

GEOGRAPHY PAPER 2

EXPECTED ANSWERS

MAPWORK

1.

1.1 Butte

1.2 Sparse natural vegetation

1.3 North easterly

1.4 Dendritic

1.5 Soil erosion

2.

2.1 map distance = 7.5 cm

$$\text{Scale} = 1\text{cm} \longrightarrow 0.5\text{km}$$

$$\text{SLD} = \text{MD} \times \text{Scale}$$

$$= 7.5 \times 0.5\text{km}$$

$$= \underline{3.75 \text{ km}}$$

$$\begin{aligned} 2.2 \quad \text{Gradient} &= \text{VI/HE} \\ &= 247.7/2550 \\ &= 1 : 10.29 \\ &= \underline{1 : 10} \end{aligned}$$

$$\begin{aligned} \text{VI} &= 1289.7 - 1042\text{m} \\ &= \underline{247.7\text{m}} \\ \text{HE} &= 5.1 \times 500\text{m} \\ &= \underline{2560\text{m}} \end{aligned}$$

2.3 Unclear extract – however the following is drawn from the original topo map of Ladysmith.

$$\begin{aligned} 2.4 \quad \text{VE} &= \text{VS/HS} \\ &= \frac{1/50}{1/500} \\ &= 500/50 \\ &= \underline{10\text{x}} \end{aligned}$$

$$\begin{aligned} &1 : 50\,000 \\ &= \frac{1}{50\,000} \\ &= \frac{1}{500} \end{aligned}$$

$$\begin{aligned} 2.5 \quad \text{Area} &= \text{L} \times \text{B} \\ &= (15.6 \times 0.5 \text{ km}) \times (7.1 \times 0.5 \text{ km}) \end{aligned}$$

= 7.8 km x 3.55 km

= 27.69 km²

3.

3.1 Crop cultivation (G6) (G7) (J1; J2)

Pastoral/Stock farming indicated by tracked footpaths (G7/8, H10) (J2/3/4, I2/3)

Forestry/woodland(around Table Hill, I and J 3/4)

Mining (diggings – G6, H9)

3.2 (a) Crop cultivation

(b) Forestry

(c) Pastoral/Stock Farming

3.3 Soil erosion

3.4 (a) Increases cost of production as former needs to purchase top soil/fertilizers to improve fertility. This makes raw materials expensive and adversely affects prices down the production line to the consumers.

(b) More run – off less infiltration – less ground water build up – increases desertification.

3.5 – build anti erosion walls

- increase vegetation – plant trees in catchment areas.

3.6 Precaution against destruction of whole forests in event of fire

4.

4.1 Steep terrain – cheaper to construct tunnel through part of mesa/butte than go all the way around.

4.2 Easterly to south – easterly

- braided stream – points in direction of flow (G7)

- angle at which tributaries join – also indicate flow – (although not clear in above extracts)

- gradient – 976m in G7; ± 960m in G10

4.3 No – perennial – continuous blue (not broken blue)

4.4 Q – meander(loop)

4.5 Loop may be cut – off as the river straightens its course, leaving behind an ox – bowl lake.

4.6 That land – contours far apart – easier and cheaper to farm.

Water for irrigation – Klip River.

5.

5.1 a. Water from Klip River available for processing.

b. multiple track railways and secondary roads link area to larger urban regions.

c. Dense rural population – abundant skilled and semi – skilled labour supply.

d. Dense local population as well as proximity to large urban areas linked by well established transport routes increase buying power of products manufactured here.

* mean annual change = 8'

* Difference in years = 2009 – 2001

= 8yrs

Remember: 1° = 60'

5.2

5.2.1 Clustered/Nucleated

5.2.2 Dry point – located on steeper/higher slopes away from river and flood plain.

5.2.3 Sharing of equipment/ideas. Good source life. Security.

5.3

5.3.1 Close to industrial areas.

Away from urban areas – outskirts.

5.3.2 Group Areas Act

5.3.3 Residential areas should not be so close to heavy industrial areas – respiratory problems associated with pollution and added challenge of traffic congestion – heavy vehicles in the residential areas.

5.3.4 Yes – many schools; colleges.

6.

6.1 Mean Magnetic Declination = MD ± (Mac x yrs)

$$= 21^{\circ}03' + (8' \times 8)$$

$$= 21^{\circ}03' + 64'$$

$$= 21^{\circ} (3' + 64') = 21^{\circ} (67')$$

7. GIS and Map Projections

7.1 GIS – Geographic Information System is a tool/instrument using computer technology to pose, analyse and answer geographical queries/questions.

7.2 Vector Data – representation of information of the real world using points, lines and polygons (on maps).

Raster Data – representation of real world information using grid cells (pixels) – each block/cell represents a small square of geographic space.

7.3 Hardware (computers and printers, etc.)

Software (computer programs)

Data (information from the real world)

Use (person collating, analyzing data)

7.4 Check on existing location (street, etc.). Establish accessibility to population of area.
Proximity to public transport systems – taxi and bus rank.

7.5 Representation of the spherical earth (globe) which is multidimensional on to a flat piece of paper (2D).

7.6 Gauss Conformal.

7.7 **Advantage:** scale, shape, size, direction – high degree of accuracy along central meridian used.

Disadvantage: away from central meridian used – becomes distorted with regard to scale, shape, etc.