



**Cambridge International Examinations**  
Cambridge International General Certificate of Secondary Education

CANDIDATE  
NAME

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CENTRE  
NUMBER

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**ENVIRONMENTAL MANAGEMENT**

**0680/21**

Paper 2

**October/November 2015**

**1 hour 45 minutes**

Candidates answer on the Question Paper.

No Additional Materials are required.

**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 an HB pencil for any diagrams or graphs.

Do not use staples, paper clips, glue or correction fluid.

**DO NOT WRITE IN ANY BARCODES.**

Answer **both** questions.

Electronic calculators may be used.

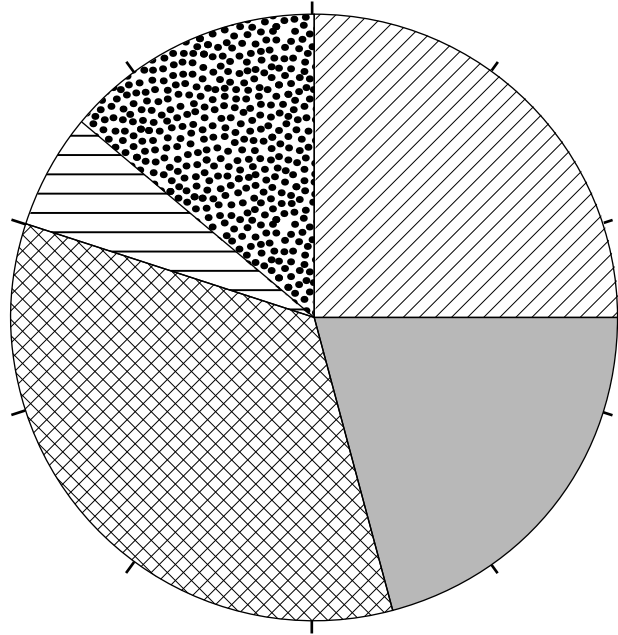
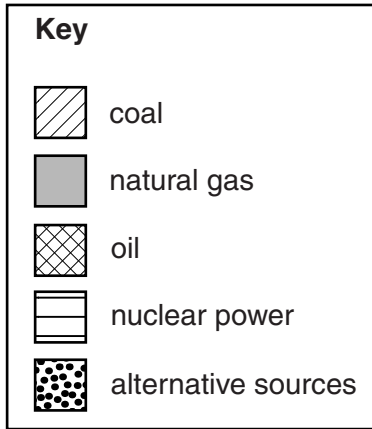
You may lose marks if you do not show your working or if you do not use appropriate units.

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.

This document consists of **16** printed pages.

- 1 (a) Look at the graph below which shows the percentage of world energy that came from different sources in 2013.



- (i) State the energy source that was used most in 2013.

.....[1]

- (ii) Calculate the percentage of world energy that came from fossil fuels in 2013.

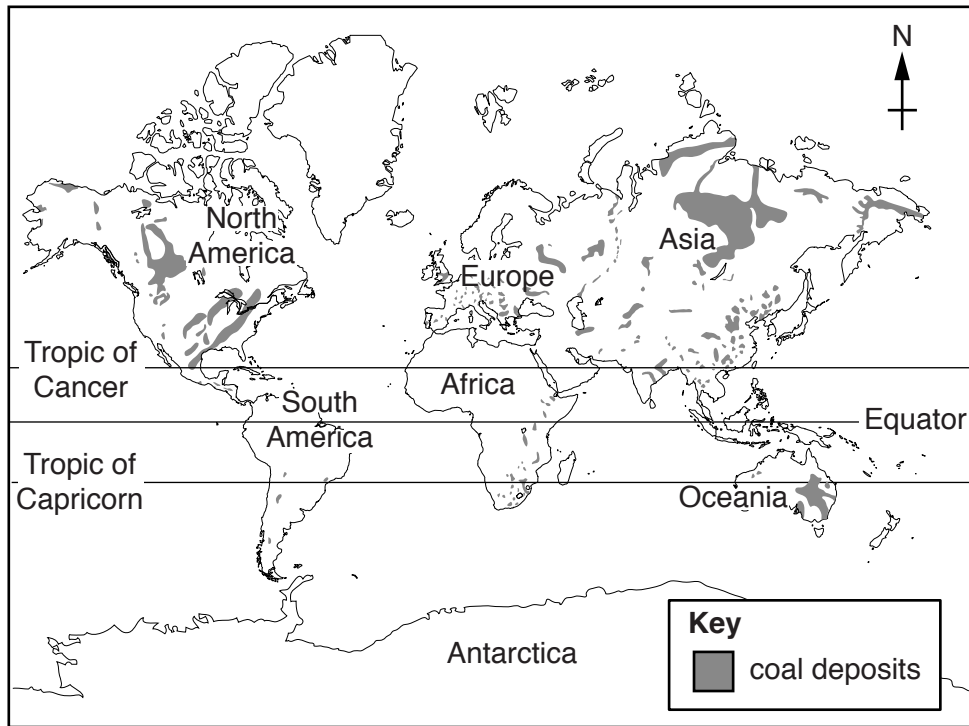
Space for working.

..... % [1]

- (iii) Using evidence from the graph, describe the contribution that alternative energy sources made to world energy in 2013.

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(b) Look at the map, which shows where coal deposits are found in the world.



(i) Describe the distribution of coal deposits shown on the map.

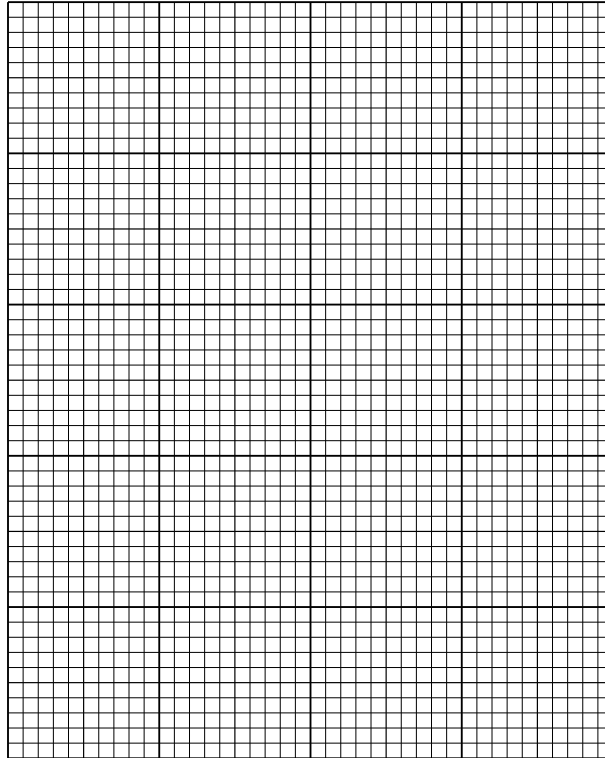
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(ii) Explain how coal was formed.

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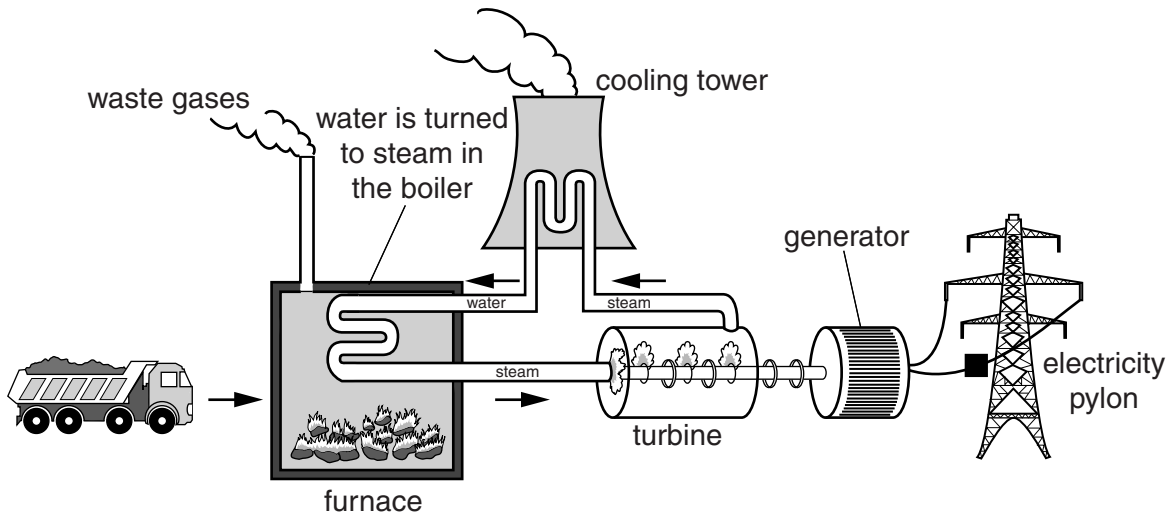
- (iii) The table shows information about how fossil fuels are used to generate electricity in the United States of America. Draw a bar graph on the grid below using the data in the table. Label your axes.

fossil fuel	percentage of electrical production
oil	2
gas	25
coal	42



[4]

(c) Look at the diagram, which shows a power station that produces electricity using coal.



(i) Using the diagram, explain how electricity is produced in the power station.

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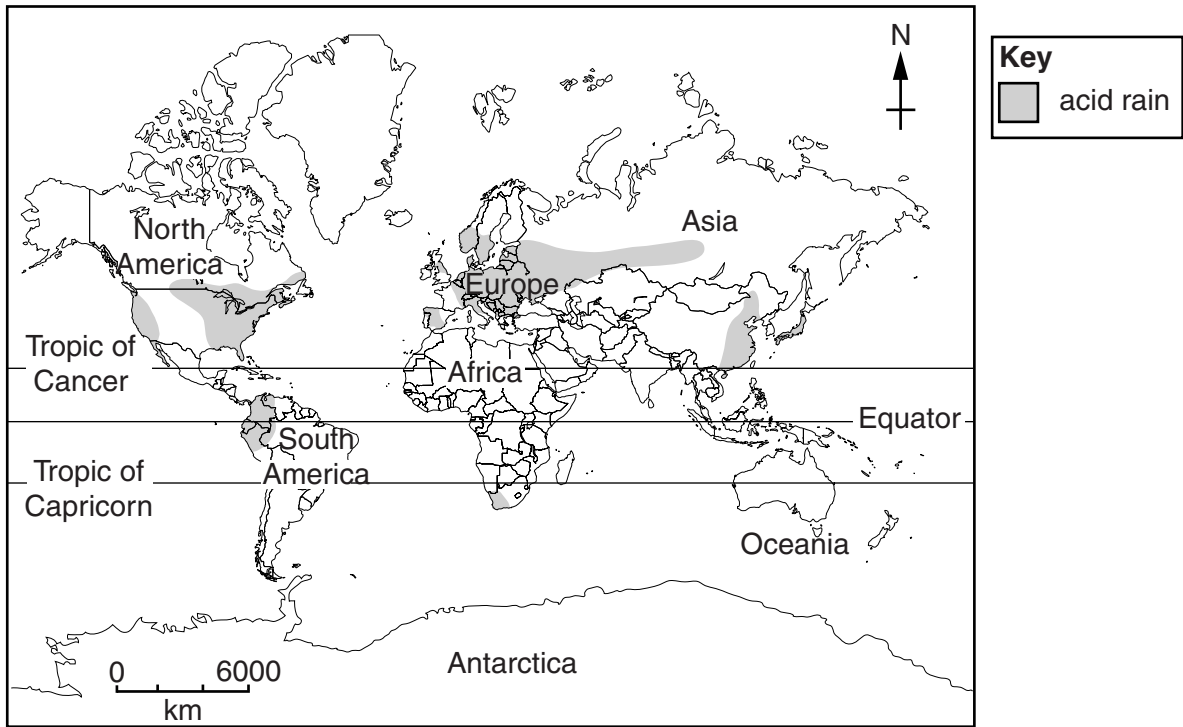
.....[3]

(ii) Suggest the environmental impacts a power station that uses coal might cause.

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(d) Look at the map below, which shows a world distribution of acid rain.



(i) Using the map, state the name of **two** continents which are affected by acid rain.

1 .....

2 ..... [2]

(ii) Using the map, identify **one** continent that is not affected by acid rain. Suggest a reason for this.

continent .....

reason .....

..... [2]

(iii) Explain how acid rain is formed.

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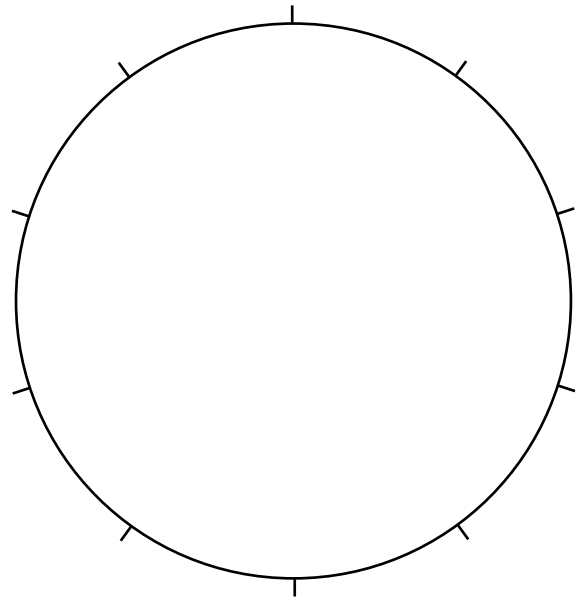


- 2 (a) (i) A student investigating soil types found out that a sample of soil contained the following particles.

soil particles	percentage composition
clay	70
sand	18
silt	12

Use this information to complete the pie graph and key below.

Key	
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[3]

- (ii) Suggest reasons why clay soils are often used as grazing land rather than for growing crops.

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.....[2]



(b) Look at the information below taken from a student textbook.

Parts of northern China experience some of the worst soil erosion in the world. The soil is being washed and blown away at a very rapid rate. It is estimated that 1.6 billion tonnes of soil reach the nearby Huang He River each year. Removal of natural vegetation to grow crops is thought to be one of the causes of this soil erosion.

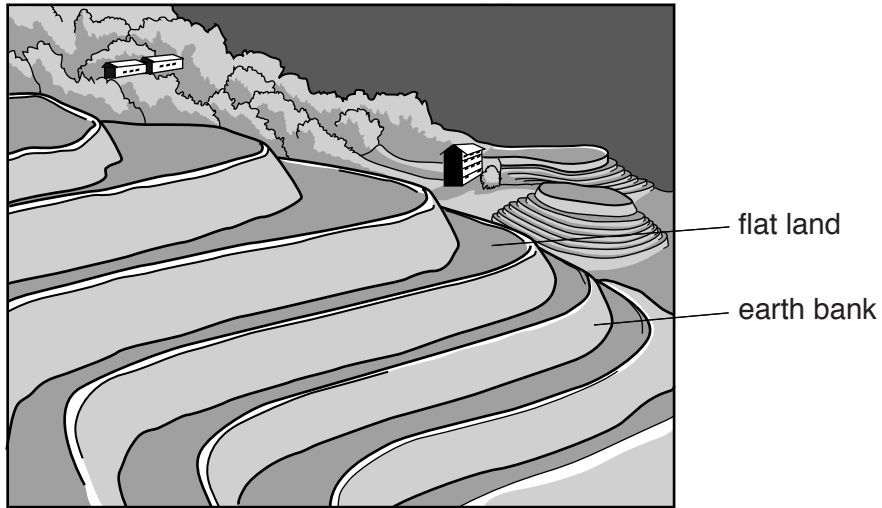
(i) Suggest reasons why the development of crop farming has led to soil erosion in northern China.

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(ii) Describe **two** ways, other than soil erosion, in which crop farming could damage the environment.

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.....[4]

(c) Look at the sketch below, which shows some terraced fields in Nepal.



(i) Suggest how the terracing shown in the sketch might help to prevent soil erosion.

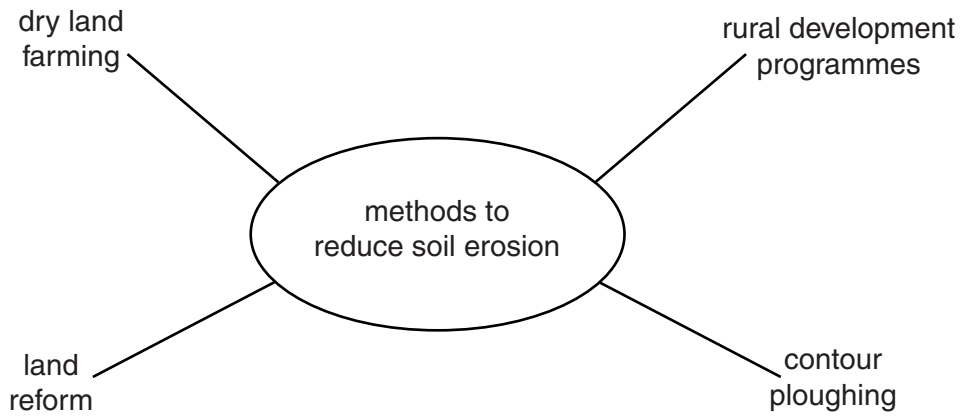
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(ii) Look at the diagram below, which shows other methods for preventing soil erosion.



Describe and explain how **two** of these methods help to reduce soil erosion.

method 1 .....

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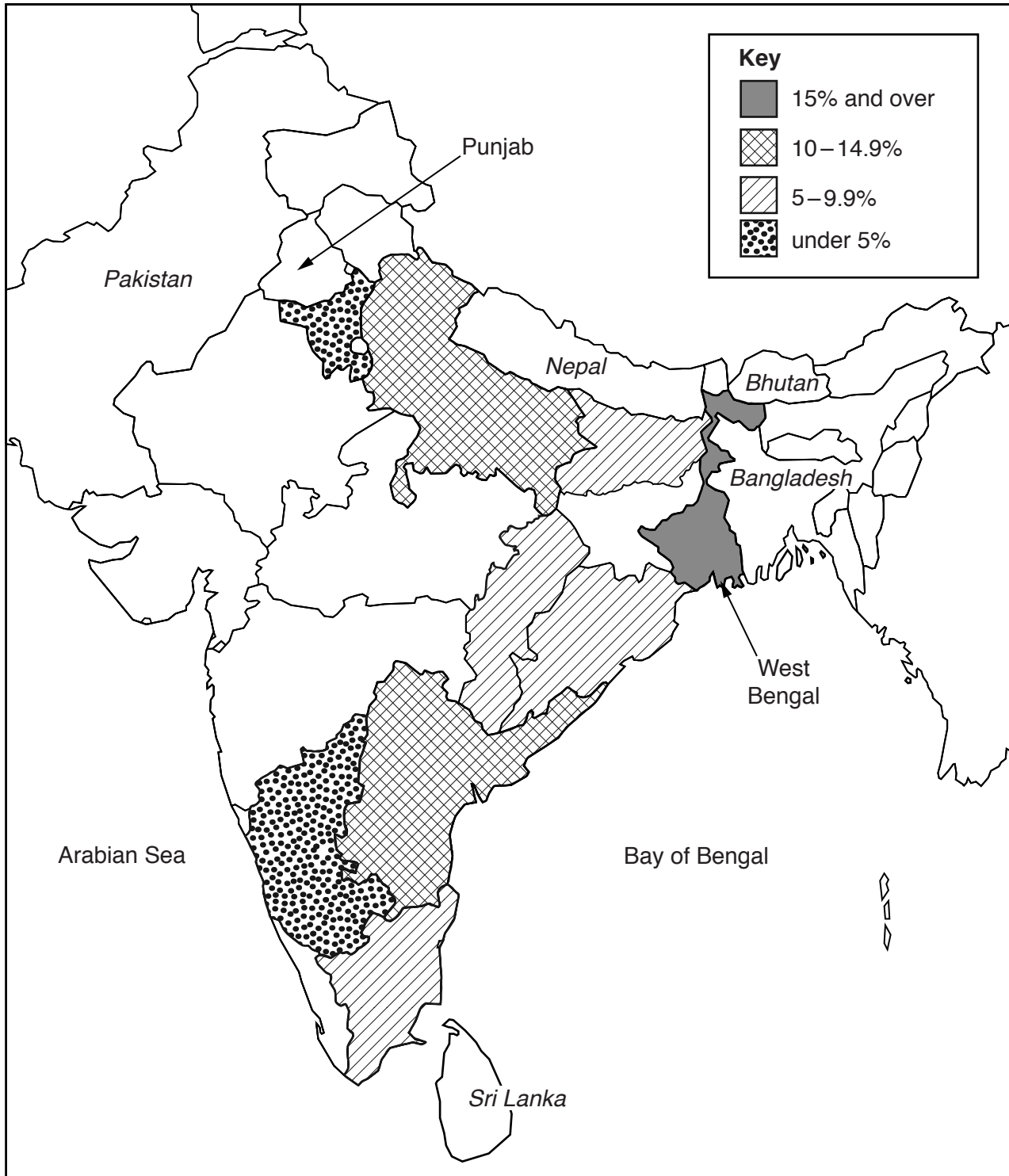
method 2 .....

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[4]

- (d) Many people in India and the Ganges Valley survive through subsistence farming. Farmers grow rice in flooded fields.

Look at the map below, which shows rice production for the major rice producing states in India.

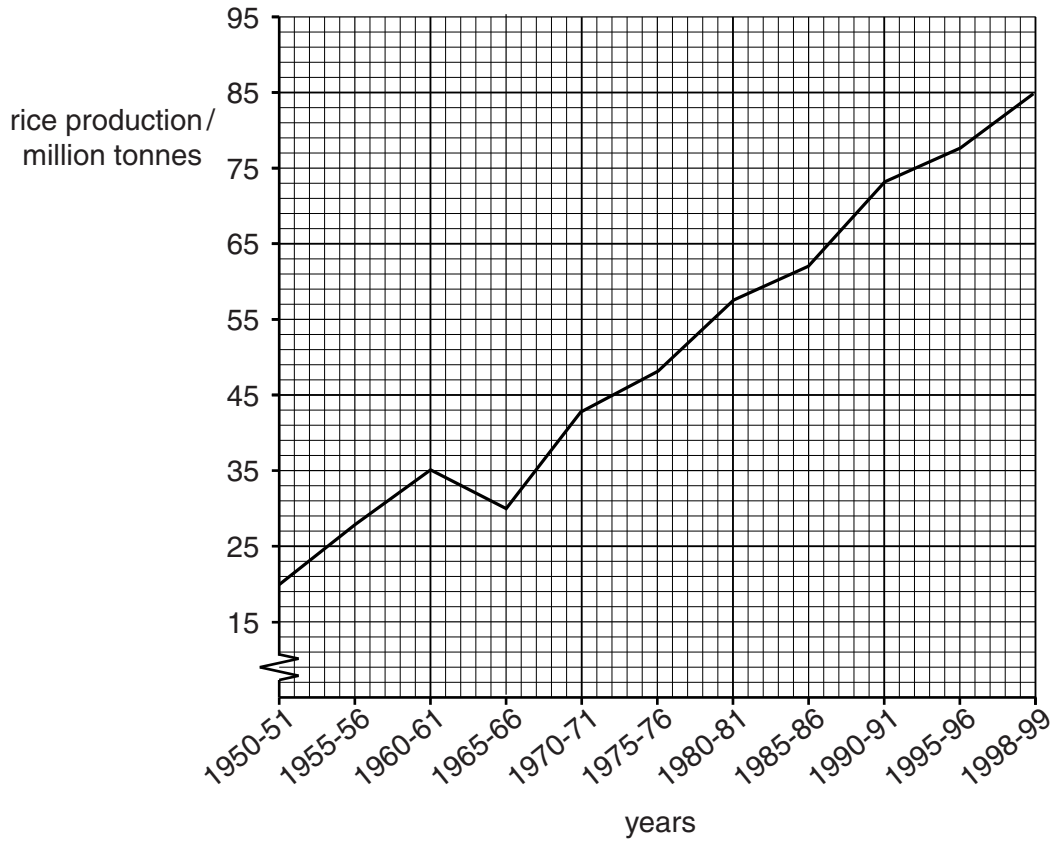


(i) The Punjab produces 10.5% of India's rice. Use the key to complete the shading for the Punjab region on the map. [1]

(ii) State the rice production for West Bengal.

..... % [1]

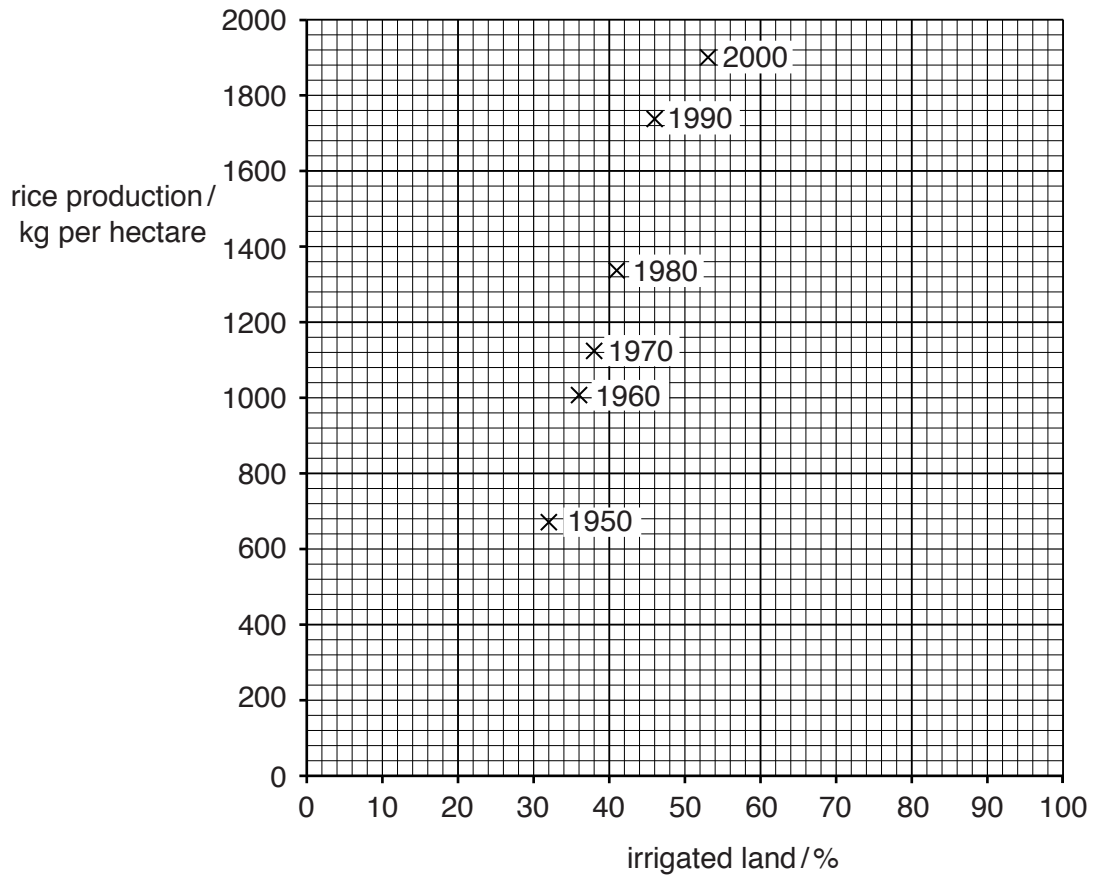
(iii) Look at the graph below, which shows total rice production in India between 1950 and 1999.



Using evidence from the graph, describe how total rice production in India changed between 1950 and 1999.

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.....[3]

(iv) Look at the graph below, which shows rice production and the area of irrigated land for another country.



Use the graph to complete the table below.

rice production in 2000	..... kg per hectare
irrigated land in 2000	..... %

[2]

(v) Calculate the increase in irrigated land from 1950 to 2000.

Space for working.

..... % [1]

(vi) Using evidence from the graph, describe the relationship between rice production and irrigated land. Suggest an explanation for the relationship.

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(e) The Green Revolution was introduced to modernise agriculture. Describe the advantages of the Green Revolution.

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- (f) Suggest strategies for sustainable agriculture. Explain how these might be less damaging to the environment than other farming methods.

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