

**DEVELOPMENT OF A CONCEPTUAL AND NUMERICAL  
QUESTION BANK FOR THE TESTING OF STUDENTS  
UNDERSTANDING IN PHYSICS**

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A PROJECT REPORT PRESENTED BY

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# **DEVELOPMENT OF A CONCEPTUAL AND NUMERICAL QUESTION BANK FOR THE TESTING OF STUDENTS UNDERSTANDING IN PHYSICS**

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We live in an age where science and technology has expanded greater than ever before. We are also faced with the challenging wave of growing student numbers. In the face of such challenges, how best can the general education and training of students in our schools be planned, to prepare them to take on responsible positions and to be useful members of society?

Two student groups were used to test and compare the conceptual understanding with comprehension and memorizing in physics, giving couple of question papers, one with conceptual questions and other with numerical questions on same concepts. According to the analysis of responses of students it could be revealed that there are number of difficulties in science education. First, it is possible for students to do well on conventional numerical problems by memorizing algorithms without understanding the underlying physics. Second, as a result of this, it is possible for a teacher to be completely misled into thinking that student have been taught effectively.

Finally, a conceptual and numerical question answer bank for five units of physics syllabus has been developed for the testing of students understanding in physics. These questions can be used not only to test but also to improve the conceptual understanding of students.