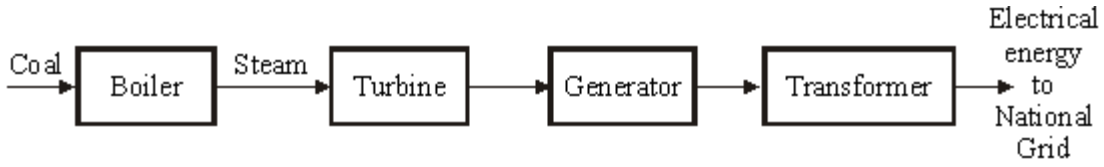
Practice Question Set For GCSE
**Subject : Physics**
**Paper-1 Topic: Energy (High Demand)**



**Name of the Student**:_____
**Max. Marks : 24 Marks** **Time : 24 Minutes**

## Q1.

The diagram below shows four stages in the production of electricity by a coal-fired power station.




(a) (i) Write down **two** environmental problems which are caused by burning coal to generate electricity.

1. _____

_____

_____

2. _____

_____

_____

(ii) How may these environmental problems be reduced?

1. _____

_____

_____

2. _____

_____

_____

**(4)**

(b) Some data for Didcot coal-fired power station is given below.

| | |
|---|---|
| Number of generators | 4 |
| Maximum continuous power rating of a generator | 500 MW at 23 500 V |
| Energy content of coal used | $2.66 \times 10^{10}$ J per tonne |
| Total quantity of coal used each day | 18 289 tonnes |

Use the given data to calculate:

(i) the total electrical energy output each day.

_____

_____

_____

Answer _____J/day

(ii) the total input of coal energy each day.

_____

_____

_____

Answer _____J/day

(iii) the efficiency of the power station.

_____

_____

_____

Answer _____ %

**(8)**

(c) Energy is conserved.

(i) Choose **one** of the stages in the diagram at the start of the question.
State what happens to the wasted energy during this stage.

_____

_____

_____

(ii) Explain what happens to all wasted energy during energy transfers.

_____

_____

_____

**(3)**

**(Total 15 marks)**

## Q2.

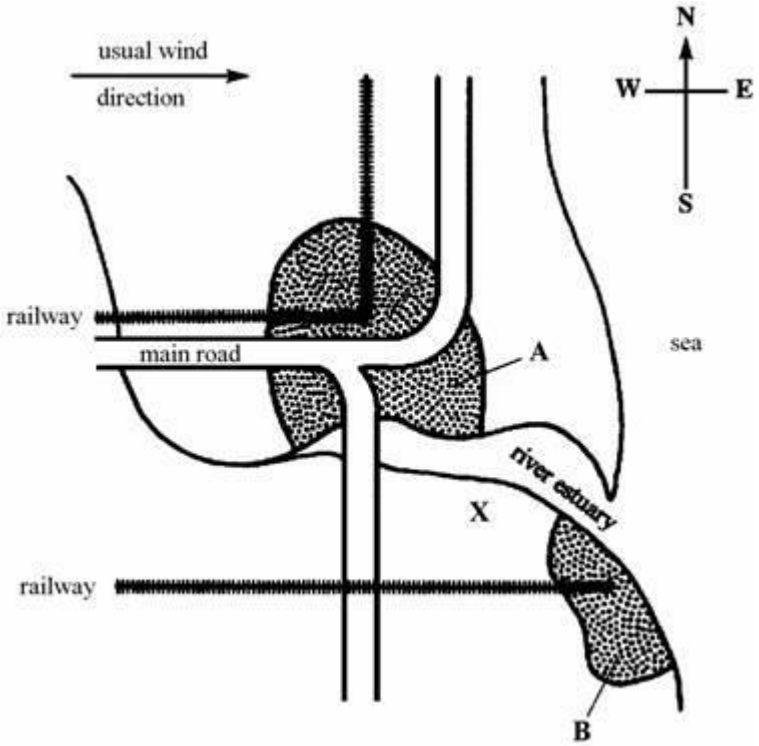
The map below shows the position of two towns, **A** and **B**, on the banks of a large river estuary.

A is an important fishing and ferry port.

The wind usually blows from the west. The major roads and railways are shown.

A power station is to be built in area X to generate electricity for the region.

The choice is between a nuclear power station and a coal fired power station.




(a) State the advantages and disadvantages of the two methods of generating electrical energy.

**(6)**

(b) Which method would you choose for this site?

Explain the reason for your choice.

_____

_____

_____

_____

_____

_____

**(3)**

**(Total 9 marks)**