**Writing Exposition in Physics**

**Learning Task 2**

The following questions call for answers of Exposition writing. In each question, underline or write down the **subject matter on which the answer has to make a judgment** or state a position.

**Question 1 (Source: 2012 DSE 1B Q1c)**

Cappuccino is an Italian style coffee topped with a layer of frothy milk (Figure 1.1).

Figure 1.1

Frothy milk is made by bubbling steam through milk, which is held in a metallic jug (Figure 1.2). Steam is ejected from the steam wand of a cappuccino machine (Figure 1.3).





Figure 1.3

Figure 1.2

*(a) Calculate the total amount of heat released when 20 g of steam at 110°C cools to 100°C and condenses to water at 100°C.*

*(b) 20 g of steam at 110°C is bubbled through 200 g of milk at 15°C to make frothy milk. Using the result in (a), estimate the temperature of the frothy milk.*

(c) Would the actual temperature of frothy milk be higher than, equal to or lower than the value found in (b)? Explain.

**Question 2 (Source: 2012-DSE-PHY Sample Paper 5b)**

Anita’s house is surrounded by hills and at her house, the reception of one of the two radio channels is better. For which radio channel is the reception better ? Explain your answer.

**Question 3 (Source: 2012-DSE-PHY-1B-Q3a(ii))**



Suppose the car takes lane 2 instead of lane 1 and the maximum value of the force providing the centripetal force is still 8000 N. Would the car’s highest speed in lane 2 be smaller than, larger than, or the same as that found in (a)(i)? Explain.

**Question 4 (Source: PracticePaper DSE PHY Q.7a)**

A lens can be used to produce an image with the same nature as that produced by the liquid drop. State the type of lens and explain your answer.

**Question 5 (Source: Practice Paper DSE PHY Q.7c)**

If the refractive index of the liquid becomes smaller, explain the change, if any, in the focal length of the liquid drop.