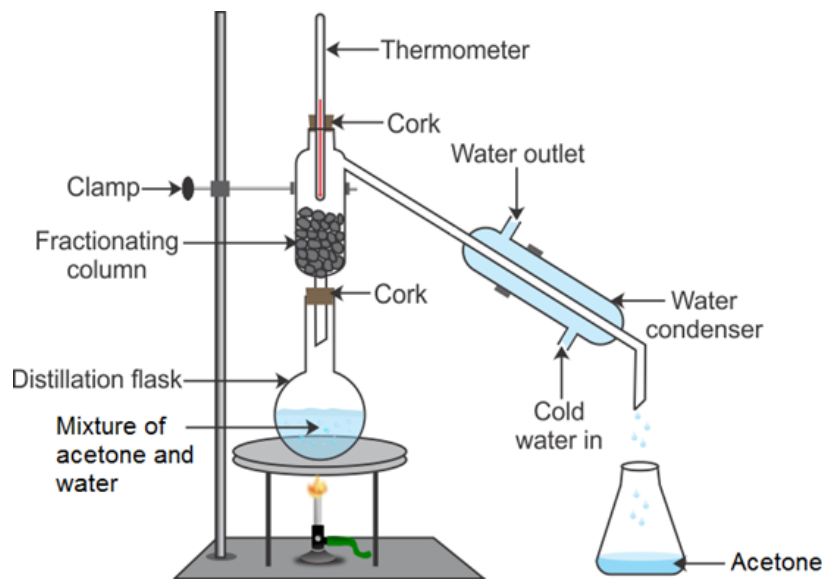


stemc_o Sample Questions

chemico

1. Evaporation is a surface phenomenon that occurs at any temperature in which molecules at the liquid edge escape as vapor. With increasing temperature, evaporation proceeds more quickly, eventually reaching the boiling point of a liquid.



A mixture of acetone and water is separated with the setup shown, by means of fractional distillation. What temperature will the thermometer read when the first drop of liquid starts forming on it?

Substance	boiling point, °C
acetone	56
water	100

- A. less than 56 °C
 - B. exactly 56 °C
 - C. between 56 and 100 °C
 - D. exactly 100 °C
2. Red cabbage is a natural acid-base indicator. It is purple in water, pink in acid and blue in base. John was preparing his favorite “pink juice” following a recipe:
 1. Chop up the red cabbage into small pieces. Place it in a pan and cover with water.
 2. Bring the solution to a boil and then turn off the heat. Let it sit for about 30 minutes to cool down.
 3. Filter the cabbage water through a strainer into a jar.
 4. Squeeze lemon into the cabbage water.
 5. Add sugar and mix.

Surprisingly, the juice came out blue, not pink. What may have gone wrong?



Answers

1. A

2. B

3. D

4. C

5. B