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Support Pack | Grade 12

CAPS

Geography

Geomorphology

This support pack for the **Geomorphology** topic in the **Geography Grade 12 CAPS curriculum** provides valuable practical activities. All activities have the answers provided. Learners can work through these individually at home or these could form the basis of a catch-up class or online lesson. You have permission to print or photocopy this document or distribute it electronically via email or WhatsApp.

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We are all in this together!

Geomorphology

QUESTION 1

Refer to Figure 2.36, and then answer the questions that follow.

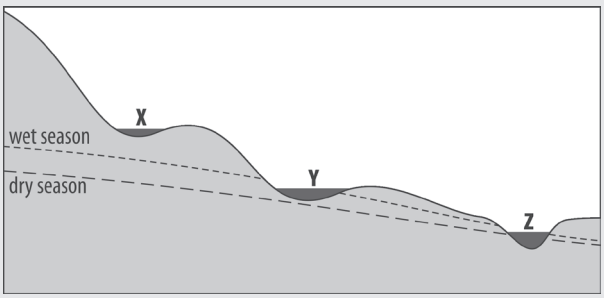

Figure 2.36 Different types of rivers

1. Match X, Y and Z to these labels: periodic river, episodic river, permanent/perennial river. (3×1)
2. Are these river profiles transverse or longitudinal? (1)

[4]

QUESTION 2

Read the extract on the Orange (Gariep) River below. Then, answer the questions that follow.

1. What is the Orange (Gariep) River called in Lesotho? (1)
2. Name the Orange (Gariep) River's main tributary. (1)
3. Give the name for a large river that flows through desert – like the Orange (Gariep) River does. (1)
4. Is the river profile shown in Figure 2.37 below transverse or longitudinal? (1)
5. On the river's profile, identify:
   - **a)** a knickpoint (1)
   - **b)** the permanent base level (1)
   - **c)** some temporary base levels (3×1)
   - **d)** the section of the river that has a graded profile. (1)
6. Explain these terms:
   - **a)** rapids (2)
   - **b)** braided (2)
   - **c)** delta (2)
   - **d)** alluvial. (2)
7. Describe two ways in which the Orange (Gariep) River is under pressure (indirectly referred to in the extract), and suggest management strategies or solutions. (8)

[26]

[Total: 30 marks]

The Orange (Gariep) River: South Africa's biggest river

The Orange (Gariep) River is South Africa's main river. It rises in the Maluti Mountains of Lesotho, flows south-west through Lesotho, meanders north-west and then west across South Africa, and finally flows through parts of the Kalahari and Namib Deserts, where it then enters the Atlantic Ocean at Oranjemund. In very dry years, it does not reach the sea.

Navigation on the river is limited due to rapids, falls, and shoals (sandbanks) in braided sections of the river.

The river provides water for irrigation and municipal use, and it generates hydroelectricity. The construction of the Vanderkloof Dam has made it possible to turn thousands of hectares of arid land into productive land. Via transfer schemes, tunnels divert water to the Great Fish and Sundays Rivers. The river mouth contains rich alluvial diamond deposits and forms a delta-type wetland.

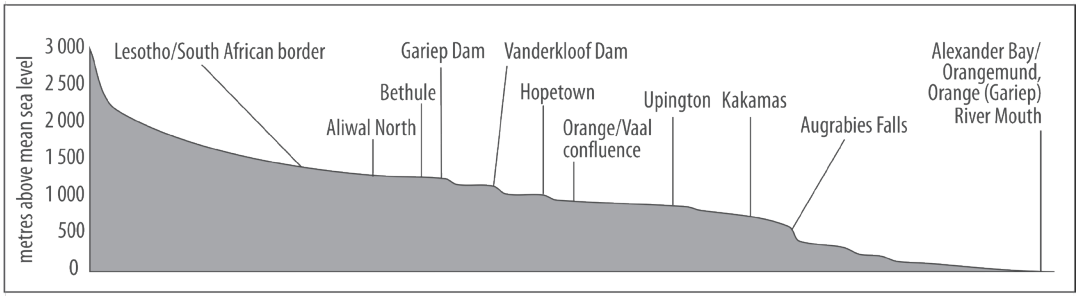

Figure 2.37 The Orange (Gariep) River Basin profile

(*Source:* Adapted from www.encyclopedia.com; www.orangessenqurak.org)

Answers

QUESTION 1

1. X = episodic river ✓
Y = periodic river ✓
Z = permanent/perennial river ✓ (3×1)

2. transverse ✓ (1)

[4]

QUESTION 2

1. Senqu ✓ (1)

2. the Vaal River ✓ (1)

3. exotic river ✓ (1)

4. longitudinal ✓ (1)

5. **a)** Augrabies Falls ✓ (1)
b) Orange River Mouth ✓ (1)
c) Gariep Dam ✓; Vanderkloof Dam ✓; Augrabies Falls ✓ (3×1)
d) the Lesotho section of the river ✓ (1)

6. **a)** rapids: fast-flowing, rough sections of the river that are usually stepped, and littered with rock obstacles ✓✓ (2)
b) braided: contains islands of sand deposits ✓✓ (2)
c) delta: sandbars or land formed by silt deposits at a river's mouth ✓✓ (2)
d) alluvial: relating to the fine mineral-rich soil/silt deposited by rivers ✓✓ (2)

7. Way 1: The river is heavily drawn for water (for irrigation, municipal use and hydroelectricity) ✓. Dam construction and transfer schemes reduce the river's discharge/flow patterns – this may explain why the water does not reach the river mouth in dry years ✓. With changes in river flow patterns, the balance of erosion and deposition changes.
Way 2: The river mouth is mined for diamonds ✓. Mechanical activity such as dredging and scouring has severely damaged the wetland habitat of the river delta ✓.
Management strategies or solutions include:

- Regarding water use: strict monitoring of water use ✓; equitable sharing of water resources ✓; where possible, reducing water wastage ✓; environmental impact assessments for dams or water projects ✓ (any three)
- Regarding wetland damage: rehabilitation of the wetlands to restore or conserve plant and animal biodiversity ✓. (8)

[26]

[Total: 30 marks]