higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

N290**(E)**(M24)H

NATIONAL CERTIFICATE

DATA MANAGEMENT: FARMING N4

(4090454)

24 May 2019 (X-Paper)
09:00–12:00

25 MINUTES BEFORE THE COMMENCEMENT OF THE EXAMINATION THIS QUESTION PAPER SHOULD BE HANDED TO THE CANDIDATES TO READ THE INSTRUCTIONS

Candidates may bring a typing ruler, a dictionary and a list of ASCII codes into the examination room.

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 N4
TIME: 3 HOURS
MARKS: 200

TURN THE PAGE FOR THE INSTRUCTIONS. YOU GET 25 MINUTES TO READ THE INSTRUCTIONS.

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INSTRUCTIONS TO INVIGILATORS AND CANDIDATES

READ THE FOLLOWING INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO ANSWER THE PAPER. INVIGILATORS WILL EXPLAIN, IF NECESSSARY.

1. The question paper comprises two sections, namely:

   SECTION A: Theory (120 marks)

   SECTION B: Word processing/text manipulation, spreadsheet and database (80 marks)

   SECTION A should be answered in the ANSWER BOOK. The ANSWER BOOK must be placed on top of ALL the PRINTOUTS in the yellow folder.

   SECTION B should be done on the computer with the aid of word processing, spreadsheet and database programs.

   Each printout MUST have both the EXAMINATION NUMBER and the QUESTION NUMBER printed as a header. Handwritten EXAMINATION NUMBERS and QUESTION NUMBERS are NOT acceptable.

   The printouts must be placed in the folder in the correct sequence. Candidates making use of continuous paper must detach the pages from one another before handing them in.

2. The time allocated for the question paper is 3 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. 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 such lost work. It is the candidate's responsibility to protect his/her answers from being lost.

6. If there is a problem with certain printers, e.g. they do not print ë, a report should be sent together with your centre's answer sheets.

7. A spellcheck may be used.

8. Each answer must be printed on a separate sheet of paper and on one side of the paper only. PRINTOUT must immediately be placed in the EXAMINATION FOLDER.

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9. Do NOT staple answer sheets together. Marks will be subtracted when printing was done on both sides of the paper and when ANSWER SHEETS were stapled together.

10. Only ONE printout per question or subsection of a question may be handed in.

11. At the end of the examination session ALL printouts which a candidate wishes to be marked, must be placed in the EXAMINATION FOLDER and handed to the invigilator together with the other printouts. NO printouts whatsoever 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 destroyed at the end of the day.

12. 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 in the correct order.

13. PRINTOUT may be on A4 sheets of paper or on continuous computer paper; unless a specified size of paper is required in a question or a letterhead is supplied.

14. In order to print the original as well as the other attempts of the answers, candidates are reminded to save the work after completion of each section before it is printed.

15. At the end of the examination session each candidate must hand in the PRINTOUTS of the answers as well as a diskette with the saved answers properly marked with the candidate's EXAMINATION NUMBER on the cover. These diskettes must be handed to the examination section for safekeeping for one year in case enquiries should be made by the examiner/moderator and superintendents of examination.

    If there are no diskettes to save the answers, each candidate must create a folder on the computer he/she is working on and save all his/her work in that folder which is named using his/her EXAMINATION NUMBER. The invigilator will then save the folders on a USB and submit the USB to the examination office for safekeeping for ONE year.

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

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

18. NO candidate may print his/her work for another candidate, make his/her floppy disk/storage device available to another candidate or access other candidates' work on the network. Any attempt to access information from or transfer information to another candidate in whatever way is a contravention of the examination rules and regulations and will be treated as an irregularity.

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SECTION A: THEORY

QUESTION 1

Give a word/term for each of the following descriptions by writing only the word/term next to the question number (1.1–1.10) in the ANSWER BOOK.

1.1 A magnetic device that is used as external memory for magnetic storage of data

1.2 A virus lies in the memory of a computer until a certain program is activated

1.3 Software which consumers can try, review, demonstrate and evaluate before they buy

1.4 A flat-panel portable PC in the form of a slate with a removable keyboard

1.5 The number of characters that can be printed horizontally across a page

1.6 Short-term malicious software used or programmed by attackers to disrupt computer operations

1.7 A program or hardware device that filters the information coming through the internet connection into a private network or computer system

1.8 A hardware frame and set of electrical connection interfaces that enable a laptop computer to effectively serve as a desktop computer

1.9 A pointing device that can be used instead of the keyboard to move the cursor

1.10 Unique codes given to every user to access a network

(10 × 2) **[20]**

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QUESTION 2

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 (2.1–2.10) in the ANSWER BOOK.

2.1 A device that reads text, images or graphics from paper and converts them into machine-readable characters:

A Monitor
B Scanner
C Windows
D Twitter

2.2 Program used to create tables in which calculations can be done automatically by using formulas and functions:

A Skype
B Word processing
C Spreadsheet
D Facebook

2.3 Which ONE of the following extensions indicates spreadsheet documents?

A .xxls
B .pdf
C .docx
D .wpd

2.4 Ctrl + A is a combination key to …

A save.
B add.
C zoom in or out.
D highlight.

2.5 … is a field of technology that considers human capabilities and limitations in the design of machines that people use.

A Extensions
B Health issues
C Windows
D Ergonomics

2.6 The shortcut combination command for undo typing using the keyboard is by pressing …

A Ctrl + A.
B Shift + U.
C Ctrl + Z.
D Shift + Z.

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2.7 A … is used for taking still photographs and storing the results electronically in memory.

A microphone
B firewall
C digital camera
D USB

2.8 … is an illegal operation whereby criminals send fake e-mails in order to obtain personal banking and other details from recipients.

A Copyright
B Security
C Phishing
D Private network

2.9 Type of education where an online computer is used as medium of instruction.

A Electronic mail
B E-learning
C Instant messaging
D Mobile technology

2.10 Android is an example of …

A Blackberry.
B MS-DOS.
C an application system.
D an operating system.

(10 × 2) **[20]**

QUESTION 3

Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'True' or 'False' next to the question number (3.1–3.10) in the ANSWER BOOK.

3.1 Graphical user interface is an addition to the operating system.

3.2 The program that can manipulate numbers and analyse it, is word processing.

3.3 The CPU is composed of the LAN and the arithmetic logic unit.

3.4 The size of a computer is defined by its gigabytes.

3.5 PDF is a printing device.

3.6 The size of a monitor is measured vertically across the screen.

3.7 WhatsApp is a software application designed to run on smartphones, tablet computers and other mobile devices.

3.8 Skype enables you to communicate online with friends, relatives and business contacts face to face.

3.9 WiMAX is NOT a super Wi-Fi system that provides a higher speed than Wi-Fi.

3.10 Web blog is a website with regular entries of commentary.

(10 × 2) **[20]**

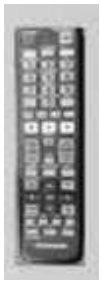
QUESTION 4

Name the following electronic devices by writing only the answer next to the question number (4.1–4.5) in the ANSWER BOOK.

4.1



4.2



4.3



4.4



4.5 

(5 × 2) **[10]**

QUESTION 5

5.1 Distinguish between ROM and RAM by giving your answer in table format. (10)

5.2 Differentiate between *application software* and an *operating system*. (2 × 2) (4)

5.3 What are the characteristics of a mainframe computer? (5)

5.4 Explain the procedure of activating a computer. (5)

5.5 What does ALU stand for? (1)

[25]

QUESTION 6

6.1 What can you do to eliminate computer viruses in your computer? (10)

6.2 State FIVE symptoms of a virus infection in a computer. (5 × 2) (10)

6.3 Name FIVE anti-virus programmes. (5)

[25]

TOTAL SECTION A: 120

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SECTION B: PRACTICAL

1. This section is done on the computer. Use the font type Arial Narrow 12pt.
2. Your EXAMINATION NUMBER and the QUESTION NUMBER must appear as a header on each printout.
3. The PRINTOUTS to be marked must be placed in the EXAMINATION FOLDER in the correct sequence.

QUESTION 7: WORD PROCESSING

Farm and Food Business

Rules of Transition Management

The issue of family business generational transition is a major topic of discussion as farm businesses position themselves for success. Lack of growth is the number one reason businesses fail, and this is because of undercapitalisation, inadequate investment in human relations and communication and insufficient generation of income. Sixty percent of all farm and small businesses that enter bankruptcy were profitable in previous years. The following are some rules that are generally used in successful business transitions.

Rule 1: Revenue/Net Income

Bringing in a new partner takes an estimated $150,000 to $250,000 increase in gross revenue, or $40,000 to $70,000 of net profit for a successful business transition. Violate this rule and you set yourself up for guerilla warfare where family members or partners fight over scarce resources (including net income) to meet their standard of living.

Rule 2: Three-to-Five-Year Rule

Agricultural business transitions are twice as likely to be successful when the family member or potential business partner first works for someone else for three to five years. Allow him/her to make mistakes with someone else's money! A recent study found that the farm businesses that allowed entering partners to work for others for three to five years first, found their businesses to be four times more profitable. A college education is not necessarily part of this experience, however, military and summer work experiences can be a useful part of the experience base.

Rule 3: Six-Year Rule

If a new partner is brought into the business, make sure you allow him/her to move into management and decision making within six years. Farms and businesses that fail to do so, are twice as likely to have an unsuccessful business transition and are less profitable. At a seminar in central Pennsylvania, an 85-year-old gentleman, indicated that he needed to turn the books over to his boy. Well, his boy was 65 years old! As the old saying goes, you either teach or share with the younger generation, or you destroy the business.

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Rule 4: Ripple Effect

When making changes to a growing business, you should overestimate capital needs by at least 25 percent to avoid being short on working capital due to unexpected costs. For example, if you need $200,000 to expand the business, then $250,000 should be estimated and used to determine whether or not the growth is financially feasible. It is also wise to overestimate the time needed to complete the change by 25 percent.

Rule 5: Don Shula Rule

Many managers and owners, like Don Shula, stay too long before turning over the business. The optimal time for ownership and management of a business is 30 to 35 years. Owners and managers who fail to pay heed to this rule run into the trap of continuing to do 'business as usual' without changing with the times. In order for managers to maintain the cutting edge, they must either follow this rule or surround themselves with new members who will bring renewed energy and new resources into the business.

7.1 Open the document saved as QUEST7 and insert your EXAMINATION NUMBER on the left and the QUESTION NUMBER on the right as header. (2)

7.2 Change the main heading to uppercase, centre and underline. (3)

7.3 Centre and underline all subheadings. (2)

7.4 Change all the amounts which are in dollars to bold and underline them. (2)

7.5 Insert a page break before Rule 3. (2)

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7.6 Insert the following table after the last paragraph and move all the information on Rules 3 to 5 into the table as indicated below. Shade the first row with *Grey* 25%, *Background* 2. (10)

Rule 3: Six-Year Rule	Rule 4: Ripple Effect	Rule 5: Don Shula Rule
If a new partner is brought into the business, make sure you allow him/her to move into management and decision making within six years. Farms and businesses that fail to do so, are twice as likely to have an unsuccessful business transition and are less profitable. At a seminar in central Pennsylvania, an 85-year-old gentleman, indicated that he needed to turn the books over to his boy. Well, his boy was 65 years old! As the old saying goes, you either teach or share with the younger generation, or you destroy the business.	When making changes to a growing business, you should overestimate capital needs by at least 25 percent to avoid being short on working capital due to unexpected costs. For example, if you need $200,000 to expand the business, then $250,000 should be estimated and used to determine whether or not the growth is financially feasible. It is also wise to overestimate the time needed to complete the change by 25 percent.	Many managers and owners, like Don Shula, stay too long before turning over the business. The optimal time for ownership and management of a business is 30 to 35 years. Owners and managers who fail to pay heed to this rule run into the trap of continuing to do 'business as usual' without changing with the times. In order for managers to maintain the cutting edge, they must either follow this rule or surround themselves with new members who will bring renewed energy and new resources into the business.

7.7 Indent the paragraph on Rule 2 with special hanging by 1,27 cm and change it to italics and double-line spacing. (5)

Agricultural business transitions are twice as likely to be successful when the family member or potential business partner first works for someone else for three to five years. Allow him/her to make mistakes with someone else's money! A recent study found that the farm businesses that allowed entering partners to work for others for three to five years first, found their businesses to be four times more profitable. A college education is not necessarily part of this experience, however, military and summer work experiences can be a useful part of the experience base.

7.8 Insert page numbering at the bottom centre. (2)

7.9 Save and print the document and put it in your EXAMINATION FOLDER. (2)

[30]

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QUESTION 8: SPREADSHEET

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

	A	B	C	D	E
1	RHUMBI MONTHLY BUDGET				
2					
3	INCOME	MAY	JUNE	JULY	TOTAL
4	Fees	8320	8320	8320	
5	Tax				
6	TOTAL INCOME				
7					
8	EXPENSES				
9	Maintenance	150	200	300	
10	Affiliation fees	650	650	700	
11	Electricity	120	120	120	
12	Insuarance	60	60	60	
13	Cooldrink				
14	Transport				
15	TOTAL EXPENSES				
16	PROFIT				

(5)

8.2 Insert your EXAMINATION NUMBER and QUESTION 8 on the right-hand side as a header. (2)

8.3 Adjust the columns to fit in all the data as indicated. (1)

8.4 Save the document as QUEST8.

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

[10]

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QUESTION 9: DATABASE

9.1 Retrieve the document QUEST8 and immediately save it as QUEST9. Also change QUESTION 8 to QUESTION 9.

	A	B	C	D	E
1	**RHUMBI MONTHLY BUDGET**				
2					
3	**INCOME**	**MAY**	**JUNE**	**JULY**	**TOTAL**
4	Fees	8320	8320	8320	**G**
5	Tax	**A**	→	→	↓
6	TOTAL INCOME	**B**	→	→	↓
7					↓
8	EXPENSES				↓
9	Maintenance	150	200	300	↓
10	Affiliation fees	650	650	700	↓
11	Electricity	120	120	120	↓
12	Insuarance	60	60	60	↓
13	Cooldrink	**C**	→	→	↓
14	Transport	**D**			↓
15	TOTAL EXPENSES	**E**	→	→	↓
16	PROFIT	**F**	→	→	↓

(1)

9.2 Merge and centre cell range A1–E1 and change the font to Tahoma, 20pt. (3)

9.3 In Row 3 change the column headings to bold and apply 5% grey shading. (3)

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

A Tax = 12% of the Fees. (5)
B Total Income = the Fees less Tax. (5)
C Cool Drink = 3% of the Total Income. (5)
D Transport = 6% of the Total Income. (5)
E Total Expenses = the total of the expenses. (5)
F Profit = the Total Income less the Total Expenses. (3)

9.5 Display ALL the amounts as currency with TWO decimals. (2)

9.6 Insert horizontal and vertical lines with the method you are familiar with. (2)

9.7 Print the document on A4 landscape without row and column headings or the gridlines. (1)

[40]

TOTAL SECTION B: 80
GRAND TOTAL: 200

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