



Province of the
EASTERN CAPE
EDUCATION

GEOGRAPHY P1

MEMORANDUM

JUNE 2014

COMMON TEST

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

N.B. This memorandum consists of 18 pages including this page.

SECTION A: CLIMATE AND WEATHER AND GEOMORPHOLOGY**ORIGIN OF A MID- LATITUDE CYCLONE****1.1**

1.1.1 C – 55° – 65° ✓

1.1.2 A – polar front ✓

1.1.3 B – there is a difference between the opposing air masses ✓

1.1.4 A – subtropical westerly winds ✓

1.1.5 D – alternatively warm and cold ✓

1.1.6 B – friction, which produces waves ✓

1.1.7 D – west to east ✓

(7 x 1) (7)

FLUVIAL PROCESSES AND FEATURES**1.2**

1.2.1 Runoff ✓

1.2.2 Interfluve ✓

1.2.3 Groundwater ✓

1.2.4 Perennial river ✓

1.2.5 Water table ✓

1.2.6 Confluence ✓

1.2.7 Infiltration ✓

1.2.8 Throughflow ✓

(8 x 1) (8)

1.3 SYNOPTIC WEATHER MAP

- 1.3.1 High land temperatures✓
 South Atlantic and South Indian Highs have moved away from land✓
 Presence of a tropical cyclone✓
 Presence of a thermal low✓ (1 x 1) (1)
- 1.3.2 Gentle ✓ (1 x 1) (1)
- 1.3.3 B - South Atlantic High ✓
 C - South Indian High✓ (2 x 1) (2)
- 1.3.4 (a) Tropical Cyclone✓ (1 x 1) (1)
- (b) 4 ✓ (1 x 1) (1)
- (c) Circular isobars ✓
 Pressure below 1000hpa. ✓
 Presence of an eye ✓ (1 x 1) (1)
- (d) results in flooding✓✓
 results in drowning✓✓
 results in destruction of infrastructure✓✓
 results in loss of personal property✓✓
 results in spreading of diseases✓✓
 loss of livestock and crops✓✓
 disruption to sewer can contaminate fresh water supplies ✓✓
 valuable top soil can be lost✓✓ (4 x 2) (8)

BERG WIND**1.4**

- 1.4.1 Hot dry winds that blow from the interior of the country to coastal areas. ✓
(concept) (1 x 1) (1)
- 1.4.2 A – Continental/Kalahari High ✓
B – Coastal low ✓ (2 x 1) (2)
- 1.4.3 Develops on the west coast and moves along the coast to the east ✓ (1 x 1) (1)
- 1.4.4 As the air descends the plateau it is compressed, heats up through surface friction and dries out. ✓✓ (2 x 1) (2)
- 1.4.5 Crops are destroyed and animals are killed ✓✓
Industry slows down as workers experience heat fatigue ✓✓
The economy suffers huge financial losses. (2 x 2) (4)
- 1.4.6 Install lookout towers ✓✓
Construct firebreaks ✓✓
Build farm dams to have water on standby to extinguish fires ✓✓
Introduce a system of controlled burning ✓✓ (2 x 2) (4)
- 1.4.7 Cold front/Mid latitude cyclone ✓ (1 x 1) (1)

STREAM PROFILE

1.5

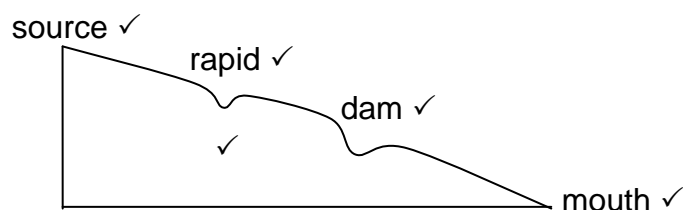
1.5.1 The lowest point to which a river can erode ✓
(concept)

(1 x 1) (1)

1.5.2 Rapid ✓
Dam ✓

(1 x 1) (1)

1.5.3



(5 x 1) (5)

1.5.4 Ungraded profile ✓
Multigraded profile ✓

(1 x 1) (1)

1.5.5 Has obstructions in its river course. ✓

(1 x 1) (1)

1.5.6 In the upper course, the gradient is steep, flow is turbulent and vertical erosion takes place. ✓✓
 In the middle course of the river the gradient is less steep, flow is laminar and lateral erosion and deposition takes place. ✓✓
 In the lower course of a river, the gradient is gentle, flow is laminar and deposition occurs. ✓✓

(3 x 2) (6)

DRAINAGE BASIN**1.6**

- 1.6.1 The total area drained by the river and its tributaries✓
(concept) (1 x 1) (1)
- 1.6.2 Trellis ✓ (1 x 1) (1)
- 1.6.3 Tributaries join main river at right angles ✓ (1 x 1) (1)
- 1.6.4 At R there is less vegetation ✓
Area is steep
Water is not easily absorbed ✓
More run-off occurs ✓
Therefore more tributaries ✓
At S there is more vegetation✓
Water is easily absorbed✓
Less run-off occurs✓
Therefore fewer tributaries✓ (1 x 1) (1)
- 1.6.5 3rd order✓ (1 x 1) (1)
- 1.6.6 (a) S ✓ (1 x 1) (1)
- (b) Gentle slope slows flow of water down ✓
Flows on a wide flood plain and water spread easily ✓
More water from tributaries increases volume of water ✓
Deposition makes stream channel shallower ✓ (1 x 1) (1)
- (c) Build large dams in the lower reaches to control flow✓✓
Build artificial levées✓✓
Straighten the river channel to increase gradient✓✓
Build small dams in the upper reaches and release water at intervals✓✓
Line the river bed with concrete to reduce friction✓✓
Revegetate / protect vegetation✓✓
Correct farming methods e.g. contour ploughing✓✓
Avoid building below the flood line✓✓ (4 x 2) (8)

[75]

QUESTION 2**VALLEY CLIMATE****2.1**

2.1.1 microclimate ✓

2.1.2 katabatic ✓

2.1.3 night ✓

2.1.4 downslope ✓

2.1.5 thermal belt ✓

2.1.6 frost ✓

2.1.7 temperature inversion ✓

(7 x 1) (7)

RIVER CAPTURE**2.2**

2.2.1 captor stream ✓

2.2.2 captured stream ✓

2.2.3 misfit stream ✓

2.2.4 elbow of capture ✓

2.2.5 wind gap ✓

2.2.6 watershed ✓

2.2.7 abstraction ✓

2.2.8 rejuvenation ✓

(8 x 1) (8)

INVERSION LAYER**2.3**

- 2.3.1 A layer of air above the plateau in which the temperature increase with height. ✓
(Concept) (1 x 1) (1)
- 2.3.2 Drakensberg ✓ (1 x 1) (1)
- 2.3.3 A ✓ (1 x 1) (1)
- 2.3.4 Inversion layer is above the escarpment ✓
The base of the inversion is higher above sea level ✓
Moist air is advected onto the plateau ✓ (2 x 1) (2)
- 2.3.5 **Summer:**
Moist air will reach the interior ✓
High humidity ✓
More condensation ✓
Cloud formation ✓
Precipitation ✓
- Winter:**
Moist air prevented from reaching interior ✓
Low humidity ✓
Little condensation ✓
No / few clouds ✓
Colder night temperatures ✓
Frost may occur ✓
[Any FOUR. Must refer to summer and winter] (4 x 2) (8)
- 2.3.6 Drought conditions during winter will result in farmers depending heavily on irrigation. ✓✓
Good rainfall during summer ✓✓
Will impact positively on crop production ✓✓ (1 x 2) (2)

CITY CLIMATE**2.4**

- 2.4.1 8 hours ✓ (1 x 1) (1)
- 2.4.2 City activities begin. ✓
 People travel into the city to work –body heat ✓
 Large number of vehicles emit heat/smoke ✓
 Factories add to heat and pollution ✓
 Sun rises heating city surfaces ✓
 Air conditioners are switched on ✓ (2 x 1) (2)
- 2.4.3 24h00 / mid-night ✓ (1 x 1) (1)
- 2.4.4 Little heat production ✓
 Very little city activity/city is deserted ✓ (1 x 2) (2)
- 2.4.5 Increase the temperature ✓ (1 x 1) (1)
- 2.4.6 Tarred roads ✓
 Concrete buildings ✓
 Air conditioners ✓
 Bodyheat ✓
 Motor vehicles (2 x 1) (2)
- 2.4.7 Warmer than Faerie Glen ✓✓ (1 x 2) (2)
- 2.4.8 Asthma ✓, skin problems ✓, cancer ✓ (2 x 1) (2)
- 2.4.9 Decentralised businesses and industries away from city centre ✓✓
 Establishment of new towns/satellite towns ✓✓
 Establishment of green belts ✓✓
 Encourage the use of public transport – setting of low tariffs ✓✓
 Construction of road by-passes to divert traffic away
 from the city centre ✓✓
 Synchronised robots to ensure easy flow of traffic ✓✓
 Make streets one-way to ensure smooth flow of traffic ✓✓
 Introduce underground transport – e.g. tube trains ✓✓
 Organise lift clubs to avoid too many vehicles converging
 on the city ✓✓ (1 x 2) (2)

FLUVIAL LANDFORMS

- 2.5.1 (a) River discharge refers to the volume of water that flows through the river at a given point and at a given time. ✓
(Concept) (1 x 1) (1)
- (b) waterfall ✓ (1 x 1) (1)
- (c) found along the upper course of the river ✓ (1 x 1) (1)
- (d) break in river course ✓ (1 x 1) (1)
- (e) hard rock overlies the soft rock ✓
the hard rock is vertical to the soft rock ✓
the hard rock dips upstream ✓ (2 x 1) (2)
- (f) They attract tourists, brings in foreign income ✓
generates HEP – hydro electric power ✓ (1 x 1) (1)
- 2.5.2 (a) rapid ✓ (1 x 1) (1)
- (b) white water rafting, ✓ canoeing ✓ (1 x 1) (1)
- 2.5.3 (a) A bend or a curve in a river ✓
(Concept) (1 x 1) (1)
- (b) Formed when there are obstructions on the course of the river ✓ and the river goes around the obstruction creating a bend. ✓ (2 x 1) (2)
- (c) Water flows more rapidly at the outer bank of the meander ✓
This results in higher levels of erosion ✓
The shape of the slope is concave and steep. ✓ (1 x 1) (1)
- (d) Oxbow lake ✓ (1 x 1) (1)
- (e) They will dry up because they have no contact with the main river. ✓
It will dry up because of evaporation ✓
Maybe silted up during a flood. ✓ (1 x 1) (1)

DRAINAGE BASINS AND CATCHMENT AREAS**2.6**

2.6.1 Upper reaches of a drainage basin. ✓
(Concept) (1 x 1) (1)

2.6.2 Deforestation leads to increased surface erosion and surface run-off. ✓
Increased run-off leads to flooding. ✓
Decrease in vegetation can cause reduced infiltration and reduced base flow. ✓
The lowering of the water table makes it difficult for plants to access ground water. ✓ (2 x 1) (2)

2.6.3 Waste disposal, pollution affects the quality of the water negatively. ✓
This changes the equilibrium of the river and reduced river inhabitants ✓
Exposes inhabitants of the ecosystem to danger ✓
Surface of the water is covered with oil/pollutants, causing a block in oxygen levels for aquatic life. ✓ (2 x 1) (2)

2.6.4 Drainage basins are a life supporting system for millions of people. ✓
They provide water for agricultural, industrial, domestic and recreational purposes. ✓
Fertile soil on flood plains supports crop farming. ✓
Drainage basin support a variety of ecosystems. ✓
(Accept and other reasonable answer) (2 x 1) (2)

2.6.5 Impose fines to those people who dump in rivers. ✓✓
Create buffer zones close to the rivers to prevent industrial development being too close by. ✓✓
Encourage afforestation(planting of trees) and vegetation to trap surface run off and decrease erosion. ✓✓
Frequent testing of water quality –to prevent disruption of ecosystem. ✓✓
Encourage recycling of water rather than dumping into rivers. ✓✓
Create awareness campaigns and legislation to prevent illegal dumping of water. ✓✓
(Accept any reasonable answer) (4 x 2) (8)
[75]

QUESTION 3**RURAL AND URBAN SETTLEMENTS**

3.1

3.1.1 B – Rural ✓

3.1.2 A – Village ✓

3.1.3 D – Farmstead ✓

3.1.4 G – Primary ✓

3.1.5 I – Land redistribution ✓

3.1.6 H – Situation ✓

3.1.7 C – Land Restitution ✓

3.1.8 F – Land Tenure Reform ✓

(8 x 1) (8)

SITE AND SITUATION

3.2

3.2.1 D – Wet point ✓

3.2.2 A – Gateway town ✓

3.2.3 G – Break of Bulk point ✓

3.2.4 B – Dry Point ✓

3.2.5 C – Bridge Point ✓

3.2.6 E – Junction town ✓

3.2.7 F – Central place ✓

(7 x 1) (7)

RURAL SETTLEMENT PATTERNS**3.3**

3.3.1 Nucleated settlement ✓ (1 x 1) (1)

3.3.2 Farmer lives and works with other farmers, great deal of social contact and integration. ✓ ✓
 Farmer can exchange skills, ideas and information. ✓ ✓
 Farmers are able to pool resources and have social interaction ✓ ✓
 Advantage from a safety point of view – they can get help from nearby settlements ✓ ✓ (2 x 2) (4)

3.3.3 Close to water supply – assist in farming ✓ (1 x 1) (1)

3.3.4 Increased medical costs, transport costs and reduced ability to attend work. ✓
 High absentee rates impacts negatively on production on farms. ✓
 Shortage of food and increased poverty due to reduction in family income. ✓
 Where subsistence farming is practised, it is labour intensive people cannot meet labour demands. ✓
 (Accept any reasonable answer) (1 x 1) (1)

3.3.5 The land reform programme needs to consider the people who are infected by HIV/AIDS which it does not currently do. ✓ ✓
 Create access to antiretroviral treatment. ✓ ✓
 Education and Awareness programmes amongst farm workers and their spouses. ✓ ✓
 Provide mobile clinics with treatment readily available. ✓ ✓
 Provide free contraception/ free condoms etc. ✓ ✓
 Provide programmes on sex education amongst workers. ✓ ✓
 (Accept any reasonable answer) (4 x 2) (8)

SOCIAL INJUSTICES**3.4**

3.4.1 Social injustice means that people of the environment are abused or treated unfairly in some way. ✓
(Concept) (1 x 1) (1)

3.4.2 To address the injustices of apartheid ✓
To promote economic growth ✓
To alleviate poverty ✓
For national reconciliation ✓ (2 x 1) (2)

3.4.3 The willing seller, willing buyer clause causes delays in negotiating prices. ✓✓
It takes time to solve land claims disputes ✓✓
Lack of support and training for new Black farmers ✓✓
Disagreement between government and traditional leaders in terms of restoring land to communities. ✓✓
Land has been redistributed to some who have no interest or knowledge in agriculture. ✓✓
The anticipated move from subsistence to commercial farming has not taken place. ✓✓
Land reform has not stimulated economic growth of rural areas and reduced poverty. ✓✓ (2 x 2) (4)

3.4.4 (a) Both the seller and the buyer of the land must agree with the terms and conditions of sale. ✓✓ (1 x 2) (2)

(b) Most land owners have been reluctant to sell to the state. ✓
This forces the state to pay more for the land than the actual value. ✓ (1 x 2) (2)

3.4.5.

(a) Small scale farming using traditional methods ✓
farming done only to meet the needs of one's family, ✓
Plant a variety of crops on in small quantities ✓
Not profit driven/ does not contribute to the economy of the country. ✓ (2 x 1) (2)

(b) Black farmers were denied land ownership during apartheid. ✓✓ (1 x 2) (2)

SHOPPING BEHAVIOUR PATTERNS**3.5**

- 3.5.1 A desire line is the actual distance travelled to obtain a service ✓
(concept) (1 x 1) (1)
- 3.5.2 The cost of the item will exceed (will be more than the transport). ✓✓
Convenience goods have a smaller range (local shops), while
comparison goods have a bigger range (specialist goods) ✓✓ (1 x 2) (2)
- 3.5.3 (a) The lower the order of the goods ✓, the greater the
number of services. ✓ (2 x 1) (2)
- (b) The higher the order of the service ✓, the greater the
distance the person is prepared to travel. ✓ (2 x 1) (2)
- 3.5.4 Personal preference ✓
Close to workplace ✓
Quality service ✓
Cheaper service ✓
Greater variety ✓
Bulk Buying ✓ (2 x 1) (2)
- 3.5.5 (a) A person will be prepared to travel the maximum distance,
because one buys these items less frequently, ✓ they are
expensive items. ✓ (2 x 1) (2)
- (b) A leather lounge set, a car, a house etc. ✓
(Accept examples of high order goods only) (1 x 1) (1)
- 3.5.6 Refers to the minimum number of customers required to support
a particular function or survive, so that it operates profitably. ✓
(Concept) (1 x 1) (1)
- 3.5.7 (a) if the number of customers is less than 4000, then the
specialist shop will operate at a loss. ✓
- (b) if the number of customers is more than 4000, then the
specialist shop will operate at a profit. ✓ (2 x 1) (2)

INNER CITY RENEWAL**3.6**

- 3.6.1 Renovating and changing buildings in the urban areas to enable economic and social growth. ✓
To attract business to reinvest as many CBD's are losing prominence. ✓ (1 x 1) (1)

- 3.6.2 The CBD has a problem of traffic congestion.
People can park their vehicles at a central point and use public transport ("shuttle service") to get to their destination. ✓
This is done to reduce the number of vehicles entering and leaving the CBD. ✓ (1 x 1) (1)

- 3.6.3 High crime rate, Unemployment, Poverty – Overcrowded conditions encourages crime and theft. ✓

Prostitution – Women cannot find employment and seek for alternative ways of earning quick money. ✓
Drug trafficking – The CBD is filled with foreigners from neighboring countries.
People engage in illegal trading to earn an income.

Overcrowding & lack of basic services - this is associated with unhygienic living conditions, congestion and an increase in pollution ✓

Informal trade- unemployed people cannot find employment, seek to engage in informal trade to earn a livelihood. ✓ (2 x 1) (2)

- 3.6.4 Air pollution- caused by high traffic congestion/ exhaust fumes from vehicles ✓
Land pollution- illegal dumping of waste and domestic refuse ✓
Increased urbanisation has also resulted in increased wastes and pollutants within the cities. ✓
Water pollution- lack of basic services e.g. water. ✓ (1 x 1) (1)

- 3.6.5 Overall city temperatures will be reduced by using environmentally friendly material, example more glass buildings. ✓

The introduction of a policy in which greater emphasis is placed on greenbelts, parks, gardens and roof gardens, thereby purifying the air. ✓

(accept any other reasonable answers) (2 x1) (2)

3.6.6 Traffic Congestion:

Construct by passes to divert traffic away from built up areas. ✓✓
Decentralize commercial functions. ✓✓
Develop new towns and edge cities ✓✓
Stagger working hours in order to reduce mass flow traffic at the same time. ✓✓
Make shopping hours more flexible ✓✓
Subsidize the cost of public transport ✓✓
Organize lift clubs ✓✓
Create separate lanes for buses and taxis ✓✓

AND**Overcrowding:**

Informal trading can be controlled by the establishment of stalls and markets. ✓✓
Decentralize commercial, functions, to reduce the number of people entering the CBD. ✓✓
The development of New towns will reduce overcrowding in the major cities. ✓✓
Large scale rural development projects will reduce rural urban migration. ✓✓
To focus on inner city renewal.

Any FOUR. Must include traffic congestion and overcrowding. (4 x 2) (8)

[75]**TOTAL MARKS: 225**