not needed when communicating with a virtual community.

1.9 This is a large, expensive, high-performance computer:

A Laptop computer
B Mainframe computer
C Personal computer
D Minicomputer

1.10 Which of the following would not be considered an advantage of teleworking?

A Fewer people to cater for in the main office
B No specified working hours
C Less commuting time
D Greater ability to focus

(10 × 2) **[20]**

QUESTION 2

Indicate whether the following statements are TRUE or FALSE by writing only 'True' or 'False' next to the question number (2.1–2.10) in the ANSWER BOOK.

2.1 ROM stand for read operating memory.

2.2 New topology describes the method used to do physical wiring of the network.

2.3 Network ports are used to connect a computer to a network.

2.4 A program that has been copyrighted, but the creator offers it to anyone to copy and try it, is called an open source.

2.5 Ctrl+A is used to highlight an entire document.

2.6 One can paste by simultaneously pressing Ctrl and V.

2.7 Microsoft Word can be used to perform calculations, visualise data and analyse information.

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2.8 A screen magnifier is software that enlarges screen content. ☆

2.9 All the data for a specific entry in a database is called a record.

2.10 Diskcopy works only with removable disks such as floppy disks, which must be of the same type.

(10 × 2) **[20]**

QUESTION 3

Choose a term from COLUMN B that matches a description in COLUMN A. Write only the letter (A–L) next to the question number (3.1–3.10) in the ANSWER BOOK.

COLUMN A		COLUMN B	
3.1	A magnetic device that is used as external memory for magnetic storage of data ☆	A	format
3.2	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
3.3	A program that can be used to manipulate and analyse numbers	C	dot matrix
3.4	The command that will be given to prepare a disk for first use or to erase all existing data on the disk	D	defragmentation
3.5	An example of impact printers	E	parental control
3.6	An illegal operation whereby criminals send fake emails in order to obtain personal banking and other details from recipients	F	digital signature
3.7	A code attached to an email to identify the sender to provide the receiver with means to encode a reply	G	hard disk ☆
3.8	A method of sending text files from one computer to another by telephone line	H	spreadsheet
3.9	Includes several features designed to protect underage computers users ☆	I	virus
3.10	A set of instructions that infects software and is introduced into executable programs	J	e-mail
		K	thermal printer
		L	MS-DOS

(10 × 1) **[10]**

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QUESTION 4

4.1 Give a short explanation of the following computer terms:

4.1.1 Multitasking

4.1.2 Hardware

4.1.3 Port

4.1.4 Chat room

4.1.5 Cookies

(5 × 2) (10)

4.2 Explain briefly the procedure of compressing (zipping) a file or folder. (5)

4.3 What are security measures to keep in mind when using online communities?

Name FIVE points. (10)

4.4 The operating system is the most fundamental program. What are the functions of the operating system? (5)

[30]

QUESTION 5

5.1 Describe the process of saving, retrieving and editing a file on a hard disk. In your description, show different components and memories that are used. (4)

5.2 During logical formatting, THREE important areas are formed. Name each area and give its function. (3 × 2) (6)

5.3 Files infected with a virus can be disinfected. Name the steps that may be followed with anti-virus programs. (5 × 2) (10)

[20]

TOTAL SECTION A: 100

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SECTION B: (PRACTICAL)

WORD PROCESSING

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

Your EXAMINATION NUMBER as well as the QUESTION NUMBER must appear as a header on each printout. ☆

The printouts to be marked must be placed in the cover/folder in the CORRECT SEQUENCE.

QUESTION 6

This document has already been keyed in by the computer lecturer on the data disk. The name of the document is QUEST 6. The following is a copy of the document saved as QUEST 6:

Food Farming Technology

Computerised farming technology ☆

Computerised farming technology includes moisture sensors, smart irrigation systems, terrain contour mapping and self-driven and GPS-enabled tractors, all of which contribute to improving farming sustainability.

IoT solutions enable farmers to control water troughs and feeders and even manage the irrigation system for the pastures. Machines are available that signal when stalls need to be cleaned.

Various types of wearables for cows allow dairy farmers to continuously monitor the health, location and behaviour of all their cows at the same time. The wearables collect information about the animals' temperature, activity, behaviour (feeding, sleeping, lameness, gait) and milk production levels and help farmers keep track of which cows have already been milked. Dairy farmers use the information from the trackers to determine when cows are in heat and ready for insemination and to detect any deviation from the norm. This makes the timely treatment of illness or abnormalities possible, which in turn ensures cow health and comfort. ☆

All types of sensors are available to farmers. Drones can be fitted with multispectral sensors that indicate how crops should be watered. The same sensor mounted on a tractor that's fertilising soil can regulate the application of nitrogen so that the right amount is applied to maintain soil health. In-field moisture sensors in the ground can help farmers create customised irrigation systems for crops and pastures based on soil moisture and temperature. This type of technology can help farmers to become more sustainable by managing the level and frequency of irrigation.

Equipment for happy cows ☆

Cows love cow brushes, which stimulate blood circulation by their rotations and movements. According to some farmers, their cows line up for their turn to use this technology. Rotary milking parlours make sanitisation of udders efficient and accessible and misting or evaporative systems keep cows cool and prevent heat stress.

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MILKSHUTTLE

1. Physical ease of work: relieves your back
2. Three big wheels for any terrain
3. Strong electric drive
4. Exact and simple dosing out of the milk
5. Four practical sizes

URBAN ALMA PRO

1. Latest technology with a user-friendly touchscreen
2. Future-proof
3. Calf health reports round the clock
4. Only model with a closed loop system
5. Milk temperature is controlled by three sensors
6. Fully automatic cleaning system

Conclusion

Agtech data and technology equip farmers to work smart and produce the best-quality products efficiently while continually improving the responsible management of animals and the environment.

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6.1 Open the document saved as QUEST 6 and insert your EXAMINATION NUMBER left and QUESTION NUMBER right as header. (2)

6.2 Change the main heading to upper case, Cooper, size 16pt and right-align. (3)

6.3 Apply word art of your choice to the subheading and font size 12:

"Computerised farming technology" (3)

6.4 In paragraphs 1 and 2, make the following changes: Insert a triple line border, change the line spacing to double line spacing and apply full justification. (3)

Computerised farming technology includes moisture sensors, smart irrigation systems, terrain contour mapping and self-driven and GPS-enabled tractors, all of which contribute to improving farming sustainability.

IoT solutions enable farmers to control water troughs and feeders and even manage the irrigation system for the pastures. Machines are available that signal when stalls need to be cleaned.

6.5 Change the numbered paragraphs into one-column paragraphs and change the numbering to bullets. (3)

6.6 Apply zigzag page border line to the document. (2)

6.7 Insert page numbering starting from 8. (2)

6.8 Save and print the document and place it in your answer sheet. (2)

[20]

SPREADSHEET

QUESTION 7

7.1 Create the following document in the spreadsheet program. USE THE EXACT CELL REFERENCES AS INDICATED. (5)

	A	B	C	D	E	F	G	H
1	FARMER STALL DECEMBER HOLIDAY							
2	2 STREET AVENUE							
3	MAKHADO							
4								
5	BOOKING FORM FOR THE MONTH OF DECEMBER 2019							
6								
7								
8								
9	NAME	NUMBER OF	DATE	DATE	NUMBER	PRICE	AMOUNT	% OF
10		PERSONS	IN	OUT	OF DAYS	PER DAY	DUE	TOTAL
11						PER PERSON		
12								
13	ALUWANI	6	17/12/2019	23/12/2019				
14	MASINDI	5	16/12/2019	21/12/2019				
15	ELISA	3	14/12/2019	17/12/2019				
16	PETER	6	13/12/2019	19/12/2019				
17	SIMANGO	5	12/12/2019	17/12/2019				
18	JEDINAH	3	10/12/2019	13/12/2019				
19	ZWOITWAHO	4	15/12/2019	19/12/2019				
22	MULAUDZI	4	11/12/2019	15/12/2019				
21	TOTAL							
22	HIGHEST							
23	LOWEST							
24	AVERAGE							

7.2 Insert your EXAMINATION NUMBER and QUESTION 7 on the right-hand side as a header. (2)

7.3 Adjust the column to fit all the data as indicated. (1)

7.4 Save the document as QUEST 7.

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

[10]

QUESTION 8

8.1 Retrieve the document QUEST 7 and save immediately as QUEST 8. Also change Question 7 to Question 8 on the header. (2)

	A	B	C	D	E	F	G	H
	FARMER STALL DECEMBER HOLIDAY							
1	**2 STREET AVENUE**							
2	**MAKHADO**							
3								
4	**BOOKING FORM FOR THE MONTH OF DECEMBER 2019**							
5								
6								
7								
8	***NAME***	***NUMBER OF***	***DATE***	***DATE***	***NUMBER***	***PRICE***	***AMOUNT***	***% OF***
9		***PERSONS***	***IN***	***OUT***	***OF DAYS***	***PER DAY***	***DUE***	***TOTAL***
10						***PER PERSON***		
11								
12	ALUWANI	6	17/12/2019	23/12/2019	**A**	300	**B**	**D**
13	MASINDI	5	16/12/2019	21/12/2019		250		
14	ELISA	3	14/12/2019	17/12/2019		150		
15	PETER	6	13/12/2019	19/12/2019		300		
16	SIMANGO	5	12/12/2019	17/12/2019		250		
17	JEDINAH	3	10/12/2019	13/12/2019		150		
18	ZWOITWAHO	4	15/12/2019	19/12/2019		200		
19	MULAUDZI	4	11/12/2019	15/12/2019		200		
22	TOTAL						**C**	
21	HIGHEST					**E**		
22	LOWEST				**F**			
23	AVERAGE	**G**						

8.2 Merge and centre cell range A1 to H1 and change the font to Wide Latin, 14pt. (4)

8.3 Change the information in rows 1, 2 and 4 to bold. (2)

8.4 Change the format of column headings to bold and italics. (2)

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

A NUMBER OF DAYS = Date in minus Date out (2)

B AMOUNT DUE = Number of persons multiplied by Number of days (2)

C Sum of AMOUNT DUE (2)

D % OF TOTAL = Total divided by AMOUNT DUE (2)

E Use function to get the highest amount. (2)

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F Use function to get the lowest number of days. (2)

G Use function to get the average number of persons. (2)

8.6 Display all amounts as currency with TWO decimals. (2)

8.7 Insert horizontal and vertical lines with a method with which you are familiar. (2)

8.8 Print the document on A4 landscape without row and column headings or gridlines. (2)
[30]

QUESTION 9

9.1 Retrieve the document saved as QUEST 8 and create a line graph to indicate the AMOUNT DUE of each person. (3)

9.2 The chart title should be as follows:
EXAMINATION NUMBER
QUESTION 9
AMOUNT DUE (3)

9.3 Insert a vertical axis title as 'Amounts' and a horizontal axis title as 'Customers'. (2)

9.4 Print the chart on a landscape page. (2)
[10]

QUESTION 10: DATABASE

10.1 Open the database program and create a database FRUIT FARM and your EXAMINATION NUMBER.

10.2 Create a table and name it as follows: COST ITEM, QUESTION 10A and your EXAMINATION NUMBER.

10.3 Use the field names and formatting as indicated below:

FIELD NAME	INFORMATION
ID	Long integer
FRUIT	Consists of a maximum 20 characters
UNIT SOLD	Long integer
TOTAL AMOUNT	Will not exceed R9 999
VAT AMOUNT	Will not exceed R9 999
DATE SOLD	Format (yyyy/mm/dd)
EXAMINATION NO	Text

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

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10.5 Key in the following records on the table: ☆

ID	FRUIT	UNIT ITEM	TOTAL AMOUNT	VAT PRICE	DATE SOLD	EXAM NO.
1	TOMATOES	30	R16483,30	R2307,69	2018/12/12	
2	KIWI FRUIT	15	R6196,50	R867,51	2018/08/07	
3	MANGOES	12	R479,70	R67,16	2018/09/15	
4	GRAPE FRUIT	15	R5934,60	R830,84	2019/03/02	
5	PEARS	30	R9387,90	R1408,19	2019/04/25	
6	APPLES	14	R2697,00	RR377,58	2018/12/17	
7	AVOCADOS	15	R9742,50	R1363,95	2018/06/29	

10.6 Save the document and make a printout of all the records. The printout must fit on an A4 page in landscape. ☆ (10)

10.7 Create a report using the following headings:

FRUIT	TOTAL AMOUNT	VAT AMOUNT

(1)

10.8 Sort the contents of the database in ascending order according to the FRUIT. (2)

10.9 Add the TOTAL for the calculation of the TOTAL AMOUNT and VAT AMOUNT. The calculated amount must appear underneath the last amount in each column. ☆ (4)

10.10 The title of the report must be PRODUCTION, your EXAMINATION NUMBER, QUESTION 10B. ☆ (2)

10.11 Make a printout of the report on a portrait page. (1)

[30]

TOTAL SECTION B: 100
GRAND TOTAL: 200

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