

Bahir Dar University
Post Graduate Diploma Teachers (PGDT) Program
Physics Subject Area Methods II (PGDT 432)
Individual Assignment (40%)

Academic Year 2016E.C (2023/24)

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Give detail answers and explanations for the following questions.

1. Chalkboard notes and teacher-made diagrams have a vital role in teaching physics.
Discuss the characteristics of chalkboard notes and teacher-made diagrams.
Prepare a one page (size A4) chalk board note with a teacher made diagram from any topic of grade 10 physics text book.
2. In utilization of technology for physics teaching, the role of computer assisted instruction (CAI) is vital. Discuss the uses of the following CAI's and their advantages for the improvement of physics instruction.
 - Simulations
 - Animations
 - Virtual labs
 - Virtual reality
3. Define what "concept maps" are and explain the uses of "Concept maps" in teaching physics.
Use the concept **Mechanics** as a central CONCEPT and extend hierarchically to the concepts associated with it using the concept maps **nodes** and **linking words**.
4. What are the 5E model of learning science? Explain the role of the teacher and that of the student in each phase of the 5E's.
5. What is the difference between graphs and motion diagrams? Explain with examples.
6. Describe the role of multiple representations (MR) in teaching physics.
7. Suppose you explain the following physical phenomena to your students in words "***A ball is thrown vertically upwards from the top edge of a building of height h . As the ball is going up, its velocity decreases with time and finally reaches zero at the maximum height. After that it will fall down in the reverse direction with increasing speed, passes the top edge of the building and touches the ground.***" Use as much multiple representations (MR) as possible to explain this phenomenon to your students so that the students can have clear understanding of the concept.

