UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

ENVIRONMENTAL MANAGEMENT **0680/23**

Paper 2 **October/November 2012**

1 hour 45 minutes

Candidates answer on the Question Paper.

Additional Materials: Ruler

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **both** questions.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

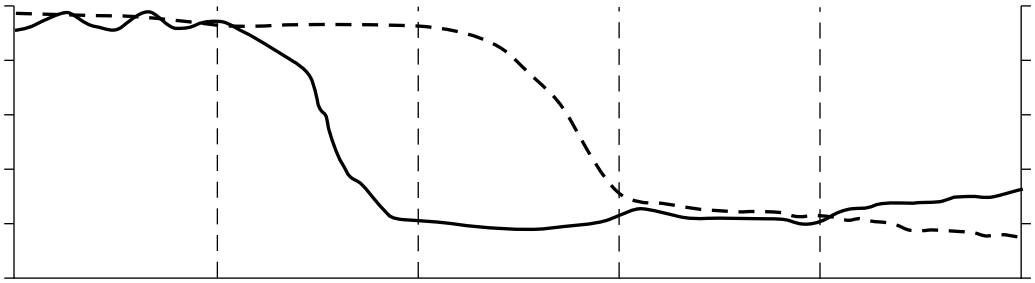
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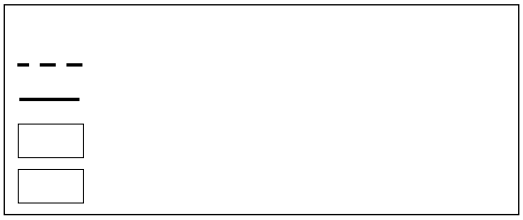
This document consists of **14** printed pages and **2** blank pages.

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1 **(a)** Over the past 200 years countries have passed through the stages of the Demographic Transition Model at different rates. The diagram shows the stages in the Demographic Transition Model for a country.

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(i) Look at the diagram. Give the stage number which matches each of these two descriptions:

fastest decrease in birth rate .....

fastest increase in rate of population growth ..... [2]

(ii) State one similarity and one difference between stage **1** and stage **4**.

similarity .....

.....

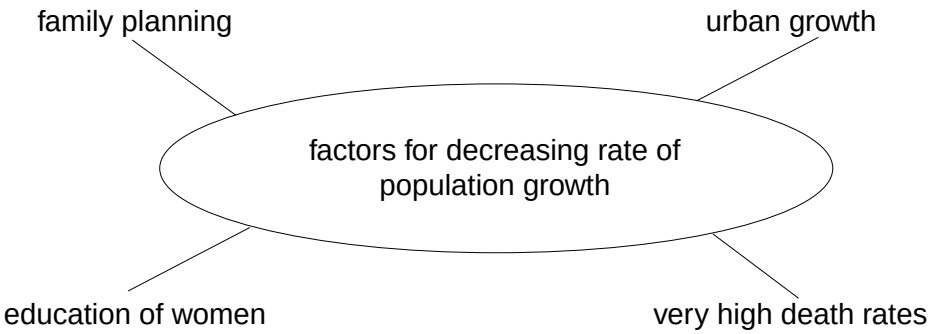
difference .....

.....[2]

(iii) On the graph, use two different types of shading to show where there are natural increases and natural decreases of population. Complete the key for the types of shading used. [3]

(b) The spider diagram shows factors which can decrease the rate of population growth in a country.

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(i) Choose three of these factors. For each factor, describe how it can decrease the rate of population growth in a country.

1 .....

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2 .....

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3 .....

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..... [6]

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(ii) Another factor which can affect the rate of population growth in a country is the policy of the government.

Look at the information box showing how national population policy changed in Iran between the early and late 1980s.

Population policy in Iran	
Early 1980s Islamic Revolution Ayatollah Khomeini's regime said that it was the duty of all Iranian citizens to have children and expand the population. Population in 1980 40 million Population estimate made in 1980 for 2005 100 million	Late 1980s Regime realised that it had made a mistake. Instead it introduced a policy to reduce population growth * contraception was made more widely available * couples were forced to attend family planning clinics before marriage * child benefits were stopped after three children Actual population in 2005 70 million

How and why did the population policy of the government change in Iran between the early and late 1980s?

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.....[2]

(iii) As a result of this change in policy, how big was the decrease in population between the number estimated in 1980 for 2005 and the actual population in 2005?

.....[1]

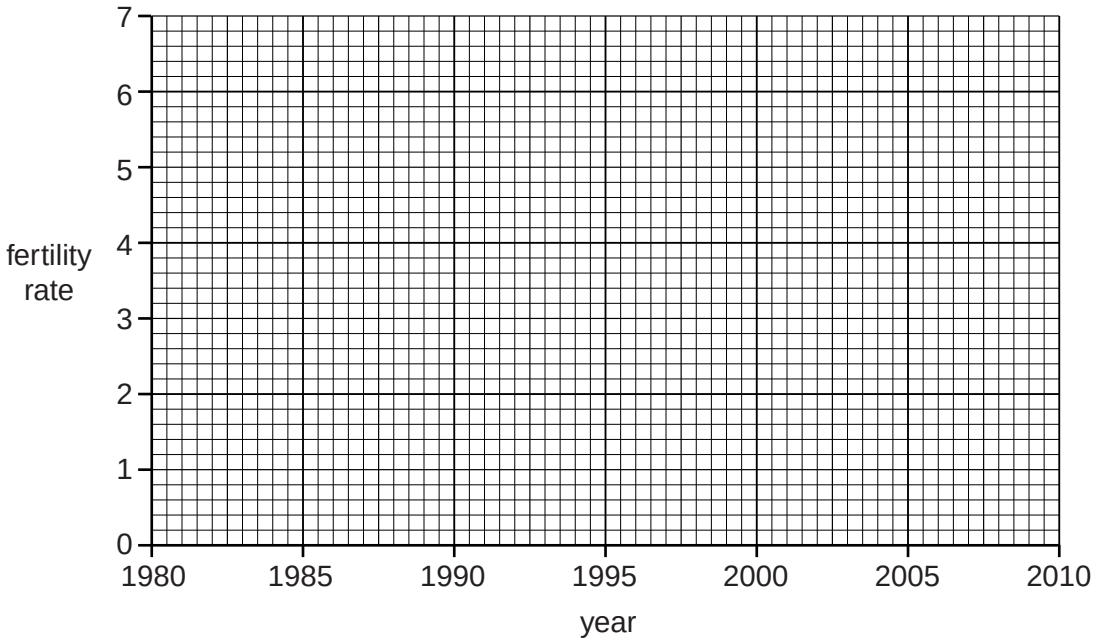
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(iv) Look at the data for fertility rates (average number of children per woman over her lifetime) in Iran between 1980 and 2010.

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year	1980	1985	1990	1995	2000	2005	2010
fertility rate	6.5	6.6	5.6	4.3	2.5	2.1	2.1

Draw a line graph to show the change in fertility rates in Iran from 1980 to 2010.



[3]

(v) Describe how the data and your graph show that fertility rates in Iran decreased most quickly during the 1990s.

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.....[2]

(vi) Suggest reasons why fertility rates decreased faster during the 1990s than after 2000.

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.....[2]

(c) Why do national population policies have a big effect on the size of population growth in countries? Explain as fully as you can. Use examples of countries with and without population policies to illustrate your answer.

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.....[5]

(d) **Population data for Iran (2005)**

birth rate	20.3 per 1000
death rate	5.2 per 1000
population under 15 years	28.7 per cent
population over 60 years	6.4 per cent

(i) What was the rate of natural increase per 1000 in Iran in 2005?

.....[1]

(ii) Look again at the Demographic Transition Model in part **(a)**.
In which stage does the example of Iran fit best? Explain your choice.

.....

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.....[2]

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(iii) Describe some of the economic and environmental effects of continued population growth for countries such as Iran.

economic .....

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environmental .....

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.....[4]

(e) Many people believe that the continued growth of world population is unsustainable.

(i) Why do they think this?

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(ii) Do you agree? Explain your views on this.

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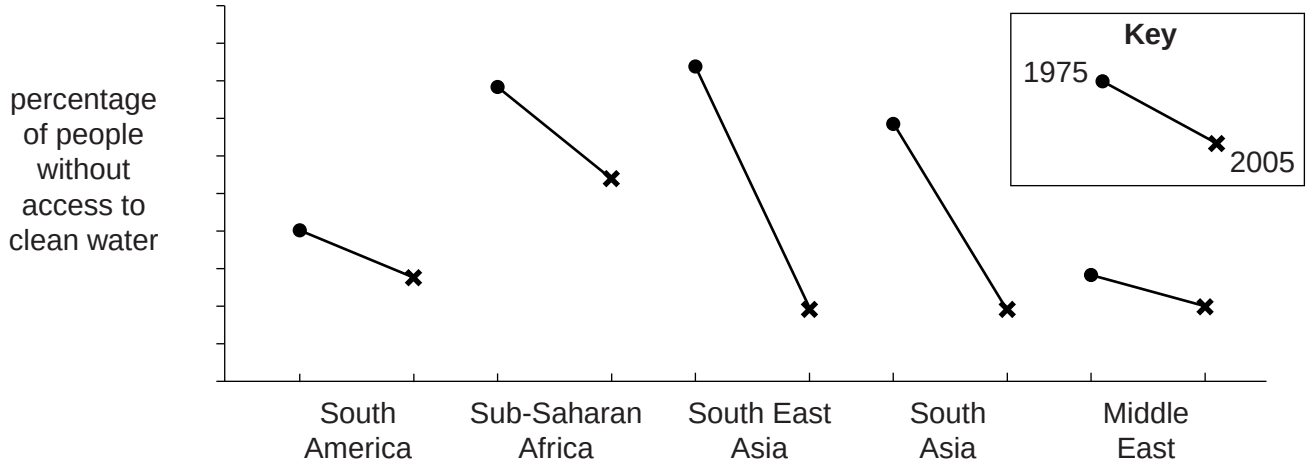
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[5]

[Total: 40]

2 **(a)** Look at the chart. It shows percentages of people without access to clean (safe) water in five regions of the developing world for 1975 and 2005.

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(i) From the chart, name the world region in which:

1. over 80 per cent of the people were without access to clean water in 1975;

   .....

2. the greatest percentage of people were without access to clean water in 2005;

   .....

3. there was the largest percentage increase of people with access to clean water between 1975 and 2005.

   .....

[3]

(ii) Using the chart, state how the Middle East is different from the other four regions.

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..... [1]

(iii) Suggest reasons why rates of improvement in access to clean water between 1975 and 2005 varied so greatly between developing world regions.

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..... [3]

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(b) People without access to clean water are the ones most at risk from water-related diseases.

The most widespread water-related diseases are:

bilharzia **cholera** **malaria** **typhoid**

(i) Which two of these diseases are water-borne, caught by people drinking unclean (polluted) water?

....[1]

(ii) Describe how the other two named water-related diseases are different from the water-borne ones.

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.....[2]

(iii) Some people die from water-related diseases. Which people and groups of people are most at risk and why?

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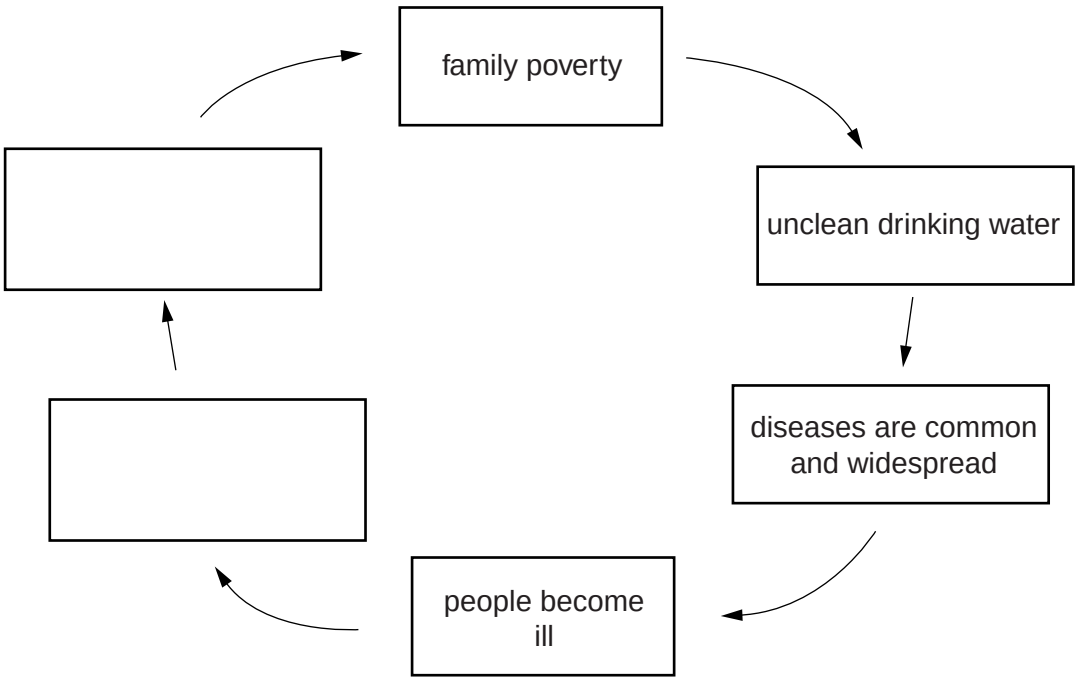
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.....[4]

(iv) Many other people feel ill and weak for long periods of the year. This contributes to the family poverty cycle.

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Complete the poverty cycle by filling in the two remaining boxes with suitable labels. [2]

(c) (i) Some people struggle to find enough water, and the water that they find is rarely clean.

Read this report from Practical Action, a NGO (non-governmental organisation) working in developing countries.

> For years, the people of Turkana in northern Kenya have suffered persistent periods of drought. In great heat, the women have to walk up to 10 km to dried-up river beds to find water for their families. The women are in danger of being attacked along the way. When they reach the river beds, they dig 'scoop holes' with their bare hands, uncovering small amounts of dirty, polluted water. They have no choice but to drink it.

Explain why the people of Turkana suffer from problems of both water shortage and water quality.

water shortage .....

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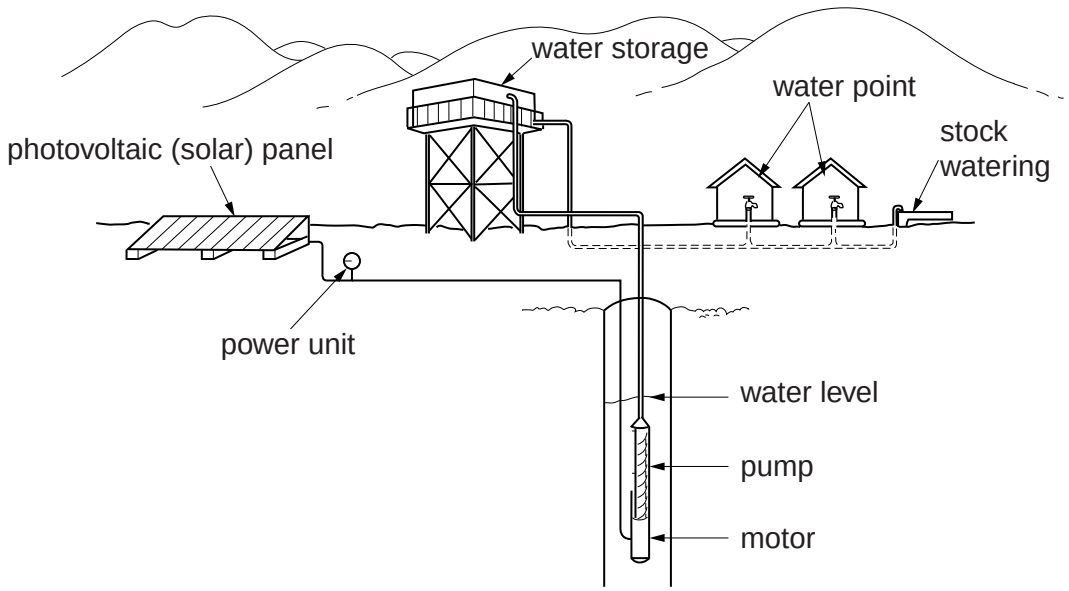
water quality .....

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..... [3]

(ii) Look at the diagram showing Practical Action's solution to this problem.

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Describe how the solution works to provide poor communities with water.

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.....[3]

(iii) Is this a sustainable solution to the problems of lack of water and poor water quality for poor people living in developing countries in the tropics?

Explain as fully as you can.

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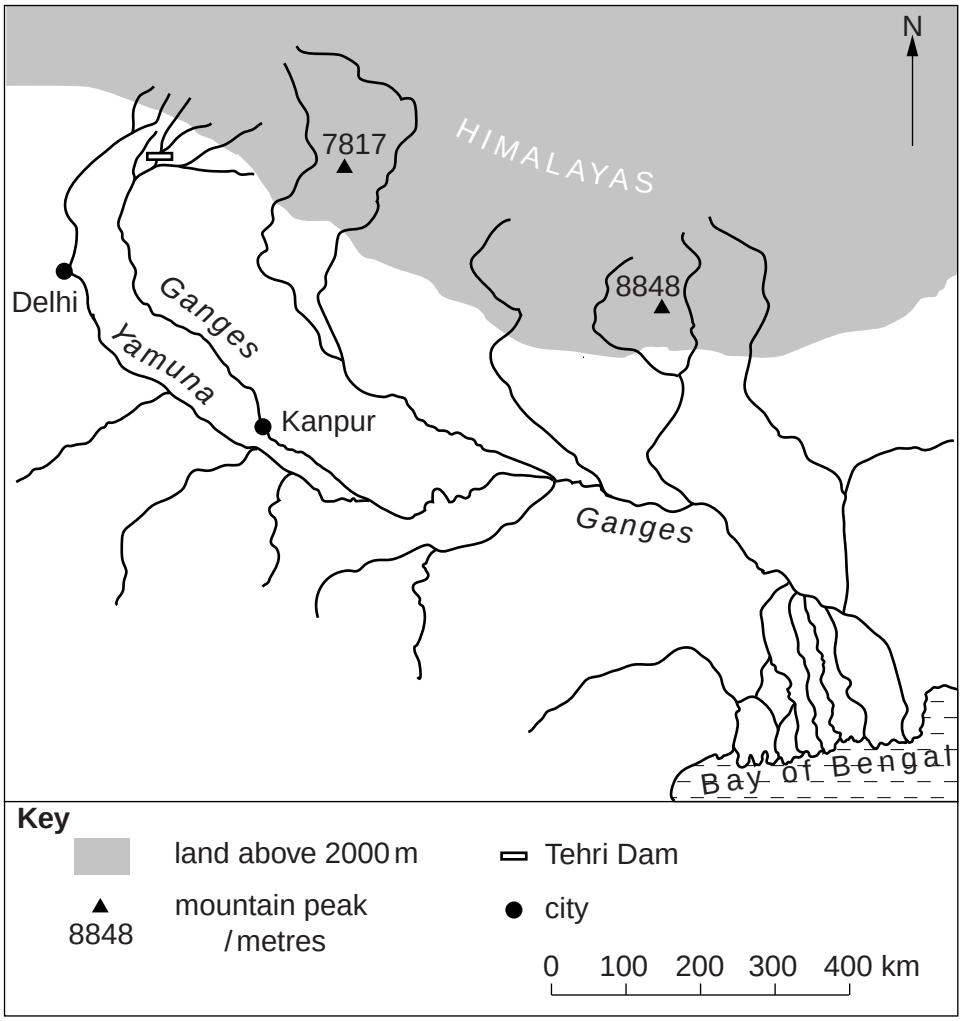
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.....[4]

(d) Look at the map of the River Ganges, India's largest river.

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Course of the River Ganges



(i) The map shows the location of the Tehri Dam, one of the largest in India, 265 m high with a reservoir 75 km long behind it.

Suggest reasons why this is a good location to build a large dam.

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..... [3]

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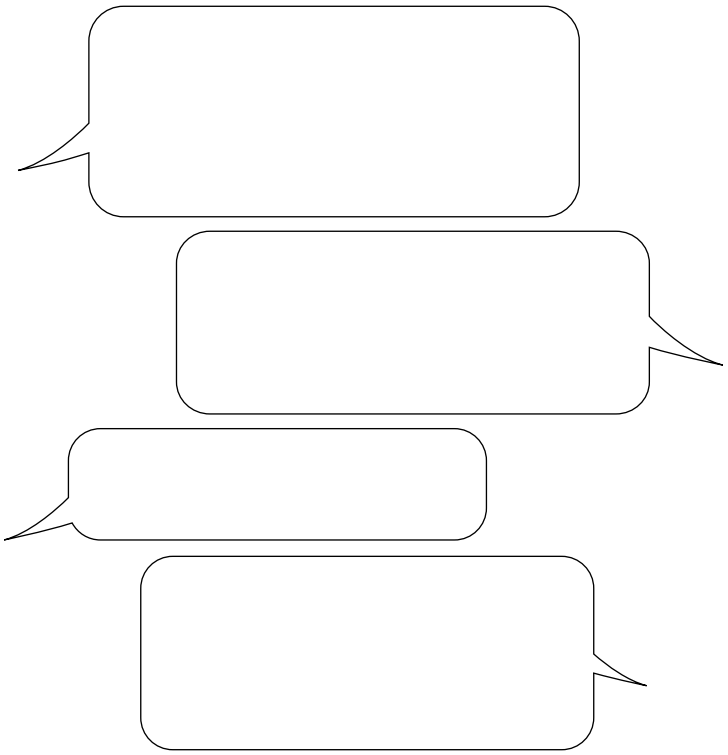
(ii) One of the main reasons for building the dam was to supply Delhi with clean drinking water.

Delhi is the capital city with a population of 16 million people.

Approximately how far is Delhi from the dam?

.....[1]

(iii) After the construction of the dam, the town of Tehri and many villages were flooded. More than 100 farming villages still remain in the area around the Tehri Dam. People living in these villages have found that the construction of the dam has interfered with the natural springs, their main source of water supply for living and farming.



Explain what the comments show about the economic and social disadvantages for local people of building large dams.

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.....[3]

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(iv) Why are the views of local people usually ignored when large dams are being planned?

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.....[2]

(v) Is the migration of people to Delhi a good way of dealing with the water problems of villages around the Tehri Dam? Explain your view on this.

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.....[2]

(vi) Between Tehri and Kanpur two large canals take river water from the Ganges for farm use. Kanpur is an industrial city with a population of over 3 million people. It is best known for tanning leather. Its 400 leather tanneries release 30 million litres of waste water back into the Ganges every year. This water is contaminated with chromium and chemical waste.

Building the Tehri dam has made environmental pollution worse in the River Ganges at and below Kanpur. Suggest reasons for this.

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.....[3]

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