Lesson Plan 2

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| **Title**: **Chapter 18: Temperature, heat and the first law of thermodynamics** | | **Ref. No**: Week 1,  Day 2 | | |
| **Target Group/Population**: B. Sc students (CS, EEE and IPE) | | **Duration**: 90 min | | |
| **Aims/Rationale**: To give the students basic concepts of the absorption of heat by solids and liquids (heat of transformation) | | | | |
| **Learning Outcomes**: At the end of the session, the students will be able to understand and analyze above topics and apply those to solve related problems. | | | | |
| **Contents:** 18-4: The absorption of heat by solids and liquids (heat of transformation) | Method or  Technique | | Resource  or Aid | Time |
| **Introduction**:   * Welcome address * Rapport building * Review the main topics of last lecture * Importance/bridging the topic * Pre-assessment of student’s knowledge | Lecture  QA | | WB  MMP | 15 min |
| **Development**:  1. Explain the heat of transformation, heat of vaporization and heat of fusion.  2. A gas may exchange energy with its surroundings at constant pressure through work. Find an expression for work done by any gas as it expands or contracts from an initial volume to a final volume. | Lecture  Discussion  QA  Problem  Solving | | WB  MMP | 60 min |
| **Conclusion**:   * Quick recap/summary * Feedback from the students * References * Forward planning |  | | WB  MMP | 15 min |
| Problems:  27. Calculate the minimum amount of energy, in joules, required to completely melt 130 g of silver initially at 15.0 0C.  28. How much water remains unfrozen after 50.2 kJ is transferred as heat from 260 g of liquid water initially at its freezing point? | | | | |