



The 41st International Physics Olympiad
Croatia
Theoretical Competition
Monday, July 19th 2010

Please read this first:

1. The examination lasts for 5 hours. There are 3 questions each worth **10 points**.
2. Use only the pen issued on your table.
3. Use only the front side of the sheets of paper provided.
4. Use the **Answer Sheets** provided to fill in your answers. Numerical results should be written with as many digits as are appropriate to the given data. *Do not forget to state the units.*
5. Additional **Writing Sheets** are also provided. Write on the working sheets of paper whatever you consider is required for the solution of the questions and that you wish to be marked. However you should use *as little text as possible* and provide only equations, numbers, symbols and diagrams.
6. It is absolutely essential that you enter your **Country Code** and your **Student Code** in the boxes at the top of every sheet of paper used. In addition, on the working sheets of paper used for each question, you should enter the number of the problem (**Problem No.**), the task number (**Task No.**), the progressive number of each sheet (**Page No.**) and the total number of working sheets that you have used and wish to be marked for each question (**Total No. of pages**). If you use some working sheets of paper for notes that you do not wish to be marked, put a large cross through the whole sheet and do not include it in your numbering.
7. When you have finished, arrange all sheets in *proper order*. For each question put
 - answer sheets first;
 - working sheets in order;
 - the sheets you do not wish to be marked;
 - put unused sheets and the printed question at the bottom.

Place the papers for each question in the order of questions and page numbers. Bind them with the paper clip provided and leave everything on your desk. *You are not allowed to take any sheet of paper out of the room.*