

2003 A/L Structured Essay Question No (02)

1. You are asked to determine the dew point inside the laboratory using a polished calorimeter.

(a) What is the experimental procedure that you would follow in this experiment to form dew on the calorimeter surface?

.....

.....

.....

(b) Two temperature readings are to be taken in this experiment. What are they?

(1)

(2)

(c) In this experiment water is stirred to achieve a uniform temperature throughout the volume of water. Why is this important?

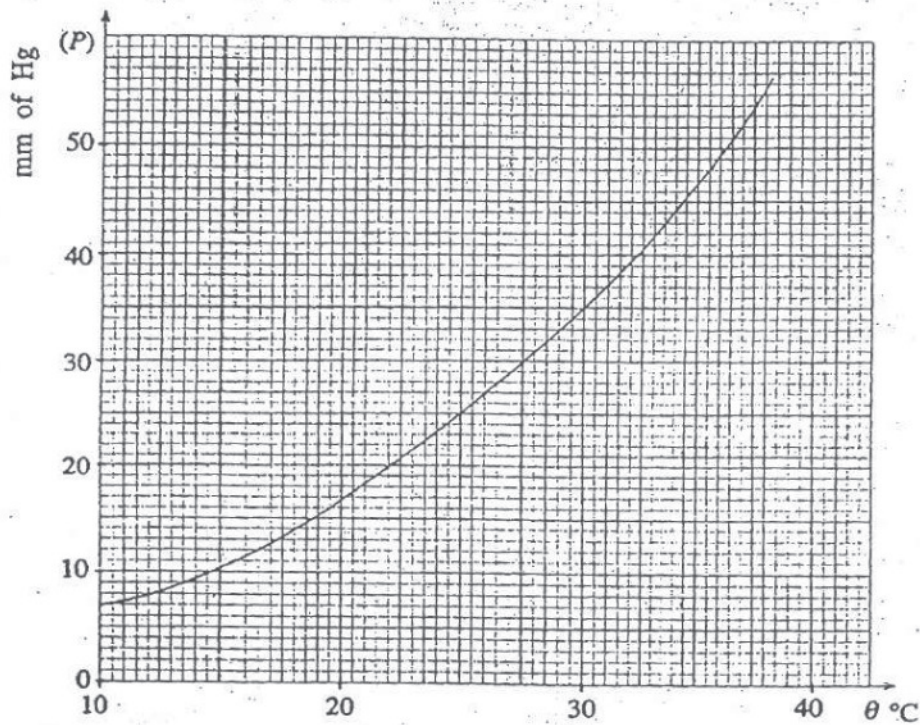
oil |

.....

(d) If the two temperatures obtained in (b) are 23.2°C and 23.6°C , then what is the dew point?

.....

- (e) In a certain day when the room temperature is 30°C the dew point is 25°C . You are supposed to calculate the relative humidity using the following graph, which shows the variation of saturated vapour pressure (P) with temperature (θ).



- (i) Write down the relevant formula that you use in order to calculate the relative humidity.

.....

.....

- (ii) Hence, find the relative humidity.

.....

.....

- (f) When you blow your breath on a polished metal surface you can observe that the surface brightness is being reduced. Explain the reason for this.

.....

.....

.....

.....