

Welcome to the Physics portion of the Science Contest for the 2009-2010 year!

As with the previous years, I am going to try something new this year. I plan to increase the number of conceptual questions on the exam this year. There will be conceptual questions as found on the exams in previous years, but this year I will also include some conceptual questions based on material as found in Paul G. Hewitt's "Conceptual Physics" textbook. I have both the ninth and tenth editions at hand, but I am sure that it will not matter what edition is used for preparation for the contests. Additionally this year I will include two questions on each contest from the book "Six Easy Pieces" by Richard P. Feynman. This book is a collection of lectures that are also included in series "The Feynman Lectures on Physics" by Feynman, Leighton & Sands. The questions for each contest will be based on the chapters as follows:

Invitational A:	"Atoms in Motion"
Invitational B:	"Basic Physics"
District 1:	"The Relation of Physics to Other Sciences"
District 2:	"Conservation of Energy"
Regional:	"The Theory of Gravitation"
State:	"Quantum Behavior"

Again this year I also plan to have you investigate Physicists and areas of physics research at universities in Texas. I will include a single question about a current Texas physicist along with one or two conceptual and/or calculational problem(s) based on their research interests written at a level as found in an introductory physics textbook. I have compiled a list of possible professors for you to review for the contests. This year I tried to ensure that there was a wide variety of schools, theoreticians and experimentalists, men and women, etc. My sole source of information comes from information that is either found on their institution's departmental website or directly linked from it. Please do NOT contact the professors directly for biographical information! All of the needed information can be found by going to the departmental website and then hunting around a little. Relevant information for the contest questions is highest degree/degree granting institution, area(s) of research interest and possibly awards/accolades.

Here is the list of possible professors:

1. Professor Tikhon Bykov, McMurry University
2. Professor Margaret Cheung, University of Houston
3. Professor Jodi Cooley, Southern Methodist University
4. Professor Jose Luis M. Cortez, The University of Texas – Pan American
5. Professor Harry D. Downing, Stephen F. Austin State University
6. Professor David Hough, Trinity University
7. Professor Gan Liang, Sam Houston State University
8. Professor Jorge A. López, The University of Texas at El Paso
9. Professor Richard P. Olenick, University of Dallas
10. Professor Jose M. Perez, University of North Texas
11. Professor Christopher Pope, Texas A & M University
12. Professor Patricia H. Reiff, Rice University
13. Professor Mahdi Sanati, Texas Tech University
14. Professor B. F. L. Ward, Baylor University

As with last year, I will include a few symbolic questions, i.e., calculational questions that are non-numeric. Finally as always there will be no calculus required for the questions and only simple ac circuits. The test questions will be ordered as follows: The Feynman questions will be first, then the Texas physicist questions, and then the remaining questions in roughly book order.

Good luck with the studying and I hope to see you at the state meet this year.

Dr. James Friedrichsen