

Candidate Number								Candidate Name	

JUNIOR SECONDARY CERTIFICATE

COMPUTER STUDIES

1502/1

PAPER – Written

2 hour 30 minutes

Marks 130

2018

Additional Material: Non-programmable calculator

INSTRUCTIONS AND INFORMATION TO CANDIDATES

- Make sure that you receive the multiple choice answer sheet with your Candidate Number on it to answer section **A**.
- For section **B**, candidates answer on the Question Paper in the spaces provided.
- Write your 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 for section **B** is given in brackets [] at the end of each question or part question.
- The businesses mentioned in this question paper are entirely fictitious.

<i>For Examiner's Use</i>	
<i>Marker</i>	
<i>Checker</i>	

This document consists of **19** printed pages and **1** blank page.



Republic of Namibia

MINISTRY OF EDUCATION, ARTS AND CULTURE

SECTION A

- Answer on the multiple choice answer sheet provided.
 - Use **soft pencil** only.
 - There are **four** possible answers, **A, B, C** and **D** for each question. Choose the **one** you consider correct and mark your answer on the answer sheet.
 - If you wish to change an answer erase the one you want to change completely with a soft eraser.
-

- 1 A group of eight bits, used as a unit of memory and backing storage is called
 - A bit.
 - B byte.
 - C cell.
 - D word.
- 2 An area of memory used for the temporary storage of data is called
 - A buffer.
 - B Random Access Memory.
 - C ROM (Read Only Memory).
 - D spooling.
- 3 What is the process by which money is transferred at the checkout from the customer's bank account to the shop's bank account?
 - A Electronic Funds Transfer
 - B Electronic Funds Transfer at Point of sale
 - C Electronic paying system
 - D Electronic banking
- 4 What part of the system unit (CPU) is responsible for basic arithmetic on numbers?
 - A ALU (Arithmetic Logic Unit)
 - B Counter
 - C Control Unit (CU)
 - D RAM
- 5 A device which enables transmission of data via telephone lines is called
 - A Gateway.
 - B Modem.
 - C Multiplexer.
 - D Switch.

- 6 A line repeated at the bottom of each page is referred to as the
- A bottom number.
 - B footer.
 - C header.
 - D page number.
- 7 What are the commands that produce duplicate copies of a selected block of text?
- A copy and paste
 - B cut and paste
 - C drag and drop
 - D select and delete
- 8 A number of computers or other suitably enabled devices on a single site, connected by cable or short-range wireless links are called
- A Hybrid network.
 - B LAN (Local Area Network).
 - C MAN (Metropolitan Area Network).
 - D WAN (Wide Area Network).
- 9 ... refers to the clarity and sharpness of an image on a monitor.
- A Lines
 - B Megabytes
 - C Pixel
 - D Resolution
- 10 What is a group of related fields pertaining to a single person?
- A field
 - B file
 - C record
 - D table
- 11 An interface which requires the computer user to interact with the computer by selecting various options from a list of choices is called
- A command line interface.
 - B graphical user interface.
 - C menu-driven interface.
 - D MS-Dos interface.
- 12 Pressing the Shift key and the Tab key will
- A cause the cursor to jump from one column to another.
 - B display a symbol above the other key.
 - C display upper case letters.
 - D move the cursor to the previous position.

- 13** In which of the following is a real-time system used?
- A** Checking stolen vehicles on vehicle tracking system.
 - B** Producing a company payroll.
 - C** Producing a graph of a certain population for a specific year.
 - D** Producing bills for water usage in a city.
- 14** The process of a computer receiving information such as a web-page from the Internet is called
- A** booting.
 - B** downloading.
 - C** hyperlink.
 - D** uploading.
- 15** The correct posture and wrist position when sitting at the computer can prevent
- A** Carpal Tunnel Syndrome.
 - B** Computer Vision Syndrome.
 - C** Repetitive Syndrome Injury.
 - D** Repetitive Strain Injury.
- 16** A private combination of characters associated with the user name that allows access to certain computer resources is called
- A** firewall.
 - B** password.
 - C** username.
 - D** username identification.
- 17** What is the type of wireless technology used to identify objects, animals etc.?
- A** bluetooth
 - B** infrared
 - C** RFID (Radio Frequency Identification)
 - D** token ring
- 18** The process of using a computer and specific types of software to combine text and graphics to produce documents properly formatted for printing is called
- A** design software.
 - B** desktop publishing (DTP).
 - C** display software.
 - D** presentation software.

- 19 The execution of the same set of instructions a given number of times or until a specified result is obtained is called
- A debug.
 - B dry run.
 - C loops.
 - D program.
- 20 Which software utility can detect computer files whose contents are broken across several locations on the hard disk and move the fragments to one location to increase efficiency?
- A data compression
 - B disk checkers
 - C disk cleaners
 - D disk defragmenters
- 21 What is the application software that allows users to access and view pages on the Internet?
- A Search engine
 - B Uniform Resource Locator
 - C Web browser
 - D Website
- 22 Which of the following does NOT cause errors during data transmission?
- A electrical interference
 - B copying files from a flash disk to a hard disk
 - C lack of memory
 - D power failure
- 23 A program that tells the operating system how to communicate with a specific device is called a
- A driver.
 - B file.
 - C firmware.
 - D register.
- 24 Which of the following arrangements has the units from the largest to the smallest?
- A bit; byte; kilobyte; megabyte; gigabyte
 - B byte; bit; kilobyte; megabyte; gigabyte
 - C gigabyte; megabyte; kilobyte; byte; bit
 - D kilobyte; gigabyte; bit; byte; megabyte

- 25** Which one is the equivalent binary code of the denary number, 181?
- A 10110101
 - B 10111011
 - C 10101101
 - D 10100101
- 26** What is the equivalent decimal number of the binary number 101110?
- A 16
 - B 26
 - C 36
 - D 46
- 27** The main advantage of a cache memory is that it
- A differentiates between the rate at which data is received and the rate at which it can be processed.
 - B increases the overall speed of a computer.
 - C holds data temporarily while it is being moved from one place to another.
 - D holds the memory address of an instruction or the operand of an instruction.
- 28** A web server can be described as a computer that
- A acts as a midway for requests from clients seeking resources from other servers.
 - B dedicated to run certain software application.
 - C delivers requested web pages to a computer.
 - D stores and manages files.

Use the spreadsheet segment below to answer Questions **29** and **30**.

	A	B	C	D
1	Item	Shop 1	Shop 2	Result
2	Shirt	99	105	= If (B2 < C2, "shop 1 is cheaper than shop 2")
3	Trouser	120	95	

- 29** The output of the formula in cell D2 is
- A B2 < C2.
 - B C2 < B2.
 - C Shop 1 is cheaper than Shop 2.
 - D Shop 2 is cheaper than Shop 1.
- 30** What is the data entry in cell B3 known as?
- A data
 - B formula
 - C label
 - D value

SECTION B: STRUCTURED QUESTIONS

- Write your answers in the spaces provided on the question paper.

1 Explain using examples, the meaning of the following computer terms.

(a) hardware

.....

.....

[2]

(b) data communication

.....

.....

[2]

(c) algorithm

.....

.....

[2]

(d) relational database

.....

.....

[2]

(e) software suite

.....

.....

[2]

[10]

2 Multi-line Construction Ltd. uses a number of different types of software.

State the type of software that would be most suitable for each of the tasks shown in the table. Do not use brand names.

Task	Type of software
To store and search customer data	
To write a letter	
To calculate the cost of construction	
To present data at a conference	

[4]

- 3 An entertainment company keeps monthly records on a spreadsheet of all its organised music events. The information for May 2018 is shown below.

	A	B	C	D	E	F	G
1	Event	No of seats	No of seats sold	Seat price	Total income (N\$)	Cost of event (N\$)	Profit or loss
2	GOZZO	4 000	1 700	45	76 500	85 000	Loss
3	UUS and Friends	3 000	3 000	50	150 000	10 000	Profit
4	The DIGGY	4 000	2 150	35	75 250	90 000	Loss
5	Johan P.	5 000	4 000	35	140 000	12 500	Profit
6	Big Boat	4 000	4 000	60	240 000	180 000	Profit
7	Nolly	3 000	1 500	50	75 000	80 000	Loss
8	Wambo	2 000	1 650	60	99 000	11 500	Loss

- (a) (i) What formula is in cell E2 to work out the total money for GOZZO's event?

..... [1]

- (ii) Explain how the formula in E2 was copied to E4:E8.

.....

..... [2]

- (iii) Complete the following statement for cell G4:

=IF (E4 >, "PROFIT",)

..... [2]

- (iv) Total cost of all events is to be shown in cell F9.

What formula needs to be placed in F9?

..... [1]

- (b) If value in C7 was changed to 2 000, which cells would be automatically updated?

.....

.....

..... [3]

- (c) Explain how you would format Column D to **two** decimal places.

..... [1]

[10]

- 4 The Ministry of Education, Arts and Culture uses a database to store data about the students who obtained educational assistance through a government fund to study in various fields. Part of the database is shown below.

SURNAME	STUDENT NO	FUND-TYPE	YEAR OBTAINED	FIELD OF STUDY	COUNTRY	AMOUNT RECEIVED
Prinsloo	PG012	Loan	2012	Animal Science	Namibia	N\$ 230 000.00
Shalongo	SP0012	Grant	2015	Civil Engineering	South-Africa	N\$ 150 000.00
Guriras	GH222	Grant	2000	Education	Namibia	N\$ 200 000.00
Owen	OG70	Loan	2011	Micro-biology	China	N\$ 250 000.00
Fassbender	FU441	Grant	2010	Medical	Cuba	N\$300 000.00
Kaimu	KD201	Loan	2016	Neuro-biology	South-Africa	N\$220 000.00
Bohitile	BI877	Loan	2013	Education	Zimbabwe	N\$120 000.00
Ileni	IK127	Loan	2011	Education	Russia	N\$320 000.00

- (a) How many records are there in this part of the database?

..... [1]

- (b) How many fields are there in this part of the database?

..... [1]

- (c) State which field would be used as a keyfield and give a reason why?

..... [2]

- (d) The following search condition is input: (Field-Of-Study=Education) AND (Fund-Type=Loan).

Write down the records that match the above search condition using only the STUDENT NO.

..... [2]

- (e) The Minister of Education, Arts and Culture wants a list containing the student number and the amount received for each student who received a loan.

How can this be produced?

..... [3]

- (f) State the data type for the Amount Received field.

..... [1]

[10]

- 5 (a) Suggest an appropriate storage device for each of the following applications. Underline the correct answer
- (i) Store a high definition movie.
Blue Ray Disk / CD-ROM [1]
 - (ii) Distribute some software that you've written.
USB memory stick / Hard disk drive [1]
 - (iii) Transfer your school project between your home and the school computer.
External hard disk / DVD-ROM [1]
 - (iv) Storage area on a school network.
Hard disk drive / DVD-RW [1]
- (b) Name **one** device that makes use of solid state memory storage.

..... [1]

[5]

6 The Samuel's family uses their computer for home shopping, electronic banking and to send e-mail messages to their friends around the world.

(a) Describe **one** advantage of using online shopping.

..... [1]

(b) Describe **one** disadvantage of online shopping.

..... [1]

(c) Describe **two** bank services that will not be available through electronic banking.

1.....

2..... [2]

(d) Give **two** benefits of sending messages using e-mail rather than by ordinary mail.

1.....

2..... [2]

7 State **two** functions of an operating system.

1.....

.....

2.....

..... [2]

[8]

8 A company uses video conferencing.

(a) Define the term *video conferencing*.

.....

[2]

(b) An employee made the following statement: "Microphones are used so that participants can hear what is being said."

Explain why the statement is incorrect and suggest the proper device.

Explanation

Proper Device

[2]

(c) Video conferencing has many advantages both to the employer and to the employee. One of the following statement is an advantage of using video conferencing.

In the second column of the table mark with a tick (✓) the statement that state an advantage of video conferencing.

Statement	Advantage
It is possible to hold meetings at any time.	
It reduces the "hidden cost" of employees being away from office.	
It reduces the costs of running computers.	

[1]

[5]

9 (a) Give the difference between coaxial cable and fibre-optic cable.

.....
.....
.....
.....

[2]

(b) Hilma is trying to setup a bus network for a dental clinic at Kongola. She wants to choose a communication protocol that is suitable for this bus network topology.

(i) Define the term *communication protocols*.

.....
.....
.....
.....

[2]

(ii) Draw and label a bus network topology.

[3]

[7]

10 A network system is an interconnection of computers and other devices.

(a) One drawback of networking is the spread of computer viruses.

(i) Give **one** example of what a virus might do to the computer system.

.....
.....

[1]

(ii) How can a virus be removed from a computer system?

.....
.....

[1]

(b) What may be done to preserve the confidentiality of information before transferring it over a network?

.....
.....

[1]

(c) Describe **two** services that are available over the Internet.

1.....
2.....

[2]

[5]

11 A learner has decided to use the Internet to research information for a project.

(a) State **two** examples of information, other than plain text and pictures, that the learner can get from the Internet.

1.....
2.....

[2]

(b) Describe how information from the Internet can be included in a project.

.....
.....

[1]

[3]

12 (a) Explain how the document called JSC-results can be moved from the folder called EXAMS on the C:drive to a flash disk in the E:drive.

.....
.....

[2]

(b) What happens to a disk when it is being formatted?

.....
.....

[1]

[3]

13 What will be the output after the execution of the following segments?

(a) begin

sex ← 'female'

age ← 19

If (sex = "female") and (age < 21) then

output 'New entry'

else

output 'Not accepted'

End if

End

.....
.....

[2]

(b) begin

temp = 14

Total = temp * temp

Output Temp

end

.....
.....

[2]

(c) begin

num → 10

repeat

num → num + (num *3)

until num > = 110

output num

end

.....
.....

[2]

(d) begin

For count → 10 to 15 do begin
if count div 2 = 0 then
divisible = divisible + 1
end
End for
end.

.....
.....

[2]

(e) Begin subject ← "computer"

Case subject of
"Motor Mech", "Electronics", "Woodwork"; Output; "Technical"
"Economics", "Accounting", "Computer"; Output; "Commercial"
"Needlework", "Fashion & Fabric"; Output: "Home Economics"
else
Output subject
end case
end

.....
.....

[2]

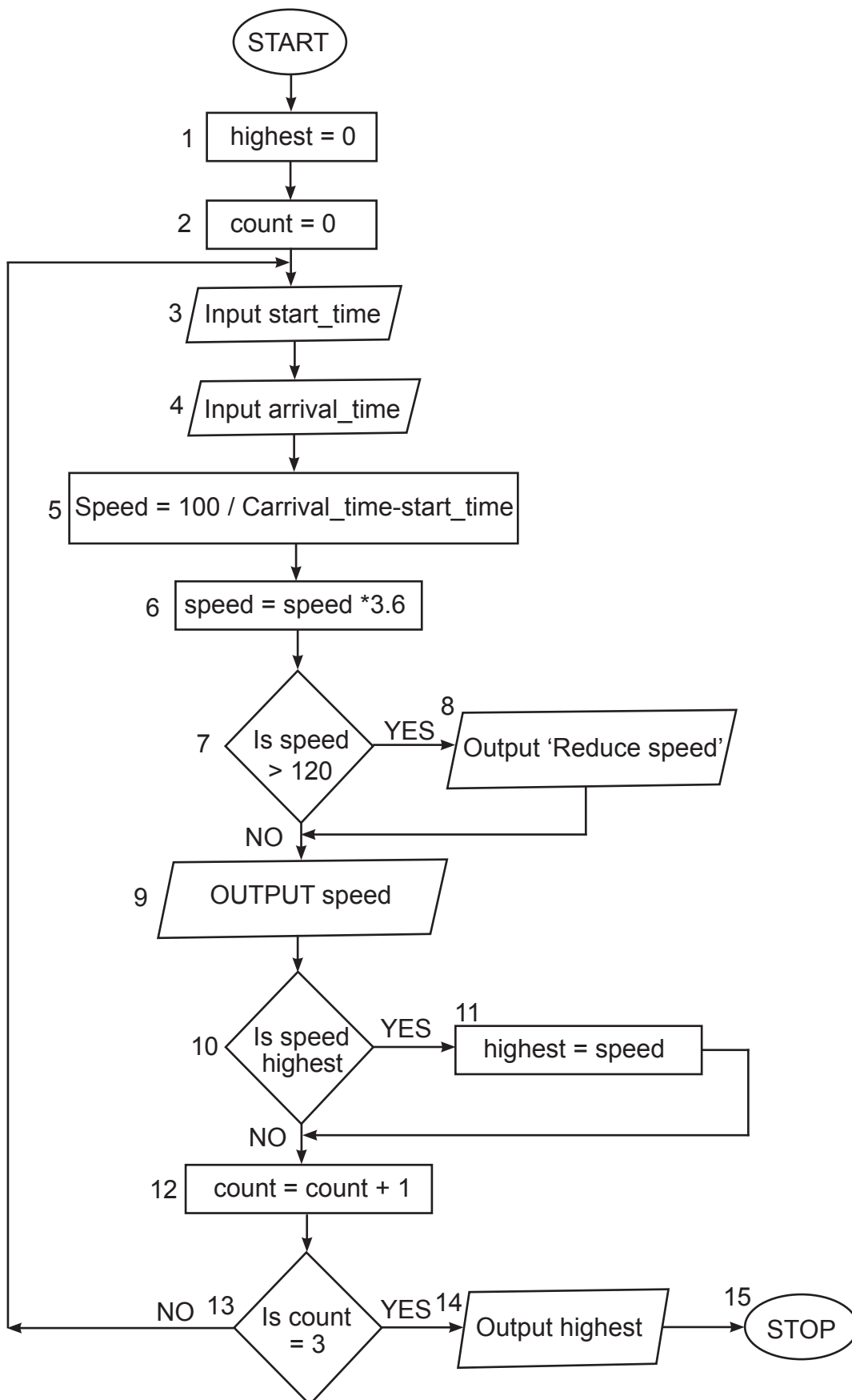
[10]

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- 14 Work through the flowchart on page 18 and complete the trace table on page 19 using the following data.

Starting time	Arrival time
13:00:00	13:00:03
14:00:00	14:00:02
14:00:00	14:00:04

Flow chart for Question 14



Trace the Table for Question 14.

For
Examiner's
Use

Steps	Highest	Count	Speed	Start_time	Arrival_time	Decision	Output
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
3							
4							
5							
6							
7							
9							
10							
12							
13							
14							

[10]

