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**CHRIS HANI EAST**

**PRE-TRIAL**  
**GRADE 12**  
**GEOGRAPHY P1**

**SEPTEMBER 2023**

**MARKS: 150**

**MARKING GUIDELINES**

**These marking guidelines consists of 8 pages.**

**SECTION A****QUESTION 1**

- 1.1 1.1.1 West to east/eastwards (1)  
 1.1.2 Westerly (1)  
 1.1.3 Winter (1)  
 1.1.4 Cold (1)  
 1.1.5 Cumulonimbus (1)  
 1.1.6 Drop (1)  
 1.1.7 Warm sector (depression) (1)  
 1.1.8 D/warm (1)  
 (8 x 1) (8)
- 1.2 1.2.1 E (1)  
 1.2.2 G (1)  
 1.2.3 H (1)  
 1.2.4 F (1)  
 1.2.5 B (1)  
 1.2.6 A (1)  
 1.2.7 C (1)  
 (7 x 1) (7)  
**[15]**
- 1.3 1.3.1 It is a small, intensely developed low-pressure system in tropical regions.  
**[CONCEPT]** (1 x 2) (2)
- 1.3.2 4 (four) (1 x 1) (1)
- 1.3.3 Driven by the easterlies (1 x 2) (2)
- 1.3.4 A warm sea surface, with a temperature of 27° C and over (2)  
 Unstable atmospheric conditions (substantial uplift of moist air) (2)  
 Light wind (2)  
 Upper air divergence (2)  
 Latent heat forms when condensation takes place (2)  
 No friction on the sea surface (2)  
**[ANY TWO]** (2 x 2) (4)
- 1.3.5 The system has developed into a deadly storm (2)  
 Pressure gradient is steep, resulting in winds of up to 300 km/h (2)  
 Tight band of tall cumulonimbus clouds occurs (2)  
**[ANY ONE]** (1 x 2) (2)
- 1.3.6 Monitor the path of the cyclone using remote sensors (2)  
 Give warnings to the people through weather forecast (2)  
 Prepare evacuation plans for people in low-lying areas (2)  
 The rescue teams must be in place to rescue people from floods (2)  
 Build strong shelters for people before the storm (2)  
 Do not build on low lying areas (move to higher areas) (2)  
**[ANY TWO]** (2 x 2) (4)  
**[15]**

- 1.4 1.4.1 Kalahari High pressure cell (1)
- 1.4.2 Situated over the interior of the country  
It dominates air movement over the land  
It shrinks or weakens in summer  
Southwards displacement during summer (2 x 1) (2)  
**[ANY TWO]**
- 1.4.3 **A** (1 x 1) (1)
- 1.4.4 The inversion layer is above the escarpment  
Low pressure  
Heat low pressure/Westerlies shift more south of South Africa  
**[ANY ONE]** (1 x 2) (2)
- 1.4.5 In summer the surface of the land is heated causing warm air to rise (2)  
The inversion layer rises above the level of the escarpment (2)  
Moist tropical air masses move in over the interior (2)  
This results in summer rain over the interior (2)  
The Kalahari high pressure cell is displaced higher (2)  
In winter air is subsiding in the Kalahari pressure cell (2)  
The sinks down the inversion layer below the escarpment (2)  
This prevents moist air from rising above the escarpment and reaching the interior (2)  
As a result, no or very little rain occurs over the interior in winter (2)  
**[ANY FOUR] The answer should cover both summer and winter**  
(4 x 2) (8)  
**[14]**
- 1.5 1.5.1 A = anabatic  
B = katabatic (2 x 1) (2)
- 1.5.2 Frost (1 x 2) (2)
- 1.5.3 A = the slopes are heated, and the warm air in contact with the slope also heats up and rises along the slope
- B = the valley slopes cool through earth radiation, and the air in contact with the slope also cools and sinks (2 x 2) (4)
- 1.5.4 Cold, dense air drains down the slopes to the valley bottom and forces warm light air to rise  
The warm air is above the cold air on the valley floor  
As a result, of an increase in altitude, the temperatures also increase  
**[ANY TWO]** (2 x 2) (4)



- 1.5.5 It forms when the nights are cold, clear and cloudless (2)  
Air in contact with the earth's surface cools rapidly (2)  
Cold air sinks to the base of the valley on a clear winter night (2)  
The dew point temperature is above freezing point (2)  
The water vapour in this layer condenses to form water droplets (2)  
These droplets of water are in suspended air in the air to form  
Radiation fog (2)

**[ANY TWO]**

(2 x 2) (4)

**[16]**

**[60]**

## QUESTION 2

- |      |       |  |             |
|------|-------|--|-------------|
| 2.1  | 2.1.1 | Watershed  | (1)         |
|      | 2.1.2 | Mouth  | (1)         |
|      | 2.1.3 | Confluence   | (1)         |
|      | 2.1.4 | Drainage Basin   | (1)         |
|      | 2.1.5 | Tributary  | (1)         |
|      | 2.1.6 | Source   | (1)         |
|      | 2.1.7 | River system   | (1)         |
|      |       |  | (7 x 1) (7) |
| 2.2. | 2.2.1 | B  | (1)         |
|      | 2.2.2 | B  | (1)         |
|      | 2.2.3 | A  | (1)         |
|      | 2.2.4 | C  | (1)         |
|      | 2.2.5 | D  | (1)         |
|      | 2.2.6 | B  | (1)         |
|      | 2.2.7 | B  | (1)         |
|      | 2.2.8 | D  | (1)         |
|      |       |  | (8 x 1) (8) |
|      |       |  | <b>[15]</b> |
| 2.3  | 2.3.1 | A side view of the river from the source to the mouth  | (1 x 2) (2) |
|      | 2.3.2 | A  | (1 x 1) (1) |
|      | 2.3.3 | <b>A graded river:</b> a river that has achieved equilibrium between its gradient, volume, and channel shape | (2)         |
|      |       | <b>Ungraded river:</b> rivers that do not have enough energy to flow and transport their load                | (2)         |
|      |       | <b>[CONCEPT(s)]</b>  | (2 x 2) (4) |
|      | 2.3.4 | The river has enough energy to carry its load with no erosion nor deposition                                 | (2)         |
|      |       | The rate of erosion and deposition is balanced   | (2)         |
|      |       | In the upper course because of steep gradient, the water is turbulent  | (2)         |
|      |       | The river has enough energy to carry large particles   | (2)         |
|      |       | Headwards and downwards erosion creates a steep gradient   | (2)         |
|      |       | In the middle course with more tributaries joined, is sufficient water to carry the medium sized particles   | (2)         |
|      |       | In the lower course the gradient is gentle more deposition   | (2)         |
|      |       | <b>[ANY FOUR]</b>  | (4 x 2) (8) |
|      |       |  | <b>[15]</b> |



- 2.4 2.4.1 A = deranged  
B = radial (2 x 1) (2)
- 2.4.2 On domes or massive igneous rock (1 x 1) (1)
- 2.4.3 Streams flow away from a central point  
It resembles the spokes of a wheel  
Common in hilly or mountain peak  
This pattern is characteristic of Karoo buttes  
**[ANY TWO]** (2 x 2) (4)
- 2.4.4 It develops on very flat surface that was covered by an ice sheet or glacier (2)  
There are many lakes, swamps and marshy areas (2)  
Develops from pre-existing drainage pattern (2)  
Has haphazard pattern (2)  
**[ANY TWO]** (2 x 2) (4)
- 2.4.5 Resistance of underlying rock (dome or igneous rock) (2)  
Resistant rock not easily eroded by flowing water (2)  
Fewer river valleys are formed (2)  
**[ANY TWO]** (2 x 2) (4)
- [15]**
- 2.5 2.5.1 The Department of Water Affairs and Forestry (1 x 1) (1)
- 2.5.2 Air and water pollution (2 x 1) (2)
- 2.5.3 Industries (1 x 2) (2)
- 2.5.4 Waste into the rivers reduces the amount of oxygen available for plants and animals living in the water and thus destroys them (2)  
Eutrophication which increases nutrients in the water and results in the growth of algae (2)  
Algae uses up oxygen and decreases the amount of light entering the water (2)  
**[ANY TWO]** (2 x 2) (4)
- 2.5.5 Encourage better farming practices with better use of fertilisers (2)  
Conduct public awareness programmes (2)  
Fix all sewages linkages (2)  
Fines to be imposed for dumping into the rivers (2)  
Create buffer zone close to rivers (2)  
Conserve the wetland (2)  
Frequent testing of water quality to prevent disruption of the ecosystem (2)  
**[ANY THREE]** (3 x 2) (6)
- [15]**  
**[60]**

**QUESTION 3: MAPWORK****3.1 MAP SKILLS AND CALCULATIONS**

3.1.1 D (1 x 1) (1)

3.1.2 D (1 x 1) (1)

3.1.3 Area = L x B  
 L = 4 cm (3,8 – 4,2)  
 B = 3,6 cm (3,4 – 3,8)  
 $(4 \times 0,5) \sqrt{(3,6 \times 0,5) \sqrt{2 \sqrt{\text{km}} \times 1,8 \sqrt{\text{km}} = 3.6 \text{ km}^2 \sqrt{}}$   
 (Range: 3,23km<sup>2</sup> – 3,99km<sup>2</sup>) (5 x 1) (5)

3.1.4 To know the amount of building materials that will be required (2)  
 To determine the total area that will be covered by the house (2)  
 To know the space available for the house (2)  
 To determine the costs (for budgeting) (2)  
**[ANY ONE]** (2 x 1) (2)

3.1.5 130°– 132° (1 x 1) (1)

**3.2 MAP APPLICATION AND INTEPRETATION**

3.2.1 The main road or 717 main road/  
 leads to Cape Town in the past  
 The flat area between several hills prevents too much wind  
 Near a natural water source/fountain  
**[ANY ONE]** (1 x 1) (1)

3.2.2 Dendritic pattern (1 x 1) (1)

3.2.3 Lack of plant cover and wind  
 Steep gradient  
**[ANY ONE]** (1 x 2) (2)

3.2.4 Availability of water/flat gradient (1 x 2) (2)

3.2.5 Furrows  
 Reservoirs  
 Dams  
 Non-perennial rivers  
 Windpumps  
**[ANY TWO]** (2 x 1) (2)

3.2.6 Recreational facility  
 Showgrounds  
**[ANY ONE]** (1 x 1) (1)



3.2.7 2 p.m. – 4 p.m. (1 x 1) (1)

3.2.8 Shadows are leaning towards South-east (1 x 2) (2)

**3.3 GEOGRAPHIC INFORMATION SYSTEMS (GIS)**

3.3.1 Obtaining data about the environment and the earth from a distance  
**[CONCEPT]** (1 x 2) (2)

3.3.2 Offers employment opportunities for young graduates  
Provides current data  
Allows coverage of large area  
Easy collection of data (1 x 1) (1)  
**[ALLOCATE MARK TO ANY OTHER RELEVANT ANSWERS]**

3.3.3 The act of applying agreed standards in GIS (1 x 2) (2)  
**[CONCEPT]**

3.3.4 The reference of the topographical map of Philippolis (1 x 1) (1)

3.3.5 Ensure that data is internally consistent  
The data is accurate  
Data set can be compared to other data  
**[ANY ONE]** (1 x 2) (2)  
**[30]**

**GRAND TOTAL: 150**