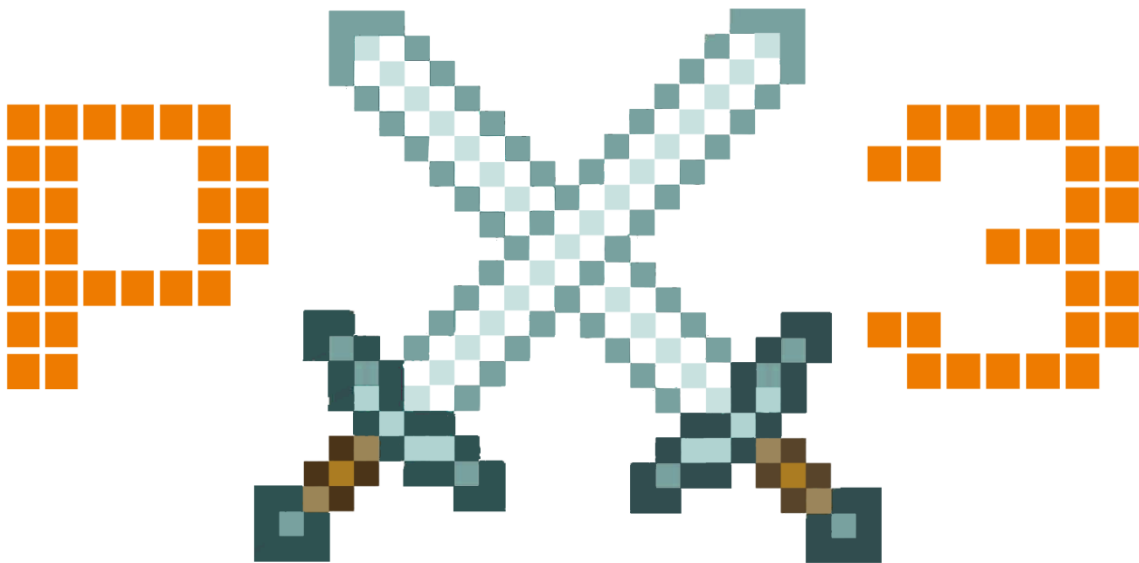


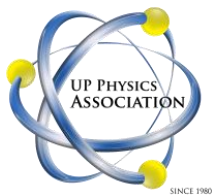
The UP Physics Association Presents:  
**PISIKAalaman 20X3**



# PISIKAalaman 20X3

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PISIKAalaman is an annual high school physics quiz bee held by the UP Physics Association in order to provide an avenue for excellence and learning for students and teachers alike. Every year, improvements are made in order to boost the experience. This 2013, changes have been made to the competition rounds in order to give all students a better chance of achieving victory.



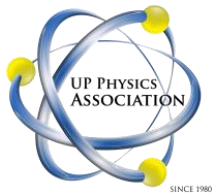
# Guidelines and Mechanics

## I. Registration

1. Registration shall last from **Aug. 26, 2013 to Nov. 9, 2013**.
2. All registered teams must pay a team registration fee of five hundred pesos (**Php 500.00**).
3. Modes of payment:
  - i. Landbank Account  
UP Physics Association, Account No. 3071 0154 15
  - ii. Walk-in payment
4. The contact details of the event organizers are as follows:

**UP Physics Association**  
National Institute of Physics  
University of the Philippines, Diliman  
Quezon City, Metro Manila 1101  
[upphysics@gmail.com](mailto:upphysics@gmail.com)  
(+63) 917 5507 528 (number of event head)
5. The official website of the competition is **pisikaalaman20x3.weebly.com**.
6. Interested schools may pre-register through **tinyurl.com/pisikaalaman20x3**.
7. Schools are highly advised to express their desire to join the competition on or before **November 9, 2013** by informing the event organizers through the contact details stated above. However, walk-in registrants during the event day itself are still permitted to register and join the competition.
8. The information that must be sent to the event organizers are the following:

SCHOOL	
Name: Mailing Address: Telephone Number: Fax Number: E-mail Address:	
COACH(ES)	
Name: Contact Number: E-mail Address:	
STUDENTS	
Name: Year Level: Team Number:	



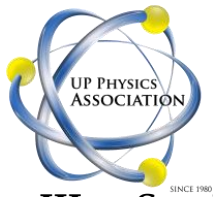
## II. General Competition Guidelines

### A. Participants

1. All secondary schools inside the Philippines are eligible to register a maximum of two (2) teams in the competition.
2. Each team is composed of **exactly** three (3) members. Only bona fide secondary school students enrolled in the participating school at **any year level** are eligible to be a member of the team.
3. Changes in the composition of the team are permitted until the start of the relay round. No substitute or alternate contestants are allowed to join the competition after the start of the said round.
4. The schools are also highly encouraged to bring up to two (2) spectator students **per school**. Inclusion of two (2) spectator students is **free of charge**. Additional spectator students shall incur a cost of only one hundred pesos (**Php 100.00**).
5. Spectators students shall be provided lunch on the event day and a seat in the students' seminar.

### B. Competition Proper

1. PISIKAAalaman 20X3 will be held inside the campus of the University of the Philippines. Thus, all participants must comply with the rules and regulations in application within the campus.
2. The competition is divided into six (6) parts: the seminar program, the relay round, the group solving round, the bonus round, the final round and the awarding ceremony
3. All participants are required to bring their own **school ID**, a **black or blue pen**, and a **scientific calculator**. However, no programmable and/or graphing calculators are allowed to be used during the competition.
4. Numerical final answers to questions or problems that involve computation must be expressed using three (3) significant figures. The odd-even rule in rounding values shall be followed.
5. Protests regarding a particular problem or question will only be entertained during the checking of answers, before the competition progress into a new problem or into a new round. No protests shall be entertained outside the said situation.



### III. Seminar Program

#### A. Description and Guidelines

1. The seminar program is divided into two parts. The first part shall be the **coaches' and teachers' seminar**, which shall happen during the group solving round. The second part shall be the **students' seminar** for contestants and spectator students which shall happen after the group solving round.
2. The seminars shall focus on topics that aim to address misconceptions on Physics, and to inform the audience on the current applications of Physics in various fields. Students from **all year levels** of a participating school are invited to attend.

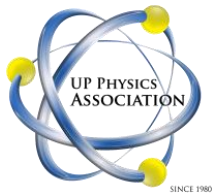
### IV. Relay Round

#### A. Mechanics

1. This round contains 10 sets of 3 questions. There shall be 2 question sets each from the following categories: Mechanics, Oscillations and Mechanical Waves, Thermodynamics, Electricity and Magnetism, and Light and Optics.
2. In a set, the answer to the first question is needed to answer the second question, and the answer to the second question is needed to answer the third question.
3. Each team member must solve only 1 question per set.
4. The arrangement of the team members shall be fixed for the whole round.
5. Each team may use only 1 pen, 1 calculator and 1 answer sheet per question set.
6. Each team shall be given 5 minutes to answer each question set.
7. Teams will be given 250 points for each easy set answered correctly, and 350 points for each average set.
8. No partial points shall be awarded. Only the answer to the third question shall be considered for the points.
9. The maximum number of points that can be obtained by a team in this round is 3000 points (5 easy, 5 average).
10. The points obtained in this round will be considered in choosing the finalists. No team will be eliminated in this round.

#### B. Guidelines

1. Failure to submit the answer to the third question after five (5) minutes shall invalidate the answer.
2. Once a set begins, the participants of this round are not allowed to communicate with anyone, even their team members, except the proctors and the game master.
3. Team members are not allowed to receive the paper that they have passed.
4. Any form of communication aside from the passing of answer sheet, calculator and/or pen shall be grounds for invalidation of the score for that set.
5. The use of external references, even if it is digital or personal, is strictly prohibited.



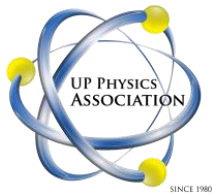
## V. Group Solving Round

### A. Mechanics

1. All teams shall be given the same set of five (5) problems which they will try to solve in 90 minutes.
2. Each of the five problems shall come from one of the following: Mechanics, Oscillations and Mechanical Waves, Thermodynamics, Electricity and Magnetism, and Light and Optics.
3. Each physics problem shall start with an explanation of the physics concepts needed to solve the problem. This aims to level the field for all secondary schools with different physics curricula.
4. Each team shall be given a formula card which could be useful throughout the competition. The teams are permitted to bring the formula cards to the succeeding rounds.
5. Each problem will be composed of an easy, an average, and a difficult question worth 150, 300, and 450 points, respectively.
6. There shall be a maximum of 900 points to be given per problem, and the maximum number of points that can be obtained in this round is 4500 points.
7. The top 9 teams with the highest cumulative points in both the relay and group solving rounds will be announced afterwards and will proceed to the Finals.

### B. Guidelines

1. Participants are only allowed to discuss the problems among their teammates. Communication with other teams is prohibited.
2. Questions to proctors must only be clarifications about the rules or the text, and not about the concepts in the problems.
3. The use of external references even if it is digital or personal, is strictly prohibited.



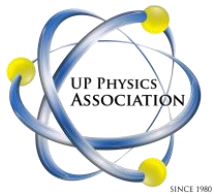
## VI. Choose Your Champion Round

### A. Mechanics

1. Teams who were not able to qualify for the Finals will be given another opportunity in this round.
2. All teams must choose one representative who will represent them for the whole round.
3. Each representative will be given a pen and scratch paper, and they may bring the formula sheets given to them during the group solving round.
4. All representatives will be seated equidistant to a set of laptops.
5. The champions shall be given only 3 minutes to answer a question.
6. After arriving at an answer, the contestants must go to a laptop and input their answer into a program that will record the time of their input and send the answer to a checker.
7. The answer must be of the format "**Assigned Team Letter\_Answer**". (i.e. **A\_12.3**)
8. The first champion to give the correct answer gives his/her teams a slot in the Final Round.
9. Champions who fail to input the correct answer, or do not answer within the time limit shall be disqualified.
10. Champions who manage to give the right answer, but are not first, shall move on the next question.
11. Choose your Champion round ends when 3 champions are chosen.

### B. Guidelines

1. Any form of rough play is not allowed, so as to maintain the atmosphere of the competition.
2. The laptops must be handled with utmost care. Any individual who damages a laptop will be held accountable for the damage.
3. The use of external references, which includes teammates and teachers, is strictly prohibited.



## VII. Finals

### A. Mechanics

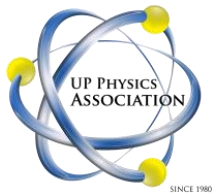
1. The final round shall be between twelve (**12**) teams, with nine (**9**) coming from the Relay and Group Solving round and three (**3**) coming from the Choose Your Champion round.
2. Unlike previous years, PISIKAlaman 20X3 will implement a power-up system to provide a dynamic playing ground for the contestants. Each team will be given the opportunity to choose power-ups that may help them or challenge opposing teams.
3. The quality and quantity of the power-ups that the teams can choose from will be dependent on their performance on the first three rounds.
4. There shall be fifteen (**15**) questions in this round, each worth a maximum of 1000 points without power-ups.
5. After the second reading of the question, contestants shall be given at most five (**5**) minutes to answer the question. Each team will be provided a buzzer that may be pressed any time within the said time duration should they wish to answer. The round will proceed to the next question once the time runs out, or if all the teams have already finished answering.
6. A proctor will be nearby each team to check their answers. The proctor will notify the team and the audience whether their answer is correct or incorrect.
7. The first, second, and third teams that answer correctly will receive 1000, 800, and 600 points, respectively. Succeeding teams who answer correctly will be given 500 points.
8. A team shall have two (**2**) chances to answer every question. The first attempt will garner the full points according to their position in answering, whereas the second attempt will only give them 300 points, no matter the order of answering.

### B. Power-ups

1. The power-ups and their corresponding mechanics shall be disclosed on the day of the event itself.

### C. Guidelines

1. Participants are not allowed to communicate in any way with other teams. Participants are only allowed to discuss the problems among their teammates.
2. Questions to proctors must be clarifications about the rules or the text, not about the concepts in the problems.
3. The use of external references, even if it is digital or personal, is strictly prohibited.



## VIII. Scoring and Prizes

### A. Scoring

1. The combined points from the Relay and Group Solving rounds shall determine which teams shall enter the Final round.
2. Teams who enter the Finals shall have their scores reset to zero (0) at the beginning of the said round.
3. The top three teams will be determined from their scores in the Final round.

### B. Prizes

1. The top three teams shall receive a **trophy** and each member belonging to these teams shall be awarded a **medal**.
2. Cash prizes shall be given to the Champions, 1<sup>st</sup> Runner-up and 2<sup>nd</sup> Runner-up.
3. Certificates of participation shall be given to all team members and shall be given only during the awarding ceremony.

## IX. Event Schedule

Time	Student	Teacher
08:00 am – 09:00 am	Registration	Registration
09:00 am – 10:00 am	Relay Round	Relay Round
10:00 am – 10:30 am	Snack	Snack
10:30 am – 12:00 pm	Group Solving	Teacher’s Seminar
12:00 pm – 12:45 pm	Lunch	Lunch
12:45 pm – 01:15 pm	Student’s Seminar	Student’s Seminar
01:15 pm – 01:30 pm	Choose Your Champion (Bonus)	Choose Your Champion (Bonus)
01:30 pm – 03:15 pm	Finals	Finals
03:15 pm – 03:30 pm	Intermission	Intermission
03:30 pm – 04:00 pm	Awarding Ceremony	Awarding Ceremony