LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

VHEMBE WEST DISTRICT

GRADE 12

GEOGRAPHY P1 PRE-TRIAL EXAMINATION

MEMORANDUM

12 AUGUST 2022

DURATION: 3 HOURS

MARKS: 150

SECTION A

QUESTION 1: CLIMATE AND WEATHER

1.1

1.1.1 D (1)

1.1.2 D (1)

1.1.3 B (1)

1.1.4 A (1)

1.1.5 A (1)

1.1.6 D (1)

1.1.7 C (1)

1.1.8 C (1)

1.2

1.2.1 increase (1)

1.2.2 cools (1)

1.2.3 higher (1)

1.2.4 increase (1)

1.2.5 decreases (1)

1.2.6 higher (1)

1.2.7 day (1)

1.3

1.3.1 B Kalahari High pressure cell (1)

C South Indian High Pressure cell (1) /Mauritius High (1)

1.3.2 Winter (1)

1.3.3 Air heats up at a dry adiabatic lapse rate as it descends down the escarpment (2) Air is heated through terrestrial radiation as it subsides (2) (1x2) (2) [ANY ONE]

1.3.4 Air blows over the cold Benguela Current and became cold (2) , assumes the conditions of the Cold Benguela Current over which it blows (2) [ANY ONE]

1.3.5 The drag over the Warm Indian Ocean occurs over a short period therefore gaining less moisture (2). The drag over the Warm Mozambique current occurs over a short distance therefore less moisture is gained (2) (1x2) (2)

1.3.6 Subsidence of air at B does not lead to occurrence of rainfall (2). The inversion layer is below the escarpment and prevents warm moist air from entering the interior (2). Clouds cannot be formed without supply of moisture (2). Lack of cloud will lead to no rainfall (2). Associated with stable conditions which do not form precipitation (2) (3x2) (6)

1.4

1.4.1 Coriolis force (1)

1.4.2 Driven by the tropical trade winds (2) Driven by the tropical easterlies (2) (1x2) (2)

1.4.3 Precautionary measures to be put in place (2). Emergency services will always be on alert for safety of lives of people (2) The country shall not be caught off guard. Evacuation plans and centres shall be ready (2) Water and food parcels shall be collected in time (2) (2x2) (4)

1.4.4 Friction over the land (2) Lack of supply of moisture (2) (2x2) (4)

1.4.5 May dissipate before it reaches its predicted destination (2) May fail to become category 4 and 5 tropical storm change in the vertical wind shear/inner-core structure (2). Gets back to the ocean (2) (2x2) (4)

1.5

1.5.1 An area of separation between the cold and dry south westerly winds and the warm-moist north easterly winds (2) (1x2) (2)

1.5.2 Coastal low (1) (1x1) (1)

1.5.3 Along the moisture front in the interior of South Africa (2) (1x2) (2)

1.5.4 Warm moist north easterly winds from the South Indian Ocean driven by the South Indian High Pressure cell meet with the cold-dry south westerly winds from the South Atlantic Ocean in the interior of South Africa (2) (1x2) (2)

1.5.5 Dams are replenished (2). Agricultural activities like ploughing resume (2) Relieves farmers from drought conditions (2), Animals and crops receive water (2), Increases the prospects of better production (2), Heat and pressure from lightening turns nitrogen in the soil into organic fertilisers (2) and grazing for animals improves (2) (4x2) (8) [ANY FOUR]

[60]

QUESTION 2: GEOMORPHOLOGY

2.1

2.1.1 C

2.1.2 C

2.1.3 C

2.1.4 C

2.1.5 C

2.1.6 D

2.1.7 B

2.1.8 B (8x1) (8)

2.2

2.2.1 Y

2.2.2 X

2.2.3 X

2.2.4 X

2.2.5 X

2.2.6 X

2.2.7 X (7X1) (7)

2.3

2.3.1 The side view of a river from source to mouth (2) (1x2) (2)

2.3.2 Smooth/Graded (1) Concave shape (1) Steeper in the high-lying area (1) Gentle in the low-lying area (1) Permanent base level is accepted (1),not temporary base level e.g. waterfall (2x1) (2) ANY TWO

2.3.3 Graded (1) (1x1) (1)

2.3.4 Temporary base levels not evident (2) It has a smooth concave profile (2) (1x2) (2) ANY ONE

2.3.5 Temporary base level: waterfall (1)

Permanent base level: sea (1) (2x1) (2)

2.3.6 Erosion of softer layer of rock below waterfall (2), Head ward/backward erosion will cause the waterfall to migrate upstream (2), downward erosion deepens the plunge pool (2), hard layer of rock falls into plunge pool as not supported by underlying softer rock (2), deposition of sediments in

plunge pool and continues towards the lower course, equilibrium between erosion and deposition will maintain a graded state (2) (3x2) (6)

2.4

2.4.1 The increase in the energy of a river to erode/ when a river gains energy and starts eroding downward (2) (1x2) (2)

2.4.2 Change in the gradient (1) Accept: Isostatic uplift (1) Drop in sea level (1)

Increase in volume of water (1) accept: River capture (1) Increase in precipitation (1) Fast flowing river joining (1) (1x1) (1) ANY ONE

2.4.3 Directly proportional relationship (2) The greater the vertical erosion the deeper the valley (2) (1x2) (2) (ANY ONE)

2.4.4 Terraces (1) Valley in a valley (1) (2x1) (2)

2.4.5 As a result of vertical erosion the floor of the old river valley forms terraces on either side of the river (2) Due to vertical erosion a new valley is carved into the old valley resulting in a valley in a valley (2) (2x2) (4)

2.4.6 Increase in erosion (2), Erosion results in the loss of fertile soil/arable land (2), Erodes/collapse of river banks (2), River can overflow its banks, Soils become saturated/water-logged (2) Destruction of fluvial landforms (2), Disruption of food chains/food webs (2), Damages the natural vegetation/biodiversity (2), Less land available for natural habits (2) (2x2) (4) [ANY TWO]

2.5

2.5.1 The management of water sources (2) (1x2) (2)

2.5.2 Inadequate municipal sewage treatment (1x1) (1)

2.5.3 Studies show the presence of harmful viruses in the river (1x2) (2)

2.5.4 An outbreak of diarrhoea in Durban (2), two children died (2), people are hospitalised (2), it could cause an outbreak in cholera(2), people cannot go to work (2), loss of income(2), people cannot afford high cost health care(2) (2x1) ANY ONE

2.5.5 Stricter control and enforcement of legislation which monitors effluents from factories (2), more hefty fines to punish polluters (2), improved waste treatment facilities (2), have a buffer so that people cannot live close to rivers (2), provide running water in or close to homes (2), regular testing of water quality (2), increase awareness of and education on the problems which people cause by living so close to rivers (2) (4x2) (8)

[60]

SECTION B

QUESTION 3: MAP SKILLS AND CALCULATIONS

3.1

3.1.1 32 Latitude (1) 24 Longitude (1) (2x1) (2)

3.1.2 VE=Vs/Hs

1cm=5x100=500√

VS=1:500

HS=1: 50 000√

1/500 ÷ 1/50 000

1/500 X 50 000/1√

500/5√

100 times√ (5)

3.1.3 239^0 -243^0 (2)

3.1.4. 20 m (1)

3.1.5 1315.6 (1)

3.2 MAP INTERPRETATION

3.2.1 (a) February/ January (1)

(b) Windmills (1) dams (1) non-perennial rivers (1) furrows (1) Reservoirs (1)
(2x1) (2) ANY TWO

3.2.2 (a) Planting rows of trees along its course (1)

(b) Reduces erosion (2), reduces silting (2) (1x2) (2) ANY ONE

3.2.3 the position of the dam walls on the river (2), the angle at which the tributaries join the river (2), the contour lines indicating high lying areas (mountains) from which the rivers originates (2) (1x2) (2)

3.2.4 Fertile soil on the flood plain (2), availability of irrigation water (2), gentle slope (2) (ANY TWO) (2x2) (4)

3.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

3.3.1 Refers to detail with which a map depict /clarity of information and feature on the orthophoto map (2)

3.3.2 High (1x1) (1)

3.3.3 More pixels of a small size per inch of an image (2)

3.3.4 Company data is protected against unauthorized access (2), data is protected against destruction and misuse (2), data is protected against accidental loss (2), company's reputation is protected (2), gives a company a competitive edge against competitors (2) (2x2) (4) (ANY TWO) (30)

TOTAL 150