Lesson Description

In this lesson we:

- Analyse and Interpret map information using conventional symbols
- Focus on:
  - Direction: True and Magnetic bearing
  - Distance: measuring distances and converting to ground distance along a straight line
  - Landforms and contours

Challenge Question

Why do the main runways at Cape Town International airport face south east and North West?

Summary

Analysis and Interpretation

Rivers

- Always study the rivers on the map. If there are non perennial rivers (dashed blue lines) this would suggest that the area experiences seasonal rainfall.
- The direction of flow can be interpreted by contour lines.
- (A river valley has v-shaped contours that point upstream).
- Spot heights along the river course will determine the direction of flow.
- Dam walls are generally found on the downstream side of the dam.

Landscapes

- When contours are close together, indicates a steep slope.
- When contours are far apart, indicates a gentle slope.
- NB. Roads will take a direct route over a mountain, while a railway line in steep terrain will follow a zigzag path as it follows the contours of the mountain.

Test Yourself

Refer to the Topographical map of Three Sisters.

Question 1

The map index/reference of the topographical map to the south of Three Sisters is...

A 3123CA.
B 3123CB.
C 3223AA.
D 3224AA.
Question 2
The direction of Δ14 [B1] from Three sisters [C3] is...
A north.
B north west
C west of north west
D west

Question 3
Three Sisters is a/an ... town
A industrial
B recreational
C mining
D dormitory

Question 4
The contour interval on the map is ... metres
A 5
B 10
C 15
D 20

Question 5
Δ14 in B1 is ... metres above sea level.
A 1298
B 1353,0
C 14
D 1340

Question 6
The natural feature in B5 is a ...
A non perennial water course.
B dry water course.
C dry pan.
D marsh and vlei.
Question 7

The direction of flow of the dry water course of the Kareespruit in block B5 as it exits the block is … .

A  west
B  south west
C  south
D  west of south west

Exam Questions

Question 1

Refer to the map of Three Sisters

Climatology and Geomorphology

1.1 Identify a conventional symbol on the map that suggests there is a scarcity of water in this area (1 x 1) (1)

1.2 Give a block reference of this conventional symbol. (1 x 1) (1)

1.3 Study the conventional symbol of the small black lines to the south of the buildings in [C3]
   (a) Identify this conventional symbol. (1 x 1) (1)
   (b) Explain what this conventional symbol suggests about farming in this area (answer to QUESTION 1.3 a). (1 x 2) (2)

1.4 (a) Identify the landform in [C6]. (1 x 1) (1)
   (b) List ONE positive and ONE negative characteristic that is associated with this landforms. (2 x 2) (4)

1.5 Give a reason for the road and railway line following the same route in [D1] (1 x 2) (2)

1.6 Calculate the walking distance of the track and hiking trail leading from the national route [B2] to the non perennial stream in [B1]. (4 x 1) (4)

1.7 Calculate the MAGNETIC BEARING of Δ44 [E7] from Δ151 [D5] for the present year. (5 x 1) (5)

   Mean Magnetic Declination. 21.5° west of true north (2003).

   Mean Annual Change 2° westwards

1.8 Draw a rough cross section to suggest the shape of the landscape from the diggings [B6] to spot height 1456. (4 x 1) (4)
Answers

Challenge Question
The orientation of runways at an airport are always determined by the prevailing wind
(An aeroplane/aircraft takes off and lands into the wind)
The most common winds in this area are the south easters and north westerlies

Test Yourself
1.1 C
1.2 B
1.3 B
1.4 D
1.5 B
1.6 B
1.7 B

Exam Questions

Question 1
1.1 windmill (1)
1.2 B2 (1)
   ACCEPT OTHER possible answers
1.3 (a) Fence/ Wall (1)
    (b) No cultivated areas (2)
   ACCEPT OTHER farms are abandoned, farm boundaries use to exist
1.4 (a) conical hill (pointed butte) (1)
    (b) Tourist attraction (2)
    Make the construction of roads and railways difficult (2)
1.5 Follow the shape of the slope/dry pan water course (2)
    Falls between a provincial boundary (2)
    The contours are generally gentle (2)
    (ANY ONE REASON).