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TOTAL MARKS

NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2020

GEOGRAPHY: PAPER II

EXAMINATION NUMBER

Time: 1½ hours

100 marks

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. Write your examination number in the blocks provided above.
2. This question paper consists of 20 pages, a topographic map extract, an orthophoto map extract and a yellow equipment sheet. Please check that your question paper is complete.
3. Read the questions carefully.
4. Answer ALL the questions in the spaces provided on the question paper.
5. Carefully study the 1:50 000 composite topographic map extracts of 2430BC & 2430BD HOEDSPRUIT (Map 1 and Map 2) and two location maps (Map 3 and Map 4). There is also an orthophoto map extract of Ndlovumzi Nature Reserve.
6. The topographic map extracts 1 and 2 have grid lines with markings A–E and 1–5 (Map 1) and D-F and 12–16 (Map 2) that may be used to identify locations according to blocks.
7. The Map Source Page and this completed question paper must be handed to the invigilator at the end of the examination. The maps may be retained by the school for future use.
8. The yellow equipment sheet may be used in lieu of equipment not brought to the examination by the candidate. It may also be used for rough work. There is a fold mark indicating where it should be folded. A magnifying glass and calculator may be used.
9. It is in your own interest to write legibly and to present your work neatly.
10. Two blank pages (pages 19–20) have been included at the end of the paper. If you run out of space for a question, use these pages. Please clearly indicate the question number of your answer should you use this extra space.

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Question	1	2	3	Total
Marks	48	34	18	100
Obtained				

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QUESTION 1 ATLAS USE, MAP ORIENTATION AND TECHNIQUES, FLUVIAL PROCESSES, SETTLEMENT

[Source: <https://www.lowland-group.com>]

Fact File: Hoedspruit

- HOEDSPRUIT is a small tourism town in the Central Lowveld nestled between the Kruger National Park and the Molatse (Blyde) River Canyon.
- Hoedspruit is surrounded by the largest privately owned conservation area in the world.
- Hoedspruit is a major agricultural contributor to the country's economy specialising in mango and citrus production.

[Source: Examiner]

Refer to the Map Source Page to answer all the questions that follow.

1.1 The Lepelle River is part of the Greater Olifants River Catchment Area. Answer the following questions on this catchment area.

1.1.1 The altitude of the Lepelle River at A (D1) is …

400 m	
420 m	
440 m	
460 m	

(1)

1.1.2 The altitude of the Lepelle River at B (A5) is …

400 m	
420 m	
440 m	
460 m	

(1)

1.1.3 The distance from A (D1) to B (A5) along the Lepelle River is …

9 km	
11 km	
13 km	
15 km	

(2)

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1.1.4 The gradient of the Lepelle River from A (D1) to B (A5) is …

1 : 100	
1 : 150	
1 : 200	
1 : 250	

Calculations:

(2)

1.1.5 There are features evident on this map extract that prove that the Lepelle River is in its middle course. Circle the FOUR features that are the strongest evidence of this.

Meanders have formed	Potholes evident	Vertical erosion most likely	Canyon has developed	Exotic river flow
Waterfall	Gentle gradient most likely	Braiding evident	Shallow, u-shaped transverse profile is most likely	Oxbow lake has formed

(4)

1.1.6 The point where the Lepelle River joins the Olifants River is a …

knick point	
confluence	
tributary	
elbow of capture	

(1)

1.1.7 The dominant drainage pattern evident in block B1/2 is …

parallel	
trellis	
dendritic	
radial	

(1)

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1.1.8 (a) The Ndlovumzi Nature Reserve and the lodge owners, indicated by the pink polygon on Map 1, do not rely solely on the Lepelle River for a sustainable water supply.

True	
False	

(1)

(b) Provide a reason for your answer above.

_____

_____

(2)

1.2 There are two temporary base levels (TBLs) of erosion visible on the Lepelle River in Map 1.

1.2.1 Circle these two TBLs in the box below.

waterfalls	rapids	dam	furrows	weir

(2)

1.2.2 What feature is found on Map 2 at the coordinates below?

24° 21' 25" SOUTH	
30° 57' 55" EAST	

(2)

1.2.3 The Hoedspruit Aerodrome in D14 on Map 2 is used mainly for tourists and crop-spraying planes.

True	
False	

(1)

1.2.4 (a) The magnetic declination for 2021 is …

17° 05 ' W	
17° 14 ' W	
17° 23 ' W	
17° 32 ' W	

(2)

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(b) The magnetic bearing from Point A (D1) to Point B (A5) on Map 1 is …

True bearing	
Magnetic declination (from Question 1.2.4 (a))	
Magnetic bearing	
Formula: magnetic bearing = true bearing + magnetic declination	

Calculations:

(4)

1.3 Study the orthophoto extract of the Ndlovumzi Nature Reserve and its lodges as indicated by the pink polygon on Map 1.

1.3.1 Classify the type of settlement seen in C2/3 and B4 in the Ndlovumzi Nature Reserve.

Rural	
Urban	

(1)

1.3.2 Using evidence from one of the two maps (topographic or orthophoto), provide TWO reasons for your choice in 1.3.1.

_____

_____

_____

_____

(4)

1.3.3 Justify the selection for these game lodge sites in the Ndlovumzi Nature Reserve by using TWO pieces of map evidence (topographic or orthophoto).

_____

_____

_____

_____

(4)

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1.4 The area of Hoedspruit (the hat creek or the creek that stole his hat) was given its name in 1844 after the area was flooded in a major cloudburst and one of the landowners lost his prized hat in the rising flood waters of the creek, a tributary to the Lepelle River.

Southern Sands Eco Lodge lies on the banks of the Lepelle River in the Ndlovumzi Nature Reserve (C2). The following photograph from their website shows the Lepelle River in the background.

Photograph 1 – Southern Sands Eco Lodge

[Source: <www.booking.com>]

1.4.1 A GIS-specialist drew a map showing the river and the other lodges. This GIS-generated map appears on the next page. A 240-metre buffer zone will roughly show the 100-year flood line for floods similar to the one in which the former landowner lost his hat. Draw the buffer zone of 240 metres (on both sides of the river) on this map.

(2)

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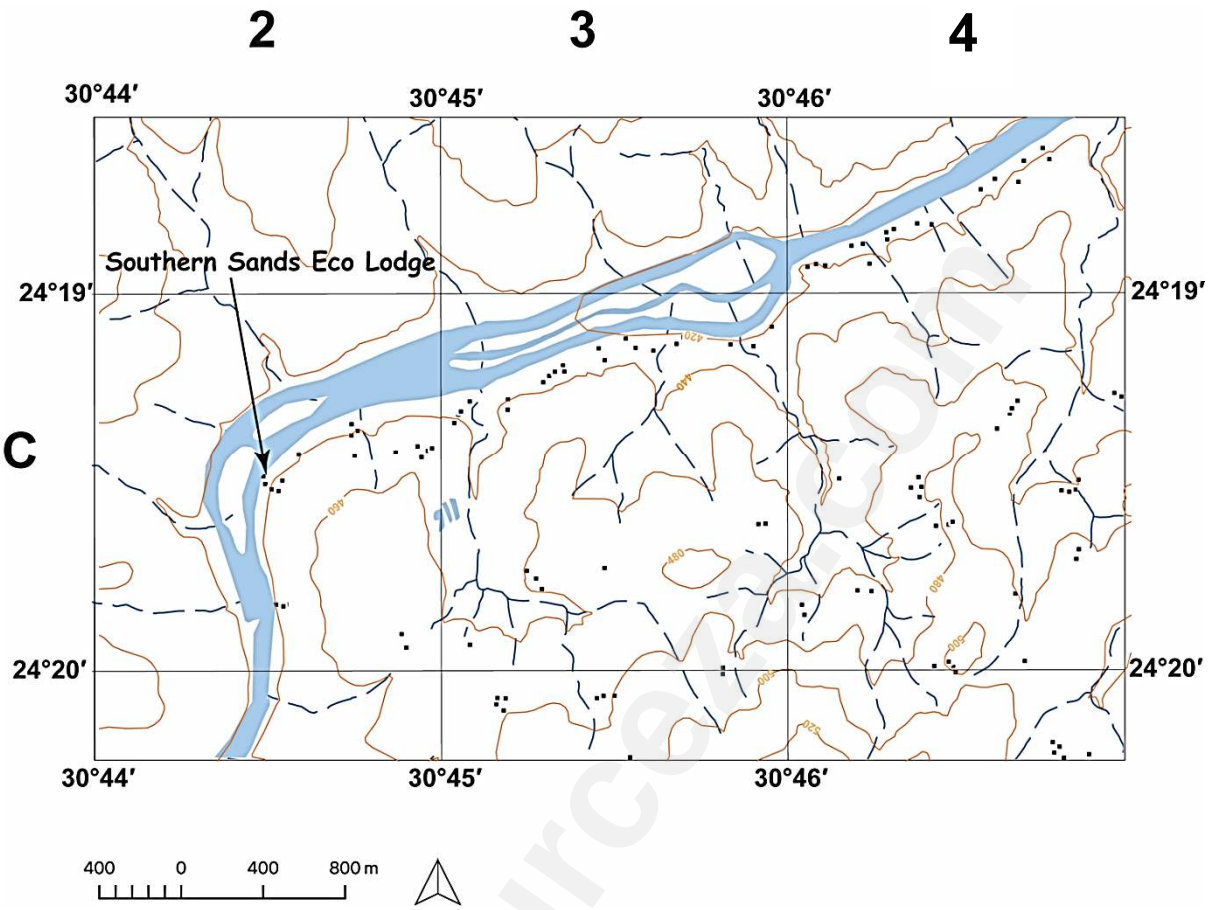
Figure 1 – GIS-generated map of the Lepelle River and lodges



1.4.2 According to this map, approximately how many lodges fall within this buffer zone?

_____ lodges (1)

1.4.3 Discuss the implications for the lodge owners within this 240-metre buffer zone, if there were to be a cloudburst similar to the one in 1844, mentioned in paragraph 1.4.

_____

_____

(2)

1.4.4 Describe and explain the lodge owners' pattern of settlement in Ndlovumzi Nature Reserve.

_____

_____

_____

_____

(4)

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1.5 The Lepelle River is a permanent river.

1.5.1 There are TWO map symbols evident on Map 1 that prove that this area receives very seasonal rainfall. Tick the correct options.

Weir	
Reservoirs	
Dams	
Wind pumps	

(2)

1.5.2 Drainage density in this area of Map 1 is very low. Drainage density is affected by several factors, namely …

- surface over which water flows (permeability)
- slope of the ground (gradient)
- climatic factors (amount and type of rainfall)
- vegetation cover

Choose ONE factor and provide map evidence to support the statement "drainage density is low".

_____

_____

_____

_____

(2)
[48]

Q1 subtotal

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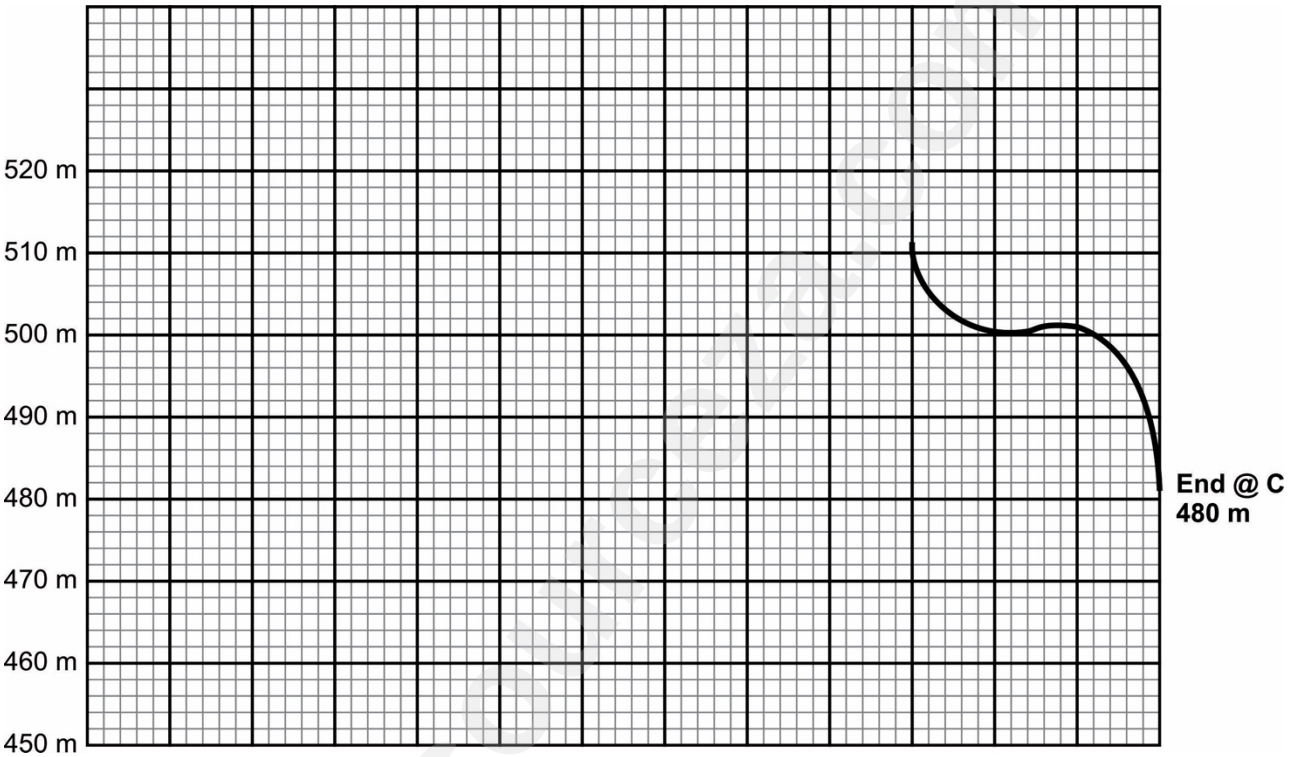
QUESTION 2 TECHNIQUES, ECONOMIC ACTIVITY, URBAN SETTLEMENTS and CLIMATE

2.1 Study the topographic map extract, Map 1.

An incomplete cross-section from A to C on Map 1 has been drawn on the graph paper below. A vertical scale of roughly 1 cm : 10 m has been provided.

Figure 2 – Cross-section



Please do the following:

2.1.1 Complete the cross-section. (2)

2.1.2 Indicate the correct start height and position. (2)

2.1.3 Indicate the correct positions of the following on the cross-section:
- agricultural fields
- Lepelle River
- the reservoir (3)

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2.1.4 Determine the vertical scale of the cross-section as a ratio.

1 : _____

Calculations:

(2)

2.1.5 Calculate the vertical exaggeration of this cross-section.

_____ times

Calculations:

(2)

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2.2 Three positions (marked 1-3 in red) have been identified on the topographic map extract, Map 2. Match the following photographs with these positions.

Photographs		Position (indicate with a number only)
2.2.1	**Photograph 2**	
2.2.2	**Photograph 3**	
2.2.3	**Photograph 4**	

[Source: Examiner]

(6)

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2.3 Study photographs 5, 6 and 7 below and answer the questions that follow.

Photograph 5 – Farming outside Hoedspruit

[Source: <http://www.unifrutti.co.za/farms>]

Photograph 6 – Orchard farming

Photograph 7 – Fruit farmed

[Source: Examiner]

2.3.1 Choose the type of farming this will be classified under.

Commercial	
Subsistence	

(1)

2.3.2 Circle FOUR words from the options in the box below that best describe this farming activity.

large scale	pastoral	sugarcane	labour intensive
citrus	mechanised	small scale	arable

(4)

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2.4 This area falls just east of the 500 mm isohyet.

2.4.1 Define the term *isohyet*.

_____

_____

(1)

2.4.2 This means that the area receives ***more*** / ***less*** than 500 mm of rain. Circle the correct option.

(1)

2.5 Discuss, using any evidence from the maps provided, TWO factors that favour agriculture in this area.

_____

_____

_____

_____

(4)

2.6 Refer to Photograph 6 on the previous page. Provide ONE climatological reason for the rows of trees between the orchards.

_____

_____

(2)

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2.7 Study Photograph 8 taken close to the caravan park (E15).

Photograph 8 – Litter and wildlife

[Source: Examiner]

Litter in the top right-hand corner of Photograph 8 is found on the road close to the caravan park in E15. This warthog from a nearby game reserve was tearing bags open looking for food.

2.7.1 Comment on the suitability of the location of the refuse dump in E15.

_____

_____

_____

(2)

2.7.2 Give ONE problem this litter will present to the local caravan park (E15) and the surrounding game farms.

_____

_____

(2)
[34]

Q2 subtotal

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QUESTION 3 ECONOMIC ACTIVITY, RURAL SETTLEMENT, and CLIMATE

3.1 Study the fact file below, adapted from a *Farmer's Weekly* article.

Fact file – Hoedspruit (Marulaneng) land claim: coming to fruition

- It came as a shock to most Marulaneng farmers when a land claim was gazetted on the entire district of over 500 agricultural properties, the town and the air force base.
- Most farms between the Molatse (Blyde) River Canyon and Kruger Park produce high-value exports, with a combined turnover of about R1 billion. Some farms export mangoes to the UK's Marks & Spencer.
- Many feared the farms would go the same way as other collapsed land reform projects in the region, with a devastating impact on the entire district's economy, which largely depends on agriculture and downstream processing despite a growth in tourism, lifestyle and wildlife/eco estates and lodges.
- Most farmers believe the land claim, lodged by the Moletele community and gazetted in October 2004, is inflated. The Moletele people insist they were dispossessed of a range of traditional land rights over the entire area.

[Source: <https://www.farmersweekly.co.za/hoedspruit-land-claim-coming-to-fruition>]

3.1.1 The social issue referred to in this article is land restitution. Explain the concept of *land restitution*.

_____

_____

_____

_____

(2)

3.1.2 Using information from the fact file, give ONE concern the landowners had with regard to the land restitution.

_____

_____

(2)

3.1.3 The fact file refers to the growth in the number of lifestyle and wildlife/eco estates and lodges in the area. There are some blocks where these are already visible. Circle the references of THREE of these blocks.

F15	D16	E16	E13	D12	F12

(3)

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3.1.4 People moving into the lifestyle and wildlife/eco estates have seen an increase in the population of Hoedspruit. This is known as (a/an) …

post-modern city	
edge city	
new town	
new ruralism	

(2)

3.2 Two different temperatures were recorded on a winter's night in and around Hoedspruit.

Complete the table below by providing valid reasons (climate and map-based evidence) for these temperature differences.

Feature	**Temperature**	**Reason for temperature**
The Hoedspruit Hotel (E15)	11 °C	
Parma Farm (F12)	9 °C	

(4)

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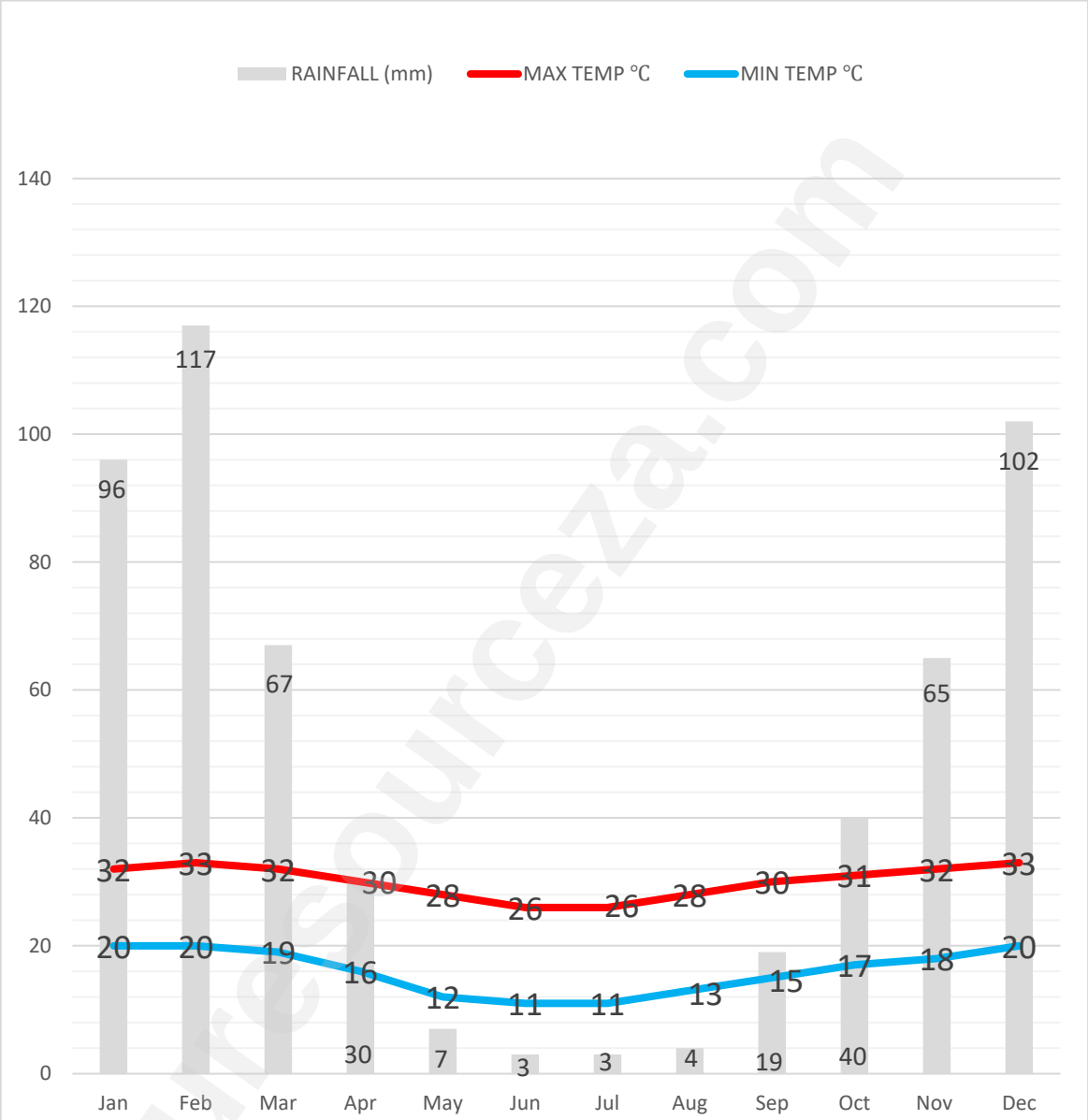
3.3 Study the climate data provided in the graph below.

Figure 3 – Climate graph for Hoedspruit



3.3.1 Calculate the annual rainfall for Hoedspruit.

_____ mm

Calculations:

(1)

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3.3.2 This area has been classified as having a tropical climate. Using the data from the climate graph in Question 3.3, create a tweet from the local Hoedspruit meteorologist about the expected weather conditions for a typical December day. Your tweet should include:

- maximum temperature expected
- minimum temperature expected
- any possible precipitation expected
- any other expected general atmospheric conditions

#todaysweather _____

_____

_____

_____

_____

_____

(4)
[18]

Q3 subtotal

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ADDITIONAL SPACE TO ANSWER QUESTIONS. REMEMBER TO CLEARLY INDICATE AT THE QUESTION THAT YOU USED THE ADDITIONAL SPACE TO ENSURE ALL ANSWERS ARE MARKED.

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