<u>1030.1</u>

<u>MEMORANDUM</u>

<u>GEOGRAPHY STANDARD GRADE (PAPER 1)</u>

QUESTION 1

CLIMATOLOGY AND ENVIRONMENTAL GEOGRAPHY

1.1   SYNOPTIC MAP

1.1.1   Mid-latitude cyclones OR Cold fronts further north OR H.P.cells north// and influencing
SA weather//No cloud in the interior// low humidity level in interior// low temps//
S.W. Cape high humidity levels//NW winds in C.Town//   2x2=(4)

1.1.2   Air temp – 21C // Dew point temp (-4C)// Wind direction WNW OR NW// OR W//
Wind speed- 10 knots // Cloud Cover- clear OR absent OR zero//Air pressure-
1020 hpa //   6x2=(12)

1.1.3   Symbol of occlusion//Cold air move behind warm air// Warm sector is smaller//   2x2=(4)

1.1.4   L.P. system//Air is moving in a clockwise direction //Cyclone or Mid-latitude//   2x2=(4)

1.1.5   B // move from West to East OR further East//   2x2=(4)
                                                                                            [28]

1.2   TROPICAL CYCLONES

1.2.1   Board and tape up windows//store loose objects// get away from low lying areas// stay
indoors// do not drive unless necessary// place sandbags around your
house to hold the water back//listen to radio or tv for information//stock up on food//
supply of drinking water//have gas tank filled// Flashlight ,etc//   3x2=(6)

1.2.2   Extreme winds OR gale force// heavy rain //heavy clouds// thunderstorms//
2x2=(4)

1.2.3   Descending air in the eye // due to upper air divergence// this causes
calm conditions or no wind // no clouds OR rain // high temps/ / as very low relative
humidity //descending air creates stable conditions// Gives appearance that
the storm is over// increase in air pressure//   2x2=(4)

                                                                                            [14]

1.3 URBAN MICROCLIMATES

1.3.1   Deansville experiences less evaporation// transpiration// than the surrounding rural area// water runs directly into stormwater drains//therefore no evaporational cooling// decreased transpiration due to very few plants and grass//Temp higher in the city//Urban morphology//Artificial production of heat//e.g motor engines//Wind is channelled in Deansville due to tall densely packed buildings// very little cooling// Infiltration reduced in city// few natural surfaces to absorb and retain moisture// Concrete and tar decreases infiltration// Pollution//   4x2=(8)

1.3.2 Heat Island OR Pollution dome // (not dome)   1x2=(2)

1.3.3 Exhaust fumes from motor vehicles// Air conditioning// Heaters// Refrigeration//Building activities//Household fires// Factories// Littering// Run-off into river//   2x2=(4)

1.3.4 Air filters on motor vehicle exhausts// CFC Friendly Refrigeration// windows and balconies to circulate natural air// Insulated buildings therefore less heaters// solar panels//Laws OR Fines// Filters or chimneys// Lead free fuel// Improved public transport// Use of motorcycles or cycles// Decentralization// Education//Clean water// Remove litter//   2x2=(4)

[18]

[60]

QUESTION 2

GEOMORPHOLOGY AND ECOSYSTEMS

2.1 DRAINAGE BASINS AND DRAINAGE DENSITY

2.1.1 The area from which a main river and its tributaries obtain water//
or the area which is drained by a main river and its tributaries//
Catchment area //   1x2=(2)

2.1.2 Watershed OR Divide//   1x2=(2)

2.1.3 Dendritic //   1x2=(2)

2.1.4 Underlying rock structure is uniform// sedimentary//Igneous// or Metamorphic// therefore
allows water to develop a random stream pattern//   2x2=(4)

2.1.5 More water//More erosion //   2x2=(4)

2.1.6 A-Elbow of capture// B-Windgap OR gravel// C-Misfit stream OR Beheaded OR
Captured //   3x2=(6)

2.1.7 Y//   1x2=(2)

2.1.7 Rivers not flowing throughout year OR Seasonal//   1x2=(2)

2.1.9 No// Non-perennial river do not flow throughout the year// OR Yes// build dams to supply
water during dry season//   2x2=(4)

                                                                                     [28]

2.2 STRUCTURAL LANDSCAPES

2.2.1 Flat top// Protective layer OR Capped rock// Hard top// Typical landforms or
examples//   1x2=(2)

2.2.2 A = Plateau// C = Mesa or Table mt// D = Butte//   3x2=(6)

2.2.3 Similarity – flat top // Difference – C is larger//   2x2=(4)

2.2.4
                                                                                     4x2=(8)

2.2.5   Karoo OR any city in region //   1x2=(2)

[22]

2.3   HUMAN IMPACT ON THE ECOSYSTEM

2.3   Levees are built to hold back water// keep it in its channel// therefore land
      does not flood// two cities have been built with a bridge to join them//
      water's edge property value - high// damages a very delicate ecosystem//
      pollution from city ends up in river water// water ecosystem suffers//
      wetland ecosystem removed// wetlands have been drained// now used as
      farmlands// river channel has been straightened// to speed up discharge// therefore no
      silting up// no meandering// deforestation// habitat destroyed// light industries// farming//
      wetlands// higher water// river straightened//   5x2=(10)

[10]

[60]

QUESTION 3

RURAL SETTLEMENT

3.1 RURAL SETTLEMENT PATTERNS AND FACTORS INFLUENCING SITE

3.1.1 Dispersed or isolated // buildings far apart // isolated //   2x2=(4)

3.1.2 Primary activities// crops OR cultivated lands // and stock farming// forestry //
mining or old mine// unifunctional   3x2=(6)

3.1.3 **Reasons:** One large piece of land or small cultivated land at A/ no moving around or lots
of travelling at A// farmer makes own decisions//
mechanisation possible// independent use of land //   4x2=(8)

3.1.4 Linear // along road // Ribbon //   2x2=(4)

3.1.5 Water from river// building materials// and fuel from forest//cultivated lands or arable
fertile soil// pasturage OR grazing land //   4x2=(8)

[30]

3.2 RURAL DEPOPULATION

3.2.1 Decreases//   1x2=(2)

3.2.2 Push Factors: Low wages// mechanisation// droughts OR floods OR soil erosion OR
natural disasters // unemployment//
Crime// consolidation// low production prices// poor facilities// poverty //
(do not accept poor housing)   3x2=(6)

Pull factors: Beter job opportunities// better salaries// schools//
medical facilities// entertainment //   3x2=(6)

3.2.3 Protest against building of proposed new road// upgrade hotel// tourism
encouraged // develop recreational site at dam// extend school tograde 12 OR improve
school // old mine can
be developed into recreational site// Fort can be utilised as a tourist attraction//incentives
lower taxes//cheap water//electricity// free land for development// develop infrastructure//
advertising campaign // job creation OR decentralisation OR RDP//   4x2=(8)

3.2.4 Empty farm houses// Resources unused//safety risk// Service centres close// shops close//
few job opportunities or poverty // empty schools//starvation or famine or poverty//
few new investments// low property prices// roads not maintained// ghost towns//
poor services// aged population// farm murders// dilapidated houses//   4x2=(8)

economic decline or stagnation // low birth rate or few men //

[30]

QUESTION 4

URBAN SETTLEMENT

4.1 MORPHOLOGICAL AND FUNCTIONAL STRUCTURE

4.1.1 CBD// or D   1x2=(2)

4.1.2 Decrease //   1x2=(2)

                                or less land

4.1.3 Accessible// Intensely built// competition// businesses would all like to be here//   4x2=(8)
      // routes converge //

4.1.4 high-lying high income residencies // suburban office park//   2x2=(4)
                          or administrative

4.1.5 theatre//financial services//professional//municipal services//entertainment//
      Retail or commerce // hotels and restaurants   4x2=(8)

        Edge
4.1.6 (a) Outskirts of town//   1x2=(2)

      (b) Airports// power stations// cemetery//dangerous industries// recreation//
      dumping sites//sports fields// golf course// racing tracks// sewage disposal// rifle range//
      military dumps// informal settlements// small holdings// shopping centres//   4x2=(8)

      (c) less expensive// large//   2x2=(4)

                                                         [38]

4.2 URBAN PROBLEMS

4.2.1 Traffic problems//   1x2=(2)

                                         or centralisation
4.2.2 Physical separation between residential and work place// intensive landuse in the CBD//
      low building density in suburbs// outdated street patterns// people working same time //
      unreliable public transport system // people using own transport //   2x2=(4)

4.2.3 Noise and air pollution// unpleasant shopping atmosphere// high
      accident rate// disruption of public transport systems// waste of time,money and fuel//
       personal frustration OR road rage// high costs to alleviate these conditions//   3x2=(6)

4.2.4 Underdeveloped public transport system// leads to traffic congestion//reason why people
      use private vehicles// late at destinations or work// unsafe taxis OR crime //trains//OR
      public transport unreliable// taxi violence //not all taxis are roadworthy// limited routes //

                                                      2x2=(4)

4.2.5   Accommodate vehicles in city:parking garages and parking areas// park and ride schemes//
Smooth flow of traffic: freeways // one-way streets //
synchronised robots //
Protect pedestrians: arcade // closure of streets for vehicles //
Discourage use of vehicles: parking meters // impose fines to enter CBD //
subsidising and upgrading of public transport system // encourage lift clubs //
businesses use flexi-times //preferential lanes for busses//   3x2=(6)
underground trains //

[22]

[60]

QUESTION 5

ENVIRONMENTAL ISSUES AND POPULATION GEOGRAPHY

5.1 RAINFALL N SOUTH AFRICA

5.1.1 June OR July - highest// Feb OR Dec – lowest//   2x2=(4)

5.1.2 74mm (73-75mm) / 79mm / 80mm / 70mm / =303mm (302 – 304mm)   4x1+2=(6)

5.1.3 Summer //   1x2=(2)

5.1.4 C.Town – Frontal OR Orographic OR Cyclonic// JHB - Convection OR Thunderstorm
rainfall//   2x2=(4)

5.1.5 **Reasons:** soft // soaking//rainfall// more infiltration// less runoff// less erosion//
in winter, less evaporation// Less damaging to crops //   3x2=(6)

[22]

5.2 DROUGHT

5.2.1 Experience drought conditions// due to subnormal rainfall// cannot continue
normal farming practices//loss of income for farmers// the money which the farmer lost
won't be recouped in one year // drought //   2x2=(4)

5.2.2 Loss of income or bancruptcy// unemployment// rural depopulation// high
stress levels// lower standard of living// stock losses // imbalance of ecosystem // increased
runoff // crop failure // desertification // production lower // underground water is not
replenished // quality of water // poverty //not good //   2x2=(4)

5.2.3 Desertification//   1x2=(2)

5.2.4 no crop rotation// uncontrolled veld fires// lack of water holes on farms//
no contour ploughing// overgrazing// removal of natural vegetation OR deforestsation//
 heavy rains lead to erosion// overcropping// no soil conservation//imbalances // poor
farming methods // eg overcropping //   3x2=(6)

[16]

5.3 POPULATION GROWTH IN SOUTH AFRICA

5.3.1 Increase//   1x2=(2)

5.3.2 Unemployment// overcrowding// crime// lack of water// shortage of houses//
famine // food shortages// exhaustion of natural resources// eg. water// low growth rate

of economy// environmental damage or example // strain on infrastructure// and social or resources// famine // poverty //   3x2=(6)

5.3.3   60 million //   1x2=(2)

5.3.4   30 million//   1x2=(2)

5.3.5   More job opportunities//supply of water//housing//education//improvement of infrastructure// birth control or e.g. family planning // basic needs philosophy or RDP // Services, e.g. clinics or health //
Control imigration // Training
Programmes for Small businesses //

                                                                                                  5x2=(10)

                                                                                                  [22]

                                                                                                  /60/

QUESTION 6

ECONOMIC ACTIVITIES OF SOUTH AFRICA

6.1   PRIMARY ACTIVITIES
Mining catalyst for economic development// established infrastructure
between mines// e.g. Saldanha-Sishen// employs large scale skilled// and semi-skilled
labour// increased immigration brought skills to South Africa// lots of mineral deposits//
results in less dependency international//foreign investment increased// contributes to
GDP// earns foreign exchange //stimulated other industries// and also agriculture//
development of cities// e.g Johannesburg OR Kimberley// Development of urban centres//
eg Phalaborwa// development of harbours// eg Saldanha Bay//   provides jobs //
improves quality of life // promotes tourism eg. Big Hole or deepest mine // provides raw
material // eg. SASOL //   8x2=(16)

6.2   INDUSTRIAL REGIONS OF SOUTH AFRICA

6.2.1   Deciduous fruit//wheat//dairy vegetables//fish//   2x2=(4)

6.2.2   A – (Saldahna) export of iron-ore//   1x2=(2)
         (all learners to be given full marks)

6.2.3   B – (Cape Town) exports// near industrial areas//   2x2=(4)
         (all learners to be given full marks)

6.2.4   Wine making// fruit & veg canning// clothing//fruit packing//   1x2=(2)

6.2.5   Car assembly plants// chemical industries//   2x2=(4)

6.2.6   Shortage of water//crime//expensive electricity// lack of minerals//high transport costs//
         lack of skilled labour// low per capita income // limited market // expensive land //
         shortage of land // (any appropriate answer// Strikes //   5x2=(10)

                                                                                                                   [26]
6.3   TRADE AND ECONOMIC DEVELOPMENT

6.3.1   Imports or exports//   2x2=(4)

6.3.2 Unfavourable// imports more than exports//   2x2=(4)

6.3.3 Food// metals and metal products// Transport equipment //   2x2=(4)

6.3.4 Overcrowding//traffic congestion//unemployment//shortage of food // housing
      // water or noise pollution // inadequate supply of infrastructure// crime //
      imbalance //   3x2=(6)

[18]

[60]