

The Regulations of the International Young Physicists' Tournament

I. International Young Physicists' Tournament

The International Young Physicists' Tournament (IYPT) is a competition among teams of secondary school students in their ability to solve complicated scientific problems, to present solutions to these problems in a convincing form and to defend them in scientific discussions, called Physics Fights (PF).

II. The problems of the IYPT

The problems are formulated by the International Organizing Committee (IOC) and sent to the participating countries not later than in October. These problems may be used in regional and national tournaments. To compose the problems a meeting of the IOC may be held in the host country.

III. The participants of the IYPT

1. *The national teams*

Any invited country is represented by one team. The host country may be represented by two teams.

2. *The teams of regions, towns, colleges etc.*

The decision about the participation of such a team is taken by the Local Organizing Committee (LOC).

3. *The membership of the teams*

The IYPT team is composed of five secondary school students. The secondary school graduates could participate in the IYPT in the year of their graduation. The participation of university students is not allowed. The IOC may allow participation of teams of four or three students. The composition of the team cannot be changed during the Tournament. The team is headed by a captain who is the official representative of the team during the PF.

4. The team is accompanied by two team leaders.

IV. The Jury

The Jury is nominated and organized by the LOC. It consists of members of different countries. Team leaders (one from each team) are included in the Jury. The team leaders cannot be members of the Jury in the PF where their teams participate and should not, if possible, grade the same team more than twice.

V. The agenda of the IYPT

The IYPT is carried out in a period determined by the LOC (from May to July).

All teams participate in five Selective PFs. Selective PFs are carried out according to a special schedule, following the rule that, if possible, no team meets another team more than once. This schedule should be known before numbers are ascribed to the teams by lot. The best teams participate in the Final PF.

The host country provides a cultural program for the participants.

VI. The Physics Fight regulations

Three or four teams participate in a PF, depending on the total number of teams. In the course of a PF the members of a team communicate only with each other.

Before the beginning of a PF, the Jury and the teams are introduced.

The PF is carried out in three (or four) Stages. In each Stage, a team plays one of the three (four) roles: Reporter, Opponent, Reviewer (Observer). In the subsequent Stages of the PF, the teams change their roles according to the schemes:

| <i>Three teams PF</i> | | | | |
|-----------------------|-------|-----|-----|-----|
| Team | Stage | 1 | 2 | 3 |
| 1 | | Rep | Rev | Opp |
| 2 | | Opp | Rep | Rev |
| 3 | | Rev | Opp | Rep |

| <i>Four teams PF</i> | | | | | |
|----------------------|-------|-----|-----|-----|-----|
| Team | Stage | 1 | 2 | 3 | 4 |
| 1 | | Rep | Obs | Rev | Opp |
| 2 | | Opp | Rep | Obs | Rev |
| 3 | | Rev | Opp | Rep | Obs |
| 4 | | Obs | Rev | Opp | Rep |

VII. The Stage regulations

The performance order in the Stage of a PF:

| | Reserved time in minutes | |
|---|--------------------------|---------------------|
| | English | English/ Russian |
| 1. The Opponent challenges the Reporter for the problem | 1 | 1 |
| 2. The Reporter accepts or rejects the challenge | 1 | 1 |
| 3. Preparation of the Reporter | 5 | 5 |
| 4. Presentation of the report | 12 | 12 |
| 5. Questions of the Opponent to the Reporter and answers of the Reporter | 2 | 3 |
| 6. Preparation of the Opponent | 3 | 3 |
| 7. The Opponent takes the floor | 5 | 8 |
| 8. Discussion between the Reporter and the Opponent | 5 | 8 |
| 9. Questions of the Reviewer to the Reporter and the Opponent and answers to the questions | 2 | 3 |
| 10. Preparation of the Reviewer | 2 | 2 |
| 11. The Reviewer takes the floor | 3 | 5 |
| 12. Concluding remarks of the Reporter | 2 | 3 |
| 13. Questions of the Jury and grading | 2 | 2 |

In the Final PF the procedure of challenge is omitted.

The official language of the IYPT is English. The report has to be presented in English. In the subsequent parts teams can choose to use Russian.

VIII. The teams performance in the Stages

The Reporter presents the essence of the solution to the problem, attracting the attention of the audience to the main physical ideas and conclusions. Standard devices for presentation are blackboard, overhead and slide projectors. For further devices the teams should consult the organizers.

The Opponent puts questions to the Reporter and criticizes the report, pointing to possible inaccuracy and errors in the understanding of the problem and in the solution. The Opponent analyzes the advantages and drawbacks of both the solution and the presentation of the Reporter. The discussion of the Opponent should not become a presentation of his/her own solution. In the discussion, the solution presented by the Reporter is discussed.

The Reviewer presents a short estimation of the presentations of Reporter and Opponent.

The Observer does not participate actively in the PF.

During one PF only one member of a team takes the floor as Reporter, Opponent or Reviewer; other members of the team are allowed to make brief remarks. No member of a team may take the floor more than twice during one PF or, as Reporter, more than three times in total during all Selective PFs.

IX. The rules of problem-challenge and rejection

1. All problems presented in the same PF must be different.
2. *Selective PF*

The Opponent may challenge the Reporter on any problem with the exception for a problem that:

- (a) was presented by the Reporter earlier;
- (b) was opposed by the Opponent earlier;
- (c) was presented by the Opponent earlier.

If there are less than five problems left to challenge, the bans (c), (b), (a) are successively removed, in that order.

During all Selective PFs the Reporter may reject the challenge of three different problems in total without penalty. For every subsequent rejection the coefficient of the Reporter (see section X) is decreased by 0.2.

3. *Final PF*

Within four hours after the announcement of the results of the Selective PFs the teams participating in the Final choose their problems. In case teams choose the same problem, priority is given according to the order of presentation in the Final (see section XII). The choice should be made public immediately.

X. The grading

After each Stage the Jury grades the teams, taking into account all presentations of the members of the team, questions and answers to the questions, and participation in the discussion. Each Jury member shows integer marks from 1 to 10. If the Jury consists of more than six persons the highest and the lowest marks are withdrawn. If the Jury consists of five or six persons, the lowest mark is withdrawn in the evaluation of the mean mark. The remaining marks are taken into account in all further calculations. The mean marks are multiplied by various coefficients: 3.0 or less (see section IX) for the Reporter, 2.0 for the Opponent, 1.0 for the Reviewer and then transformed into points.

XI. The resulting parameters

1. For a team in the PF

The sum of points (*SP*) is the sum of mean marks, multiplied by the corresponding coefficients and rounded to one decimal.

2. For a team in the Tournament

The total sum of points (*TSP*) equals the sum of *SP* of the team in all Selective PFs. The highest *TSP*, denoted as *HTSP*, serves as reference (see section XIII).

XII. The Final

The three teams having the highest *TSP* in the Selective PFs participate in the Final. In case teams have equal *TSP*, their participation in the Final is decided by the most balanced teamwork during the Selective PFs, in case of equality by lot.

The order of presentation in the Final is also determined by the *TSP*, in case of equality by the most balanced teamwork, in case of continued equality by lot: the higher the *TSP*, the lower the number in the scheme of section VI.

XIII. The final team ranking of the IYPT

The winner of the Final obtains the 1st place. The other two teams participating in the Final share the 2nd place. For teams not participating in the Final, the LOC decides, according to the *TSP* obtained, which teams will share the 3rd place.

XIV. The status of the regulations of the IYPT

The regulations are established by the IOC and may be changed only by the IOC.

Espoo, October 14th 2000