



Practice test

Physics Unit 1 Part 2

Higher

Time: 25 minutes

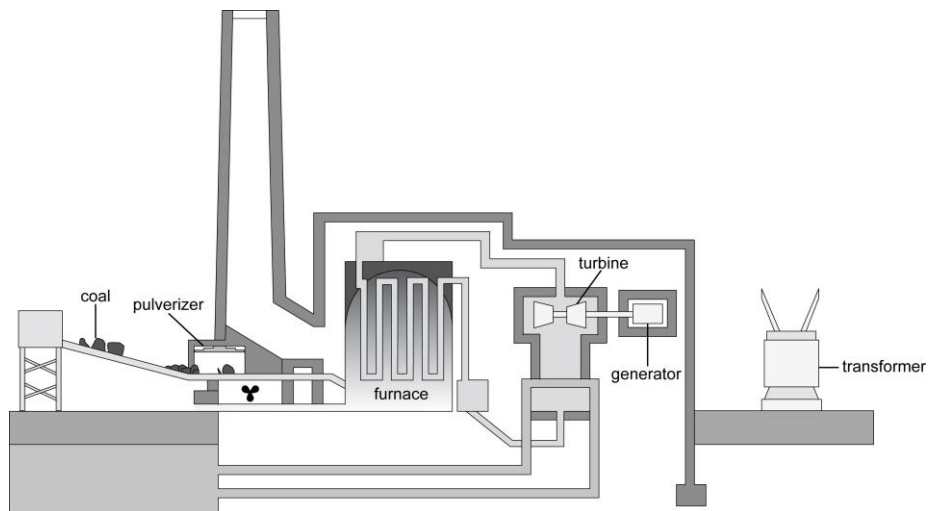
Name: _____

Form/teaching set: _____

Answer all of the questions.

Write your answers in the spaces provided on this paper.

1 Most of our electricity is generated in conventional power stations.



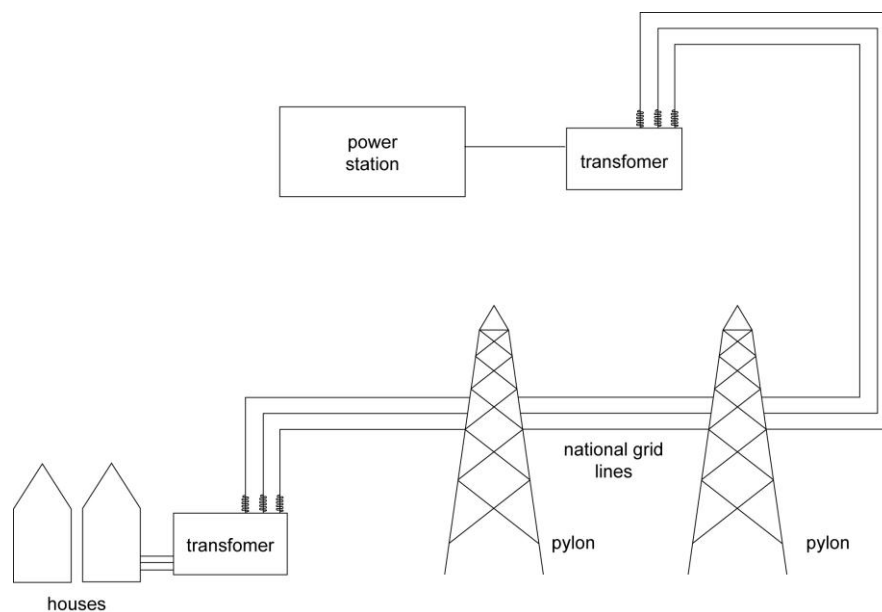
a Use the information from the diagram to describe how electricity is generated in a coal-fired power station.

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[2]

b The diagram shows the National Grid.



Explain why there are transformers located at either end of the National Grid.

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[2]

c A power station was updated to improve the efficiency of the process.
Before modification, for every 1000 J of energy supplied, the power station usefully transferred 350 J as electricity.
After modernisation, for every 5000 W, the power station lost 1750 W to the surroundings.
Calculate the change in the efficiency of the power station.

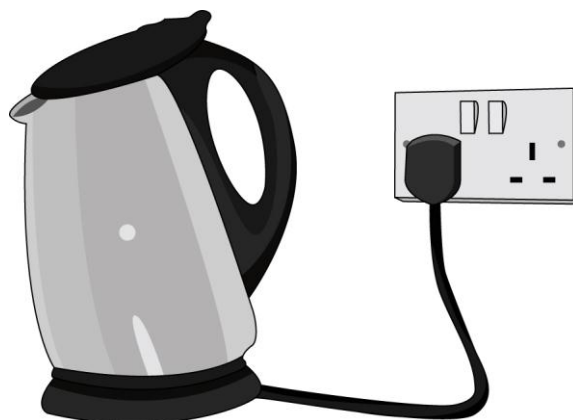
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[2]

Total marks [6]

- 2 A kettle is connected to the domestic 230 V main supply in a kitchen. When it is switched on, it takes six minutes to boil. The current through the kettle is 12 A.



- a Calculate the power rating of the kettle.

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[1]

- b Calculate the energy transferred in kilowatt hours if the kettle is used for 6 minutes.

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[2]

- c If electricity costs 8p per kilowatt hour, how much has this cost?

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[1]

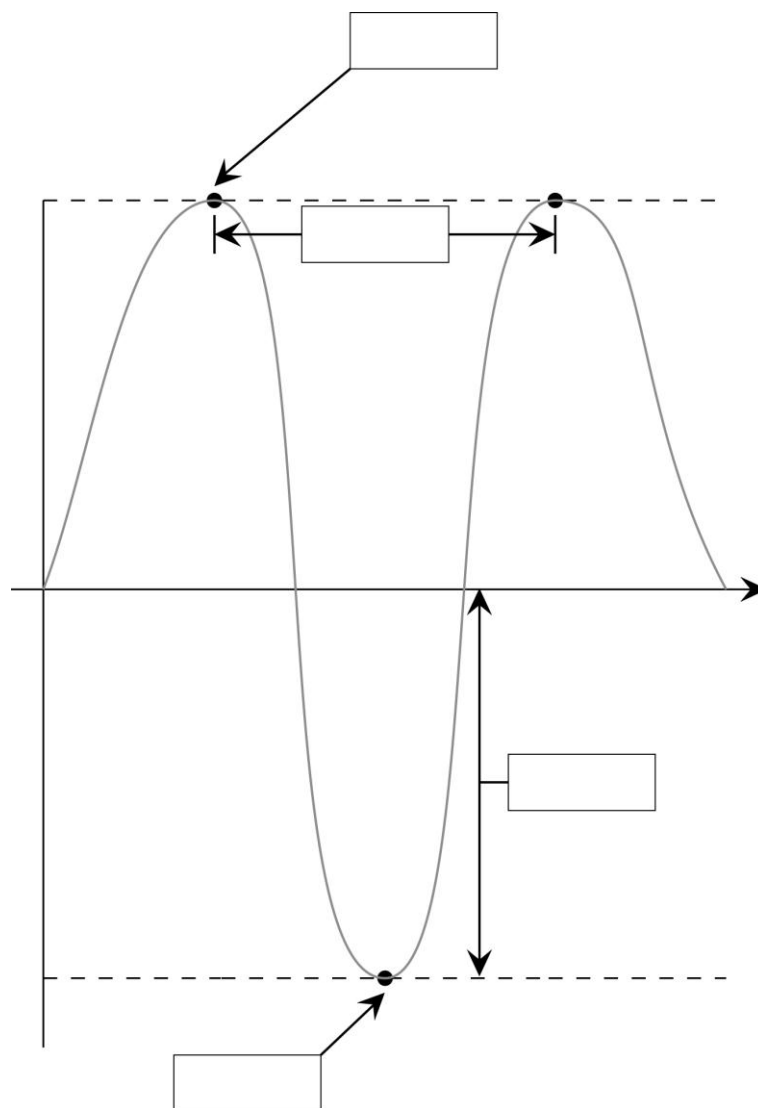
- d How much energy is supplied to the kettle when it is used for
- i 2 minutes?

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[1]

- ii 15 minutes?

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[1]
Total marks [6]

3 The diagram shows a sound wave.



a Label the diagram using words from the list below:

crest amplitude wavelength trough

[2]

b Different radio stations broadcast on different frequencies.

Explain what is meant by the term frequency.

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[1]

- c** The wave in the diagram has a frequency of 6600 Hz and a wavelength of 5 cm. Calculate its speed.

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[1]

- d** Describe the difference between a transverse wave and a longitudinal wave.

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[1]

- e** An electromagnetic wave of wavelength 500 m travels through a vacuum at the speed of light (3×10^8 m/s). Calculate its frequency.

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[2]

Total marks [7]

- 4 Current evidence suggests that the universe is expanding. Most scientists currently believe that the universe began with a huge explosion called the Big Bang. Describe how observed evidence supports this theory.

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Total marks [6]

Paper total [25]

END OF QUESTION PAPER