Name of the Student:_____
Max. Marks : 17 Marks **Time : 17 Minutes**

Q1.

(a) (i) A student wrote "Coal traps energy from the Sun". Explain what the student means.

_____

_____

_____

(2)

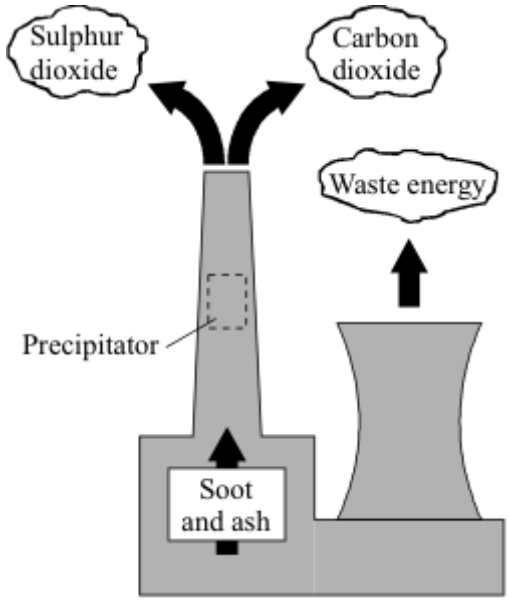
(ii) How is energy released from coal?

_____

_____

(1)

(b) The diagram shows the waste products from a coal-fired power station.



(i) In what form does the power station waste energy?

_____

(1)

(ii) Carbon dioxide released into the atmosphere will lead to a rise in the Earth's temperature. Why?

_____

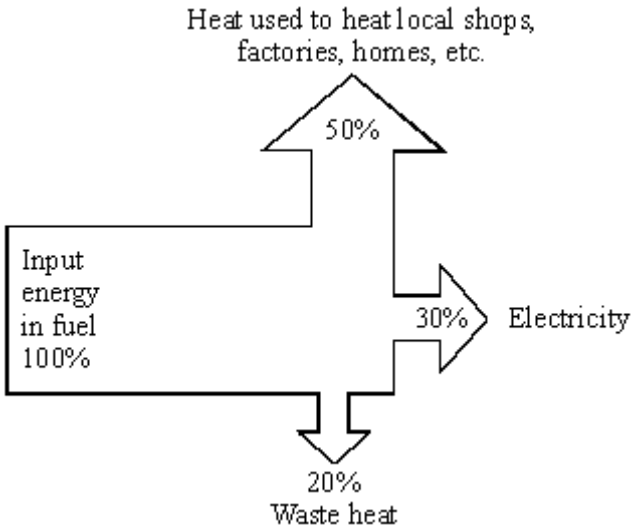
_____

(1)

(Total 5 marks)

Q2.

In a traditional power station 30% of the energy input is usefully transferred to electricity, the rest is wasted as heat. The diagram shows the energy transfers in a combined heat and power (CHP) station.



Explain why replacing traditional power stations by CHP stations may be beneficial to the environment.

_____

_____

_____

_____

(Total 2 marks)

Q3.

(a) Coal, gas, oil and wood are all examples of fuels.

(i) What are fuels?

_____

(1)

(ii) Write the names of these fuels in the table below to show which are renewable and which are non-renewable.

RENEWABLE FUELS	NON-RENEWABLE FUELS

(2)

(b) The list below shows energy resources which are not fuels.

geothermal nuclear solar tides wind

Write the names of the energy resources in the table below to show which are renewable and which are non-renewable.

RENEWABLE FUELS	NON-RENEWABLE FUELS

(2)

(c) Why is it better to use more renewable energy resources rather than non-renewable resources?

_____

_____

_____

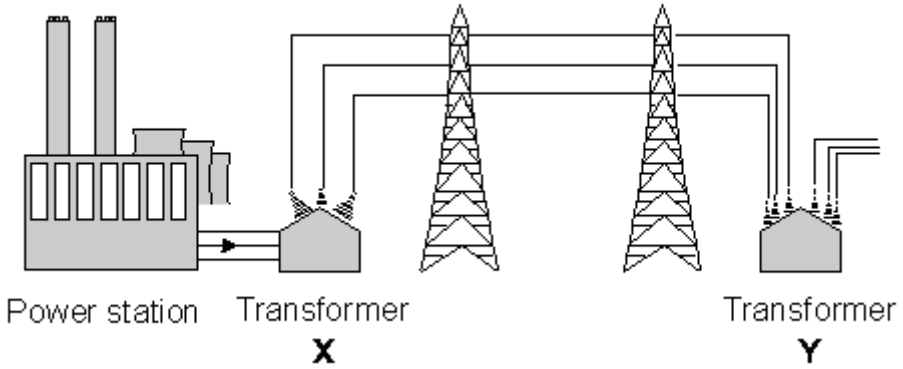
_____

(2)

(Total 7 marks)

Q4.

The outline diagram below shows part of the National Grid. At **X** the transformer increases the voltage to a very high value. At **Y** the voltage is reduced to 240 V for use by consumers.



(i) At **X** a transformer increases the voltage. What happens to the current as the voltage is increased?

_____

(1)

(ii) Why is electrical energy transmitted at very high voltages?

_____

_____

(1)

(iii) The transformer at **Y** reduces the voltage before it is supplied to houses. Why is this done?

_____

_____

(1)

(Total 3 marks)