8.4 Sustainable and Small-Scale Water Supply Solutions: 10-minute Pack

AQA 8035 · Calculators not allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Define the term 'appropriate technology' as used in small-scale water supply projects in rural areas.

(Total for Question 1 is 1 mark)

2 Describe how a hand pump on a shallow well provides water to a rural community and one maintenance need for hand pumps.

(Total for Question 2 is 1 mark)

3 Give ONE social benefit of installing community-managed hand pumps in a rural area of an LIC.

(Total for Question 3 is 1 mark)

4 Name TWO water-conservation measures that can reduce domestic water demand in a small town.

(Total for Question 4 is 2 marks)

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5 Describe how drip irrigation conserves water compared with traditional flood irrigation on smallholder farms.

(Total for Question 5 is 2 marks)

6 Name a small-scale water-supply scheme in Kitui County, Kenya, and state the main objective of that community rainwater-harvesting project.

(Total for Question 6 is 2 marks)

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Mark scheme · 8.4 Sustainable and Small-Scale Water Supply Solutions: 10-minute Pack

Question 1

technology that is low-cost, simple to use and maintain and suited to the local social and environmental context, oe **B1**

Answer: Technology that is low-cost, simple to use and maintain and suited to the local social and environmental context.

Question 2

a pump is operated by people to lift groundwater from a shallow well to the surface through a cylinder and piston or lever system, oe **B1**

Answer: A pump is operated by people to lift groundwater from a shallow well to the surface through a cylinder and piston or lever system; it needs regular lubrication and replacement of seals or washers as maintenance.

Question 3

reduced time spent collecting water, often freeing children or women for education or other activities, oe **B1**

Answer: Reduced time spent collecting water, often freeing children or women to attend school or earn income.

Question 4

installing water-efficient fittings, e.g. low-flow taps or dual-flush toilets, oe **B1**

grey-water recycling for garden irrigation or flushing, oe **B1**

Answer: Installing water-efficient fittings such as low-flow taps or dual-flush toilets; grey-water recycling for garden irrigation or flushing.

Question 5

drip irrigation delivers water slowly to the plant roots through pipes or emitters, reducing evaporation and runoff, oe **B1**

it applies water only where needed so uses less water than flooding whole fields, oe **B1**

Answer: Drip irrigation delivers water slowly to plant roots through pipes or emitters, reducing evaporation and runoff, and applies water only where needed so it uses less water than flooding whole fields.

Question 6

named scheme, e.g. community rainwater-harvesting projects in Kitui County, Kenya, oe **B1**

objective, e.g. to capture and store seasonal rains to increase household water supply and reduce time spent collecting water, oe **B1**

Answer: Community rainwater-harvesting projects in Kitui County, Kenya; their main objective is to capture and store seasonal rains to increase household water supply and reduce time spent collecting water.

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