

Centre Number	Candidate Number	Candidate Name
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NAMIBIA SENIOR SECONDARY CERTIFICATE

COMPUTER STUDIES ORDINARY LEVEL

4325/1

PAPER 1

2 hours 30 minutes

Marks 100

2018

No Additional Materials are required.

INSTRUCTIONS AND INFORMATION TO CANDIDATES

- Candidates answer on the Question Paper in the spaces provided.
- Write your Centre Number, Candidate Number and Name in the spaces at the top of this page.
- Write in dark blue or black pen.
- You may use a soft pencil for any rough work, diagrams or graphs.
- Do not use correction fluid.
- Do not write in the margin *For Examiner's Use*.

- Answer **all** questions.

- The number of marks is given in brackets [] at the end of each question or part question.
- The businesses mentioned in this question paper are entirely fictitious.

For Examiner's Use

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Marker

Checker

This document consists of **15** printed pages and **1** blank page.



Republic of Namibia

MINISTRY OF EDUCATION, ARTS AND CULTURE

1 Explain, using examples where appropriate, the meaning of the following computer terms

(a) Firewall.

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[2]

(b) Syntax error

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[2]

(c) Intranet

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[2]

(d) Database management system

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[2]

2 Five descriptions and five security issues are shown in the table below.

Draw a line to connect each description to the correct security issue.

One line has been completed for you.

Descriptions	Security issues
(a) Malicious code installed on the hard drive of a user's computer or on the web server; this code will re-direct user to a fake web site without their consent.	1. Hacking
(b) Software that gathers information by monitoring key presses on a user's computer and relays the information back to the person who sent the software.	2. Pharming
(c) Program or code that replicates itself and is designed to amend, delete or copy data and files on a user's computer without their consent.	3. Phishing
(d) The act of gaining illegal access to a computer system without owner's consent.	4. Spyware
(e) Creator of code sends out a legitimate looking email in the hope of gathering personal and financial data; it requires the recipient to follow a link in the email or open an attachment.	5. Virus

[3]

3 Simon decides to buy a notebook (laptop) computer which he connects to the Internet using a WiFi (wireless) broadband connection.

State **two** security issues when he uses Internet facilities to connect his laptop.

1.....

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2.....

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[2]

- 4 Name **two** methods of fact finding when implementing a new computer system.
Give **one** advantage and **one** disadvantage for each chosen method.

Method 1.....

Advantage.....

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Disadvantage.....

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Method 2.....

Advantage.....

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Disadvantage.....

.....

[6]

- 5 Companies in the world have introduced computer systems in their offices.
(a) Identify **two** ways in which this new technology has affected employees.
For each way you have identified, explain why it has had an impact on employees.

Way 1.....

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Impact.....

.....

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Way 2.....

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Impact.....

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[4]

- (b) Describe **two** effects of e-waste associated with increased use of computers.

1.....

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2.....

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[2]

6 A screen has been designed to allow the input of data into the following fields: student name, sex, student address, date of birth and examination results.

(a) A first attempt at designing the screen is shown below:

Student Records	
Student name:.....	Sex:.....
Student address:	
.....	
Date of birth:/...../.....	
Examination results: Subjects and Grades	
.....	
Type in NEXT to go to next student or BACK to go to previous student:	

Give **three** ways in which the screen design could be improved.

1

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2

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3

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[3]

(b) What is *verification*?

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[1]

7 Johan wants to write an article on how Satellite Navigation system (SatNav) uses GPS technology.

(a) Describe how GPS works.

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[4]

(b) Johan also wants to include an explanation as to why SatNav systems sometimes give incorrect instruction.

Give **three** reasons why this might occur.

1.....
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2.....
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3.....
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[3]

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- 8 A small company runs six cars in its fleet. They have produced a spreadsheet to compare costs over a five month period.

	A	B	C	D	E	F
1	Car identity	Total number of km	Cost per km (N\$)	Total Cost (N\$)	Average cost per month (N\$)	Status of cost per km
2	10001	30 000	1.00	30 000	6 000	Cheap
3	10002	20 000	4.00	80 000	16 000	Expensive
4	10003	50 000	1.50	75 000	15 000	Cheap
5	10004	30 000	2.00	60 000	12 000	Cheap
6	10005	20 000	2.50	50 000	10 000	Expensive
7	10006	30 000	1.50	45 000	9 000	Cheap
8		Averages	2.08	56 667	11 333	
9						

- (a) It was decided to print out the spreadsheet formulae.

Using the table below, write down the formulae that would be used.

You only need to give the formulae for cells D5, D8, E5 and E8.

	D	E
1	Total cost (N\$)	Average Cost per month (N\$)
2		
3		
4		
5		
6		
7		
8		

[4]

- (b) The data in cell C6 was changed to 3.00.

Which cells would be updated automatically?

.....

[1]

(c) When the Cost per km (N\$) is greater than 2.00, then it is considered 'Expensive' otherwise it is 'Cheap'.

Write down a formula that was placed in F2 to determine whether it is 'Cheap' or 'Expensive.'

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[2]

(d) Write down the steps to be taken to duplicate the formula in F2 down to F7.

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[2]

(e) Write down the steps to be taken to change the values in the range (C2:E7) to currency.

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[1]

- 9 A radio station, (Power fm), keeps a database of all its music CDs. A section of the database is shown below.

Reference Number	CD title	Number of tracks	Special edition	CD length (mins)	Number of hit tracks
1111	This is my time	12	N	55	1
1112	Kekaku	10	N	42	3
1113	Omkonda	8	N	33	0
1114	Stoflap Chikapute	15	Y	72	5
1115	Chops	9	N	40	2
1116	Up to you	12	N	62	2
1117	Chops	11	N	60	3
1118	Watch me do it	14	Y	72	2

- (a) How many records are there in the database section?
 [1]
- (b) How many fields are there in the database section?
 [1]
- (c) Write down the field which is most suited to be a primary key.
 [1]
- (d) The following query condition was input:
 (CD length (mins) < 60) AND (Number of hit tracks > 1)
 Using Reference Number only, write down which data items would be output.
 [1]
- (e) Write down a query condition to select the CDs which are special edition or have more than 10 tracks.
 [2]
- (f) The database is going to be sorted in descending order on CD length (mins).
 Using Reference Number only, write down the order of the records following this sort.
 [1]

10 Given the condition $X = (A \text{ NOR NOT } B) \text{ AND } (\text{NOT } A \text{ AND } B)$

(a) Using appropriate logic circuit symbols, draw a logic circuit for the condition.

[5]

(b) Draw a truth table for the given condition above. Show all working.

A	B					X
0	0					
0	1					
1	0					
1	1					

[5]

11 Albertina uses an expert system, installed on her laptop computer, to trace faults in television sets. She visits a customer and tries to locate the problem using the expert system.

(a) Explain how Albertina will interact with the expert system to help diagnose the fault in the television.

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[4]

(b) Give an example of another use of an expert system other than fault diagnosis.

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[1]

12 A microwave oven is controlled by a microprocessor. Food is placed on a rotating plate and the door is closed before cooking starts.

(a) Name **two** sensors that could be used in the microwave oven.

1

2

[2]

(b) (i) State **two** items of data that the user would need to input before pressing the start button.

Data 1.....

Data 2.....

[2]

(ii) Describe how the data in **(b) (i)** could be input.

Method of input Data 1.....

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Method of input Data 2.....

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[2]

(c) Describe the role of the microprocessor in the microwave oven.

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[4]

13 The following statement was produced using a word processor.

An organisation that governs taxi operations in Namibia is considering enforcing a rule to paint all taxis yello for easy identification. This colour scheme for these taxis has been used successfully in other countries overseas. Taxis have to be changed every 3 years for safety reasons. All instructions inside the taxis are in English since this is the official language in the country.

Three changes were made to the original document using built-in word processing features. Note that all the changes are shown in shaded text.

An organisation that governs cab operations in Namibia is considering enforcing a rule to paint all taxis yellow for easy identification. This colour scheme for these cabs has been used successfully in other countries overseas. Cabs have to be replaced every 3 years for safety reasons. All instructions inside the taxis are in English since this is the official language in the country.

Describe **three** different word processing features that could have been used to make these changes.

- 1.....
-
- 2.....
-
- 3.....
-

[6]

14 Define the following types of software. Give **one** example for each.

(a) *Generic software*

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Example.....

[2]

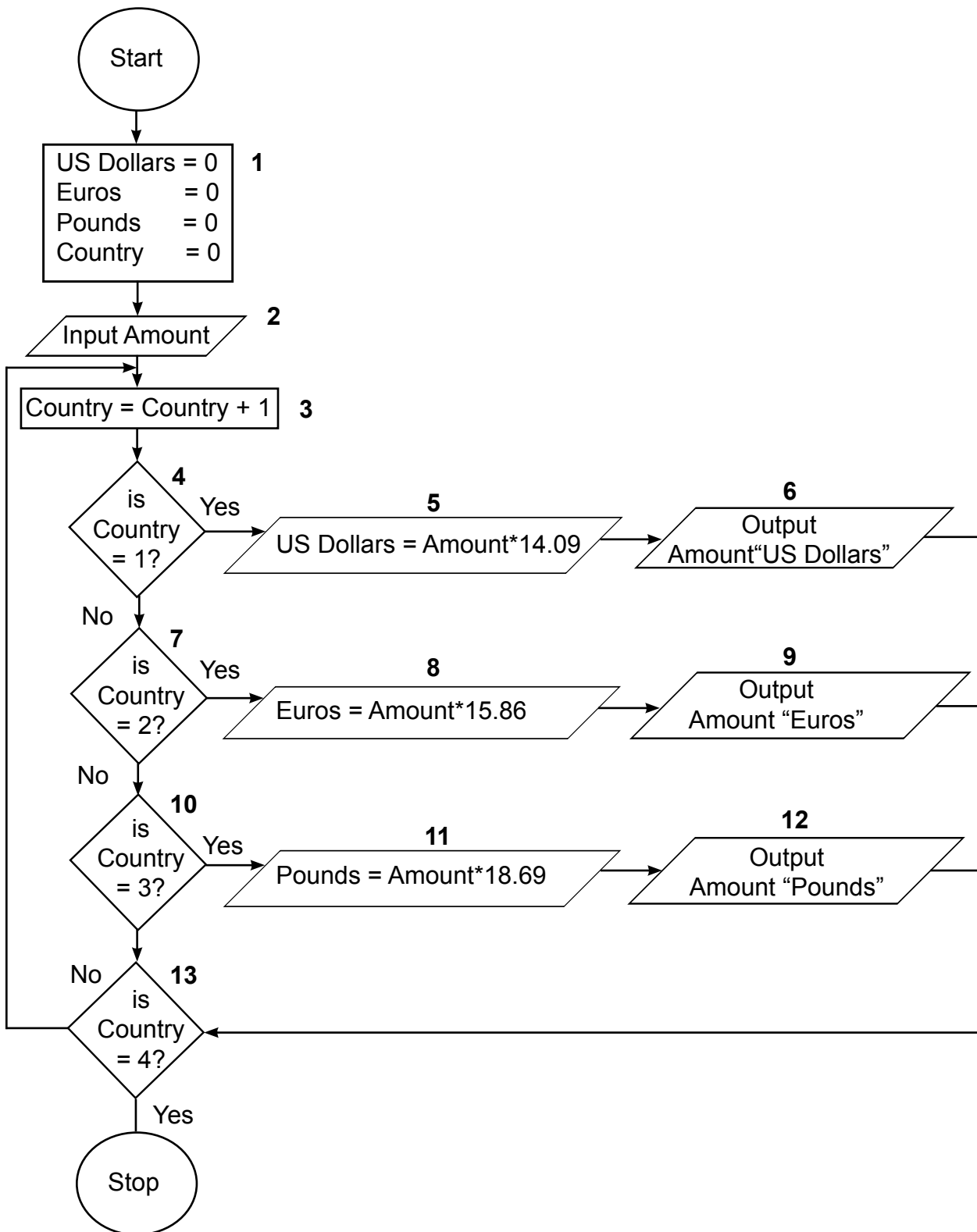
(b) *Integrated software*

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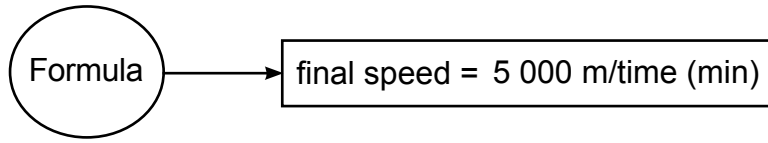
Example.....

[2]

15 Study the flowchart below with the steps 1 to 13.



16 100 athletes took part in an annual marathon in Windhoek, which stretched from point A to point B. The two points are 5 000 m (5 km) apart. An athlete's speed is given by the formula below.



Write an algorithm, using pseudocode or otherwise which inputs the times taken to get from point A to B for 100 athletes and calculates the final speed of each athlete using the formula, and outputs:

- final speed for ALL 100 athletes
- the average final speed for all the athletes

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[6]