

SHUN LEE CATHOLIC SECONDARY SCHOOL
FIRST EXAMINATION (2016 – 2017)

Secondary 5
PHYSICS Paper 1
Time allowed: 2 hours 30 minutes

Section A
Full Mark : 33 (35% of written paper)

This paper must be answered in English.

GENERAL INSTRUCTIONS

1. There are **TWO** sections, A and B, in this Paper. You are advised to finish Section A in about 42 minutes.
 2. Section A consists of multiple-choice questions in this question paper, while Section B contains conventional questions printed separately in Question-Answer Book **B**.
 3. Answers to Section A should be marked on the Multiple-choice Answer Sheet while answers to Section B should be written in the spaces provided in Question-Answer Book **B**. **The Answer Sheet for Section A and the Question-Answer Book for Section B will be collected separately at the end of the examination.**
 4. The diagrams in this paper are **NOT** necessarily drawn to scale.
 5. The last pages of this question paper contain a list of data, formulae and relationships which you may find useful.
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INSTRUCTIONS FOR SECTION A (MULTIPLE-CHOICE QUESTIONS)

1. Read carefully the instructions on the Answer Sheet.
2. When told to open this book, you should check that all the questions are there. Look for the words '**END OF SECTION A**' after the last question.
3. All questions carry equal marks.
4. **ANSWER ALL QUESTIONS.** You are advised to use an HB pencil to mark all the answers on the Answer Sheet, so that wrong marks can be completely erased with a clean rubber. You must mark the answers clearly; otherwise you will lose marks if the answers cannot be captured.
5. You should mark only **ONE** answer for each question. If you mark more than one answer, you will receive **NO MARKS** for that question.
6. No marks will be deducted for wrong answers.

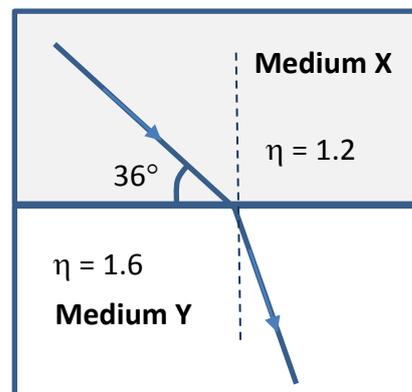
Section A

There are 33 questions. Questions marked with * involve knowledge of the extension component.

Question 1.

Find the refracted angle in medium Y in the diagram.

- A. 26.2°
- B. 28.5°
- C. 37.3°
- D. 52.6°



Question 2.

A convex lens forms an inverted image of an illuminated image on a screen. The magnification is m . The illuminated object and the screen then interchange in position. What will be the magnification of new image formed?

- A. $1/m$
- B. $1/(m+1)$
- C. $m + 1$
- D. m

Question 3.

A wrong calibrated thermometer gives a reading of -10°C at ice point, and 80°C at boiling point. In hot soup, it reads 65°C , what is the actual temperature?

- A. 75°C
- B. 78.6°C
- C. 83.3°C
- D. 85°C

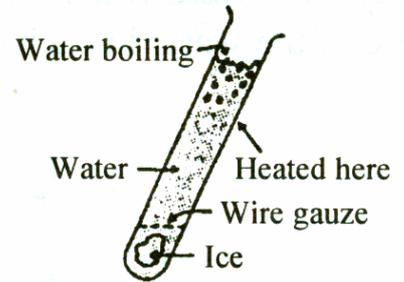
Question 4.

It takes 8 minutes to heat a tank of water from 20°C to 100°C . How long does it take to boil off half the water? (Given specific heat capacity of water = $4200 \text{ Jkg}^{-1}\text{C}^{-1}$, and specific latent heat of vaporization = $2.26 \times 10^6 \text{ Jkg}^{-1}$)

- A. 26.9 min
- B. 22.4 min
- C. 1344 min
- D. 1614 min

Question 5.

A test-tube is heated near the top as shown in the figure, the water at the top boils, but the ice is slow to melt. This demonstrates that



- A. water is a poor conductor of heat.
- B. ice is less dense than water.
- C. water boils at 100°C.
- D. wire gauze is a good conductor of heat.

Question 6.

A stone is dropped from a cliff. How far has it travelled during the 3rd second?

- A. 5 m
- B. 15 m
- C. 25 m
- D. 35 m

Question 7.

Which of the following is false?

- A. Conductions in all liquids are slow.
- B. Heat always flows from high temperature to low temperature.
- C. The rate of heat flow increases with temperature difference between two points.
- D. The sun transfer energy to the Earth by radiation only.

Question 8.

A helicopter is landing with an acceleration of 2 ms⁻². The mass of the helicopter is 12000 kg, what is the upward thrust by air on the helicopter?

- A. 142 000 N
- B. 130 000 N
- C. 106 000 N
- D. 93700 N