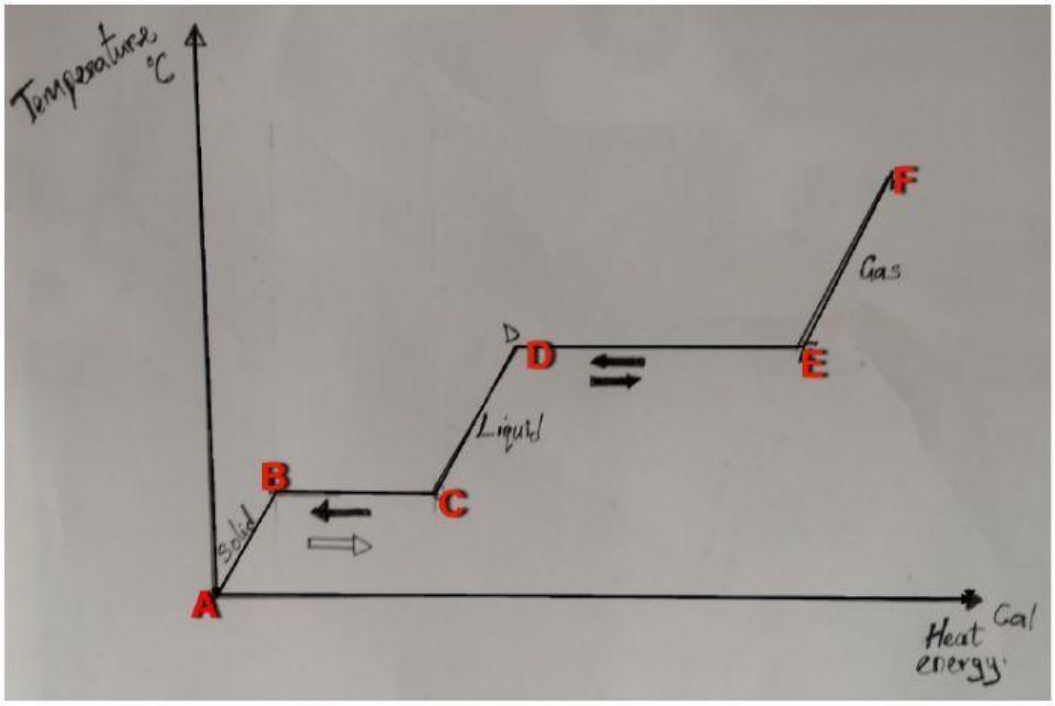
Section A;

Use the graph below to answer the following questions.



1. **From the graph which section will the latent heat of fusion be?**
   A. From A-C C. From B- D
   B. From B- C D. From D-E

2. **Which direction will evaporation occur?**
   A. From D-E C. From E-D
   B. From E-F D. From D-C

3. **Which section will the latent heat of vaporization be?**
   A. From A-B C. From D-F
   B. From D-E D. From B-C

4. **Which direction will freezing takes place?**
   A. From A–B C. From B-A
   B. From B-C D. From C-B

5. **Which process occur within section E-D?**
   A. Melting C. Freezing
   B. Condensing D. Evaporation

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6. **From the graph above which heat equation is use to calculate heat energy**

A. Q = m c ^ T **B. Q = m L_f** **C. Q = m L_v**

i From A – B .....

ii From B – C .....

iii From C - D .....

iv From D – E .....

v From E – F .....

7. **a.) Which sections on the graph show constant temperature (no change in temperature)? (2points)**

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b.) Why is the temperature constant within these sections? (2points)

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Section B

Solve the following questions below showing all working.
If your write only the answer it will be just one points and make sure you put in the units as numbers without their units will score you no point.

Note: latent heat of fusion (Lf) 80 cal/g Latent heat of vaporisation 540 cal/g
Specific heat capacity (c) Ice = 0.5cal/g .C water = 1 cal/g.C.

1. A 40g sample of a substance is condensed from a vapor at 60˚C to a liquid at 60˚C by removing 500cal of heat energy. What is the heat of vaporization of the substance? (4points)

2. An ice bucket is filled with 45 g of ice at 0˚C. How much heat does it absorb for the ice completely melts? (3 points)

3. What is the total heat energy absorbed by 100 g of ice at –10˚C to become water at 40˚C? (7 points)

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