

Name _____



Shrewsbury School

SHREWSBURY SCHOOL

SIXTH FORM ENTRANCE EXAMINATION 2010

GEOGRAPHY (1 hour)

Instructions to candidates:

Answer **Question 1** and **two** others. Answer on the question paper.

Total marks: 65

Compulsory question

I. Fieldwork

Read the below extract and then answer the questions.

To measure the discharge of a river it is important to collect accurate data. On your chosen river or stream select a stretch or reach of river 10m long. Mark the start and finish of this reach. Next at meter intervals measure the width of channel in which the water is flowing, and the average depth of the water.

Now using a float that floats just below the surface of the water, time how long it takes for the float to travel the length of your reach. Repeat this three times.

Ensure that you are consistent with units.

To calculate the discharge of the river use the following equation:

$$\text{Discharge (Q)} = \text{ave width (w)} \times \text{ave depth (d)} \times \text{ave velocity (v)}$$

(ave = average)

a. How would you measure the average depth of the water in the channel?

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(3)

b. Why measure the width of the reach at every meter?

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(2)

c. Why is it important to have a float that floats just below the surface of the water?

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(2)

d. Why is it suggested that the float is timed three times?

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(3)

e. If you were doing this piece of fieldwork in a group of 4 how would you allocate the jobs?

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(3)

Table 1: widths and depths of a 10m channel reach

	0m	1m	2m	3m	4m	5m	6m	7m	8m	9m	ave
w(m)	3.4	3.6	5.4	5.1	4.0	3.5	5.1	2.9	3.5	3.5	
d(m)	0.2	0.3	0.1	0.1	0.3	0.3	0.1	0.6	0.5	0.5	

Table 2: timing of a float over the 10m channel reach

	Float 1	Float 2	Float 3	ave
time	1 min 40secs	2 min 20sec	2mins 0 secs	

f. What is the average reach width?

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(1)

g. What is the average reach depth?

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(1)

h. What is the average float time in seconds?

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(2)

i. What is the discharge of the stream in m³/sec?

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(3)

3. Greenhouse Effect



a. What is this cartoon trying to show?

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(2)

b. Describe the 'Greenhouse Effect'?

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4. Globalisation

Read the following article:

Yesterday I went to watch Manchester United play Barcelona at Old Trafford, apart from Wayne Rooney there wasn't a single English player on the pitch. Most of the players wore Adidas or Nike football boots and the Manchester United players had AIG emblazoned across the front of their shirts. At half time I phoned my friend on my Nokia phone to tell him the score, he told me to be quick because he was on a Thompson's package holiday in The Maldives.

After the game I collected my Nissan Micra from the club car-park and went to a drive-through McDonalds to buy a burger. I then quickly called into Asda to buy a new pair of jeans, which I noticed were made in China. I then was home just in time to enjoy the highlights of the game on my Sony TV, before I went to sleep in my IKEA bed.

a. List the different global brands mentioned in this article?

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(3)

b. What is meant by the term 'globalisation'?

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(2)

c. With reference to either football or the fashion industry describe and explain how globalisation has affected it.

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(5)

d. Complete the table below to show the advantages and disadvantage of living in a global world to the UK

Advantages	Disadvantages

Advantages	Disadvantages

5. Energy

The government says it has identified eight potential sites in England and Wales for new nuclear power stations by 2025.

The following are earmarked for possible new nuclear plants: Bradwell in Essex; Hartlepool; Heysham in Lancashire; Hinkley Point in Somerset; Oldbury in Gloucestershire; Sellafield in Cumbria; Sizewell in Suffolk and Wylfa on the Isle of Anglesey. All are the sites of existing or former nuclear plants and are all located in coastal areas. Developments will only get the go-ahead following consultation with residents and environmental groups and when planning permission is given.

As the Scottish government is opposed to future nuclear expansion, existing plants north of the border - Hunterston and Torness - are not on the list.

The last government came out strongly in favour of a new generation of privately built plants to replace Britain's ageing reactors and the coalition government has broadly endorsed this policy. Existing nuclear power stations, which provide 20% of UK electricity, are scheduled to close over the next 20 years or so. Ministers believe they need to be replaced by 2025 to ensure Britain is not over-dependent on foreign sources of energy, such as the Middle East or Russia, as North Sea oil and gas runs out. Nuclear energy is also seen as a way of helping Britain meet its carbon reduction targets and fight climate change.

The government is planning a huge expansion of wind farms and other forms of renewable energy but it believes there should be a mix of electricity generating methods to ensure continuity of supply.

BBC News 19/10/10

a. Why are ministers proposing to build 8 new nuclear reactors?

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(5)

b. What are the similarities between all eight proposed nuclear reactor sites?

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c. The Scottish government is not in favour of nuclear power. Suggest reasons for this.

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(5)

- d. The article proposes the expansion of alternative types of energy like wind power. Complete the below table on the advantages and disadvantages of wind energy:

Advantages	Disadvantages

6. Rainforest

A project to sustain an area of African tropical forest the size of Wales has been launched by Prince Charles on a visit to Carmarthenshire. The "Size of Wales" scheme encourages people to do conservation work and make donations towards their running. The prince, who is on a tour of Britain to promote his ideas for a greener lifestyle, visited the National Botanic Garden of Wales in Llanarthne. He said he wanted to help people create a world that "we all want to live in".

"An area the size of Wales (every year) is frequently used to measure the rate of forest destruction around the world," said Size of Wales project manager. "This project turns the negative use of our nation's size on its head, and encourages people to help protect an area of rainforest equivalent to the size of Wales. "This is the first country in the world to mobilise such a unique national response to the problem of forest destruction and climate change. By protecting two million hectares of rainforest, we hope to make lasting links with forest projects in Africa."

Students from Lampeter are currently working in Bore, Kenya. The community of Bore is located on the equator and is seen as an ideal place to plant trees as a "carbon sink". More than 7,000 cashew trees have been planted, providing food and livelihoods for the local community.

Llandrindod Wells is supporting Africa Greater Life Mission (AGLM) in Wakiso, Uganda. Building on a biodiversity project developed in partnership with Makerere University, the group from Powys is in the early stages of implementing a community forest project.

Meanwhile, PONT (Partnerships Overseas Networking Trust), a charity linking Pontypridd with Mbale in Uganda, is planting nearly one million trees.

BBC 7.9.10

- a. The Prince of Wales talked about 'greener lifestyles'. What are these likely to be?

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(5)

e. Name three specific areas of African Tropical Rain forest.

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