Lesson Plan 15

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| **Title**: **Chapter 15: Oscillations** | | | **Ref. No**: Week 9,  Day 1 | |
| **Target Group/Population**: B. Sc students (CS, EEE and IPE) | | | **Duration**: 90 min | |
| **Aims/Rationale**: To give the students basic concepts of simple harmonic motion and uniform circular motion | | | | |
| **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:** 15-4: Circular motion (simple harmonic motion and uniform circular motion) | 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. Describe how simple harmonic motion can be represented as the projection of uniform circular motion onto the diameter of a circle. | 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:  77. Figure 15-53 gives the position of a 20 g block oscillating in SHM on the end of a spring. The horizontal axis scale is set by ts = 40.0 ms. What are (a) the maximum kinetic energy of the block and (b) the number of times per second that maximum is reached?  78. Figure 15-53 gives the position x(t) of a block oscillating in SHM on the end of a spring (ts = 40.0 ms). What are (a) the speed and (b) the magnitude of the radial acceleration of a particle in the corresponding uniform circular motion? | | | | |