

Name:	Target Grade:	Actual Grade:
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HEATS

MCQ and STRUCTURED QUESTIONS

READ THESE INSTRUCTIONS FIRST

INSTRUCTIONS TO CANDIDATES

1. Find a quiet, comfortable spot free place from distractions.
2. Spend one minute on each mark.
3. Time yourself for every single question.
4. Every chapter has their own question types. Ensure that you know the different question type for each chapter.
5. Make a conscientious effort to remember your mistakes, especially in terms of answering techniques. E.g Take a picture for the mistakes that you made, keep it in a photo album, and revise it over and over again.
6. Highlight question types that you tend to keep making mistakes and review them nearing exams.
7. Always review the common questions and question type that you tend to make mistakes nearing exams.
8. During exams, classify the question type and recall what you have learnt, how you need to analyse the questions for the different question type, what you need to take note of and answer with the correct answering techniques!

✦ Wishing you all the best for this test!

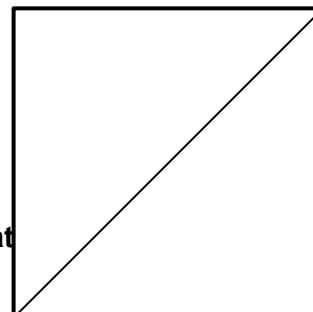
You've got this!

💡 With lots of love,
Bright Culture ❤️

If you are struggling in this paper, means you need to work harder!

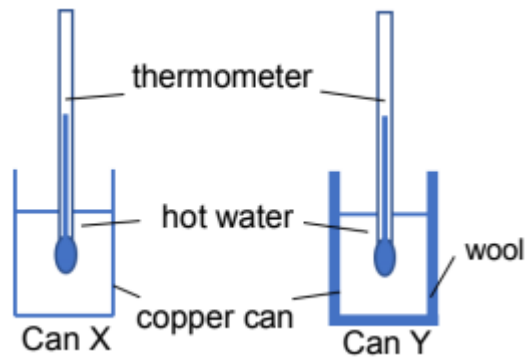
If you need any professional guidance and further advice on how to advance, feel free to WhatsApp us at 91870820 or find us at www.bright-culture.com/. We are committed to connect you to your future to reach your goals.

MARKS

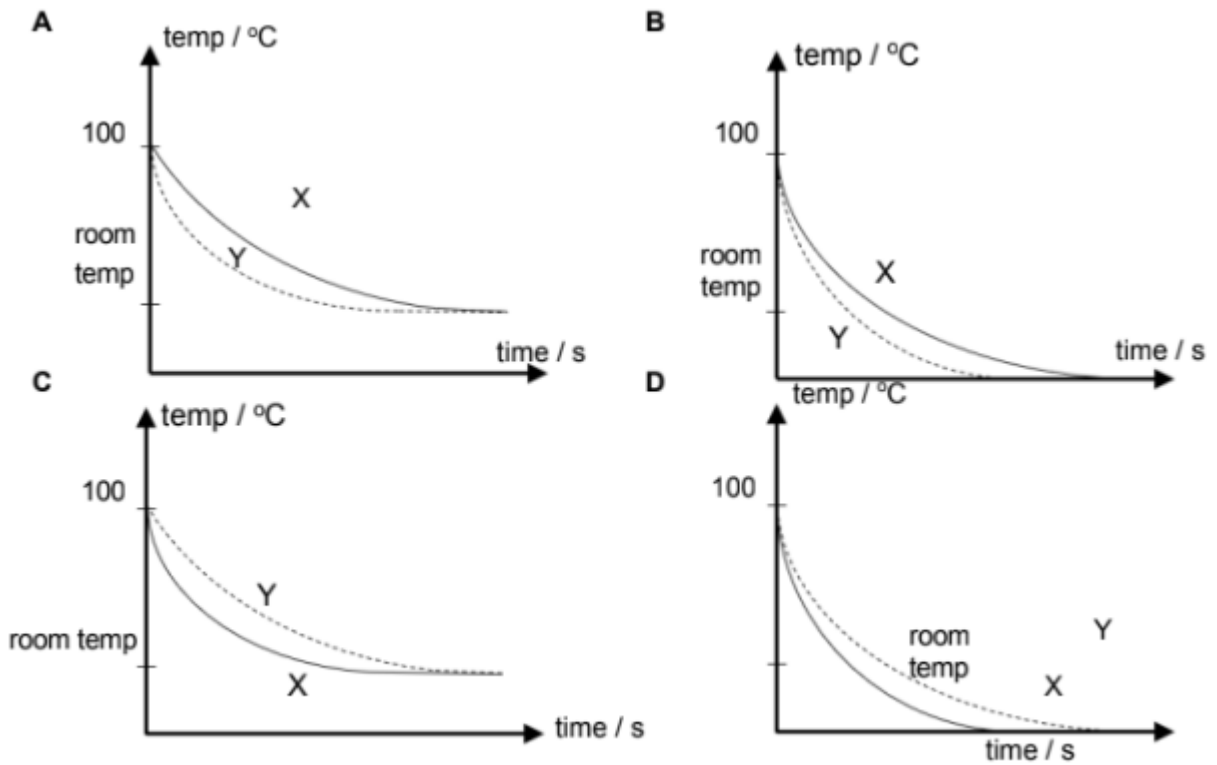


HEATS MCQ

- 1 Two copper cans containing water at 100 °C, are placed in a classroom. One can is wrapped with wool. The thermometer readings are taken every minute.



Which graph best shows the results obtained?



- 2 Polystyrene is a common material used to pack frozen food for transport. It contains numerous pockets of air which reduces the rate of thermal energy loss.

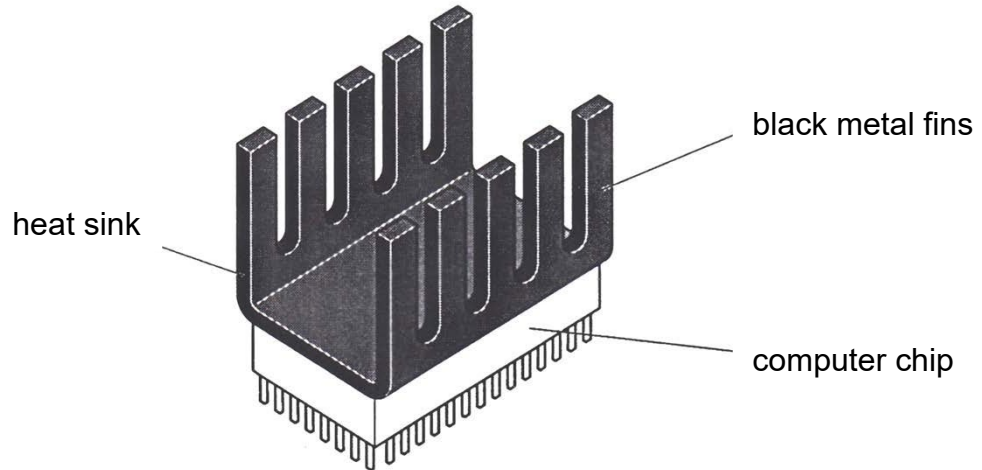
Which of the following shows the main process(es) of thermal energy loss in polystyrene?

- A conduction only
 - B convection only
 - C conduction and radiation only
 - D convection and radiation only
- 3 Which one of the following changes **absorbs** heat energy and involves a **large** change in volume?
- A boiling
 - B condensing
 - C melting
 - D solidifying (freezing)
- 4 Which of the following physical properties can be used to measure temperature?
- 1. expansion of gas
 - 2. change in resistance
 - 3. change in mass
- A 1 only
 - B 1 and 2 only
 - C 1 and 3 only
 - D 1, 2 and 3
- 5 A match would ignite if it was held 10 cm above a bunsen flame but would not ignite if held 10 cm to one side of the flame. This is because there is more heat energy transferred by
- A conduction
 - B convection
 - C diffusion
 - D radiation

HEATS STRUCTURED QUESTIONS

1 In computers, heat sinks are often attached to computer chips to prevent it from overheating.

The figure below shows a computer chip fitted with a heat sink with black metal fins.



Explain how the features of the heat sink allow thermal energy to be transferred easily away from the chip.

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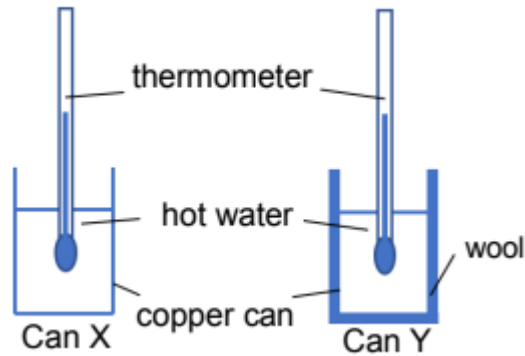
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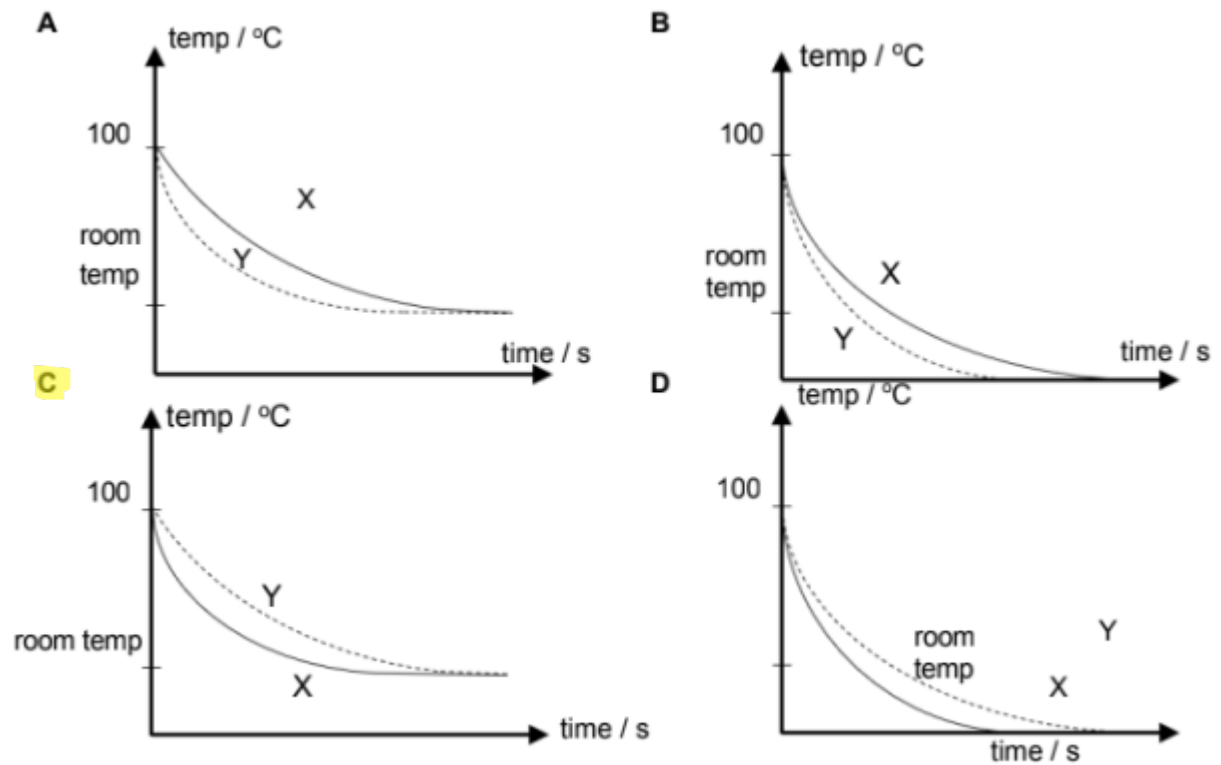
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ANSWERS FOR HEAT MCQ

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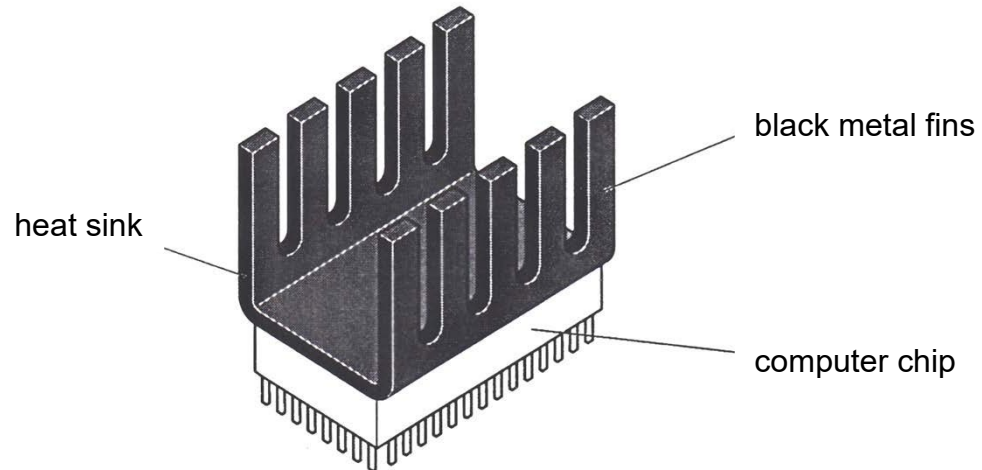
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- C diffusion
- D radiation

ANSWER FOR HEAT STRUCTURED QUESTIONS

- 1 In computers, heat sinks are often attached to computer chips to prevent it from overheating.

The figure below shows a computer chip fitted with a heat sink with black metal fins.



Explain how the features of the heat sink allow thermal energy to be transferred easily away from the chip.

The heat sink is made of metal, which is a good conductor of heat

The fins are black in colour, which is a good emitter of radiation

The fins increase surface area exposed to surrounding, so rate of heat transfer from chip to surrounding air via radiation is increased