

Name of the Student: _____

Max. Marks : 24 Marks

Time : 24 Minutes

Q1.

Many people use a sleeping bag when they sleep in a tent. Sleeping bags, designed to keep a person warm, have a fibre filling.



- (i) Complete the sentence by choosing the correct words from the box.

conduction convection radiation

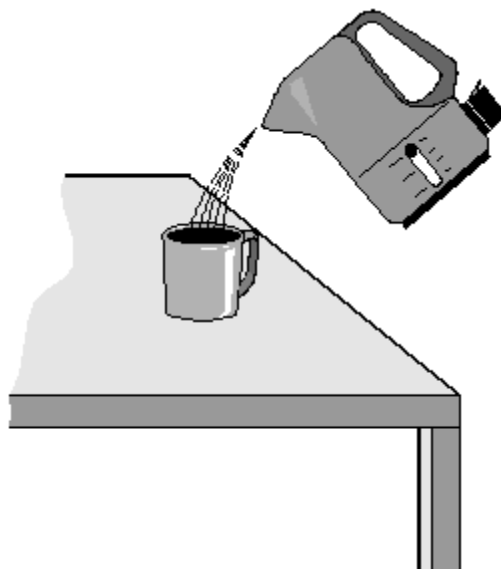
The fibre is designed to reduce heat transfer by _____ and

- (ii) Explain why the fibre is good at reducing heat loss from a person sleeping in the bag.

(Total 3 marks)

Q2.

- (a) The diagram shows hot water being poured into a mug.



- (i) Complete the sentence by choosing the correct words from the box. Each word may be used once or not at all.

air	mug	table	water
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Heat energy is being transferred from the _____ to
the _____ .

(1)

- (ii) When will this transfer of heat energy stop?

(1)

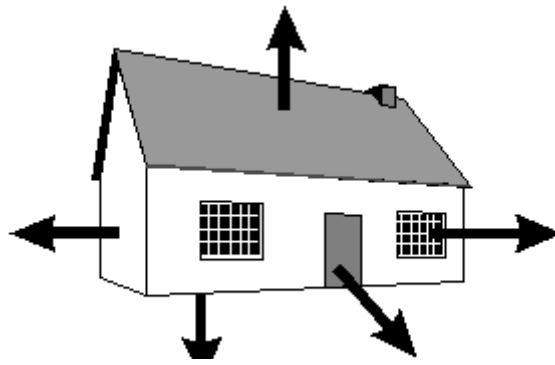
- (b) In the box are the names of four types of fuel used to heat homes.

coal	gas	oil	wood
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Which **one** of these types of fuel is renewable?

(1)

- (c) The diagram shows where heat energy is lost from a house.



- (i) Complete the sentences by choosing the correct words from the box. Each word may be used once or not at all.

conduction	conductor	electric	evaporation	insulator
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The amount of heat energy lost through the windows by

_____ can be reduced by using thick curtains. The curtains trap a layer of air and air is a good

_____.

(2)

- (ii) Write down **one** other way of reducing heat loss from a house.

(1)

(Total 6 marks)

Q3.

People do a number of things to reduce the energy loss from their homes.

- (a) Describe **one** thing they may do to cut down the energy loss through:

- (i) the roof;

(1)

- (ii) the outside walls;

(1)

- (iii) the glass in the windows;

(1)

- (iv) gaps around the front and back doors.

(1)

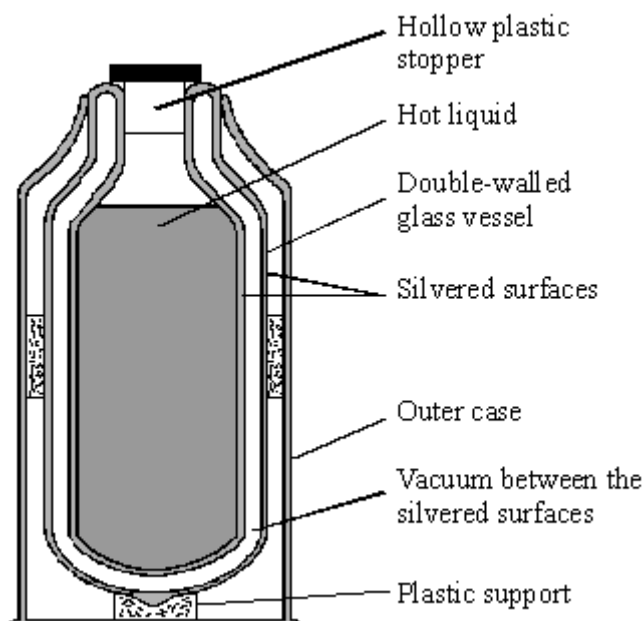
- (b) A house is more difficult to keep warm in cold weather. What other type of weather makes it difficult to keep a house warm?

(1)

(Total 5 marks)

Q4.

The drawing shows a section of a vacuum flask.



- (a) Heat is slowly “lost” from the hot liquid in the closed flask. It may be transferred by:

conduction	convection	evaporation	radiation
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Choose from the words above to complete the following sentences. You may use a word once, more than once or not at all.

- (i) The vacuum between the glass walls reduces

_____ and _____

(2)

- (ii) The silvered surfaces of the glass walls reduce

(1)

- (iii) The stopper in the opening of the flask reduces

_____ and _____

(2)

- (iv) Heat is transferred by the air molecules, away from the vacuum flask, by

(v) The plastic of the plastic stopper is preferred to metal because it cuts down

(1)

(1)

(b) Mark **X** on the diagram of the vacuum flask where the liquid in the flask is hottest.

(1)

(c) Explain, in terms of particles, how heat is conducted through a glass wall of the vacuum flask.

(2)

(Total 10 marks)