Practice Question Set For GCSE
**Subject : Physics**
**Paper-1 Topic: GCSE Triple Science_Particle Model Of Matter (High Demand Questions)**

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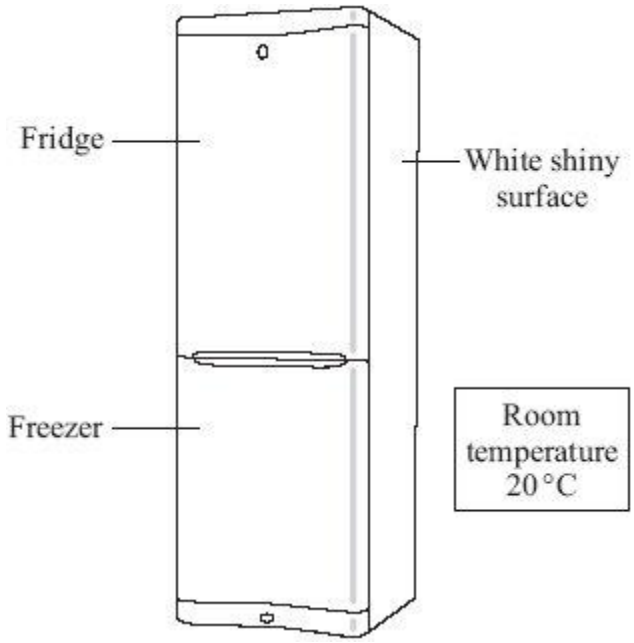
**Name of the Student**:_____
**Max. Marks : 19 Marks** **Time : 19 Minutes**

## Q1.

The diagram shows a fridge-freezer.




(a) By which method is heat transferred through the walls of the fridge-freezer?

_____

**(1)**

(b) The inside of the fridge is at 4 °C. The inside of the freezer is at –18 °C.

Into which part of the fridge-freezer will the rate of heat transfer be greater?

Draw a ring around your answer.

**the fridge** **the freezer**

Give a reason for your answer.

_____

_____

**(1)**

(c) The outside surface of the fridge-freezer is white and shiny.

Give **two** reasons why this type of surface is suitable for a fridge-freezer.

1. _____

_____

2. _____

_____

**(2)**

**(Total 4 marks)**

## Q2.

(a) The table gives information about some ways of reducing the energy consumption in a house.

| **Method of reducing energy consumption** | **Installation cost in £** | **Annual saving on energy bills in £** |
|---|---|---|
| Fit a new hot water boiler | 1800 | 200 |
| Fit a solar water heater | 2400 | 100 |
| Fit under floor heating | 600 | 50 |
| Fit thermostatic radiator valves | 75 | 20 |

Which way of reducing energy consumption is most cost effective over a 10-year period?

To obtain full marks you must support your answer with calculations.

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_____

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_____

_____

_____

**(3)**

(b) Explain why using an energy-efficient light bulb instead of an ordinary light bulb reduces the amount of carbon dioxide emitted into the atmosphere.

_____

_____

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_____

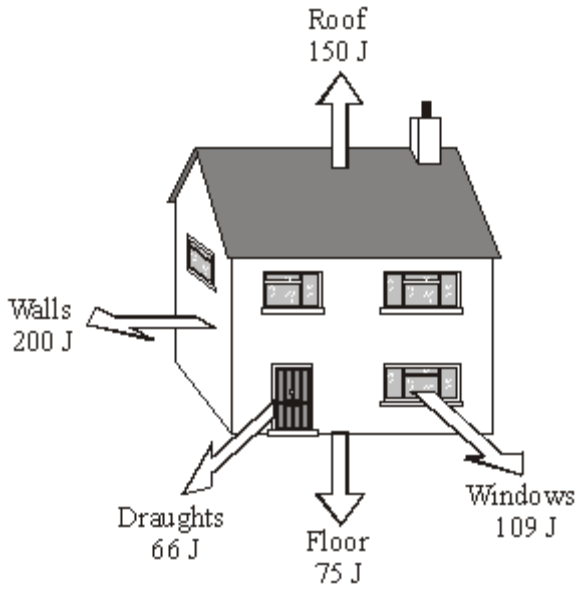
**(2)**

**(Total 5 marks)**

## Q3.

(a) The diagram shows how much heat is lost each second from different parts of an uninsulated

house.




(i) Each year, the house costs £760 to heat.

How much money is being wasted because of heat lost through the roof?

Show clearly how you work out your answer.

_____

_____

**(2)**

(ii) Insulating the loft would cut the heat lost through the roof by 50 %.

The loft insulation has a payback time of $1\frac{1}{2}$ years.

How much did the loft insulation cost to buy?

_____

Cost of loft insulation = £ _____

**(1)**

(b) What happens to the wasted energy?

_____

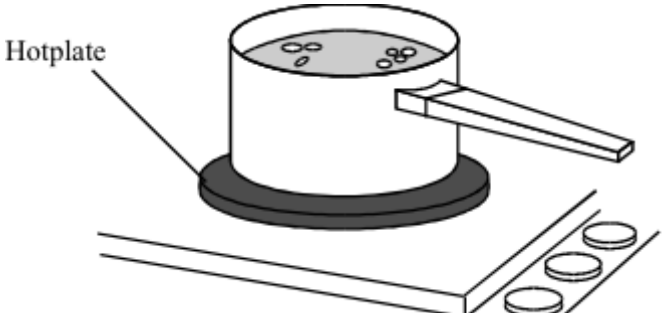
_____

**(1)**

**(Total 4 marks)**

## Q4.

The drawing shows water being heated in a metal saucepan.




(a) Explain, in terms of the particles in the metal, how heat energy is transferred through the base of the saucepan.

_____

_____

_____

_____

**(2)**

(b) Energy is transferred through the water by convection currents. Explain what happens to cause a convection current in the water. The answer has been started for you.

As heat energy is transferred through the saucepan, the water particles at the bottom

_____

_____

_____

_____

_____

_____

_____

_____

**(3)**

(c) Some energy is transferred from the hotplate to the air by *thermal radiation*. What is meant by *thermal radiation*?

_____

_____

**(1)**
**(Total 6 marks)**