XV IYPT 2002
ODESSA, UKRAINE

PREPARATORY SEMINAR
ODESSA-2001

PROPOSED REGULATIONS.
Here are the proposed YPT Regulations, which would be discussed during the seminar. Please note that they differ from the Regulations of recent years.

The Regulations of the Young Physicists' Tournament

I. The Young Physicists’ Tournament

The Young Physicists’ Tournament (YPT) 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 membership of the teams

The YPT team is composed of five secondary school students. The OC 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. The team is accompanied by two team leaders.

III. 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. 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 following Stages of the PF, the teams change their roles according to the scheme:

<table>
<thead>
<tr>
<th>Three teams PF</th>
<th>Four teams PF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>Stage 1</td>
</tr>
<tr>
<td>Team</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>Rep</td>
</tr>
<tr>
<td>2</td>
<td>Opp</td>
</tr>
<tr>
<td>3</td>
<td>Rev</td>
</tr>
<tr>
<td>4</td>
<td>Obs</td>
</tr>
</tbody>
</table>

Before the beginning of a PF, the Jury and the teams are introduced by the fight presenter (the man who conducts the PF). The roles are distributed among the teams according to the results of captains’ contest or by lot (depending on the Fight Presenter decision).
IV. The Stage regulations

The performance order in the Stage of a PF:  

<table>
<thead>
<tr>
<th>Activity</th>
<th>Reserved time in minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Opponent challenges the Reporter for the</td>
<td>1 (for each challenge)</td>
</tr>
<tr>
<td>problem</td>
<td></td>
</tr>
<tr>
<td>The Reporter accepts or rejects the challenge</td>
<td>1</td>
</tr>
<tr>
<td>Preparation of the Reporter</td>
<td>5</td>
</tr>
<tr>
<td>Presentation of the report</td>
<td>7</td>
</tr>
<tr>
<td>Questions of the Opponent to the Reporter</td>
<td>2</td>
</tr>
<tr>
<td>and answers of the Reporter</td>
<td></td>
</tr>
<tr>
<td>Preparation of the Opponent</td>
<td>2</td>
</tr>
<tr>
<td>The Opponent takes the floor</td>
<td>5</td>
</tr>
<tr>
<td>Discussion between the Reporter and the Opponent</td>
<td>3</td>
</tr>
<tr>
<td>Questions of the Reviewer to the Reporter</td>
<td>2</td>
</tr>
<tr>
<td>and the Opponent and answers to the questions</td>
<td></td>
</tr>
<tr>
<td>The Reviewer takes the floor</td>
<td>2</td>
</tr>
<tr>
<td>Discussion between the Reporter, the Opponent</td>
<td>5</td>
</tr>
<tr>
<td>and the Reviewer</td>
<td></td>
</tr>
<tr>
<td>General team discussion</td>
<td>5</td>
</tr>
<tr>
<td>Concluding remarks of the Reporter</td>
<td>2</td>
</tr>
<tr>
<td>Questions of the Jury</td>
<td>2</td>
</tr>
<tr>
<td>Grading</td>
<td>1</td>
</tr>
<tr>
<td>The Jury takes the floor</td>
<td>5</td>
</tr>
<tr>
<td>Additional statements (if necessary)</td>
<td></td>
</tr>
</tbody>
</table>

V. The team performance in the Stages

The Reporter (one or two members of the team) 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. Better to present photos, drawings, experiments that were prepared beforehand.

The Opponent (one team member) 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 analyses the advantages and drawbacks of both the solution and the presentation of the Reporter. The Opposition should not become a presentation of the Opponent's own solution or experiments that can prove or disprove the Reporter's results. The Opponent may just demonstrate the phenomenon without any explanations (by the Jury consent). In the discussion, the solution presented by the Reporter is discussed. During it any team can ask questions to get more information concerning just the report. Any team member can ask the questions. The Reporter or his team answers these questions.

The Reviewer presents a short estimation of the presentations of Reporter and Opponent. The Reporter and the Opponent can answer the Reviewer's remarks.

After that all team members can take part in the general team discussion with the Reporter, the Opponent and the Reviewer, where all mentioned opinions and questions can be discussed.

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. Participation in discussion, putting and answering the
questions are not considered as taking the floor. Members that take part in the report presentation (it means that there are more than one Reporter) are called the Supplementary Reporters.

VI. The Fight Presenter
The Fight Presenter (FP) duty is to support the proper conditions for PF lasting.
His responsibilities are:
1. To follow the Stage Regulation
2. To watch the teams behavior, to announce the marks and problems’ conditions etc.
3. To control the questions of the Jury and team members (they shouldn’t be repeated)
4. To follow the discussion and manage to stop it when it’s non-constructive
5. To determine the roles of the teams at the PF beginning (by lot or by any contest among team captains)
6. To watch that no outsiders could intercourse with the teams
The following points are out of the FP responsibility:
1. To correct the statements of the participants
2. To explain the Jury marks
3. To answer any disputable questions that are out of his duties
The FP has the following rights:
1. To stop the participant, who breaks the Stage Regulation
2. Not to allow the questions that are repeated and the questions of Jury that aren’t of the specifying nature
3. To stop the discussion when it’s non-constructive
4. To exclude the team (in according with the Jury decision) if it breaks the Stage Regulation often or disturbs the participants and Jury
5. The FP can add 1 minute, if necessary, to the report and opposition; and one more minute can be given in accordance with the Jury decision
6. After grading FP can allow the team leaders and the audience to express their opinions
The FP has no right:
1. To break the YPT Regulation
2. To interrupt the participants before the time limit of their taking the floor is elapsed
3. To express his own opinion or to comment the speeches
4. To make prompts to the participants
All the duties and rights of the FP are established in YPT rules and can’t be changed during it.

VII. The grading
After each Stage the Jury grades the teams, taking into account all presentations of the team members, questions and answers to the questions, and participation in the discussion. Each Jury member shows 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.

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Reporter</th>
<th>Opponent</th>
<th>Reviewer</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0 or less</td>
<td>2.0</td>
<td>1.0</td>
<td></td>
</tr>
</tbody>
</table>
VIII. The agenda of the IYPT

All teams participate in four or 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 team leader must not be in the Jury grading his team.
Nine best teams of the Selective fights take part in the Semifinals. Three (or four) best teams of the Semifinals make through in the Final.

IX. The rules of problem-challenge and rejection

1. All problems presented in the same PF must be different.
2. 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.
   d) was excluded by the OC

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

X. The resulting parameters

The resulting parameters have to be presented as a result of following calculations.

SPj (the sum of points) shows the sum of the mean marks, multiplied by the corresponding coefficients and rounded to 0.01. Letter j shows the place that team took in this PF.
Rating (R) shows how much successful was the team appearance in this PF. Rj is the rating of the team that took place j in this PF. It’s calculated depending on the following table:

<table>
<thead>
<tr>
<th>SPj=SP2,1</th>
<th>1</th>
<th>2,3 or 4</th>
<th>2</th>
<th>3 or 4</th>
<th>3 or 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPj≥51</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>51&gt;SPj≥36</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>36&gt;SPj≥21</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>21&gt;SPj</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

This rule is used for calculation of the SP in all the Selective fights.
Total sum of points (TSP) equals the sum of SP of the team in all the Selective PFs. The total rating (TR) equals the sum of Rs in all the Selective PFs.
XI. Semifinal Fights (SFF) and conditions of participation
In accordance with the Jury decision 9 teams with the highest TR take part in SFF. If the teams that took 9-10 places have the same TR, the preference is given to the team that got the higher TSP (accurate to 0.01). If the TSP is the same too, Jury has to carry out the Fight among these teams according to the rules it establishes.
Semi-final consists of two Fights. The roles are distributed in accordance with the results of the captains contest or by lot.

X. Problems for the Semifinal
During the Semi-final Fights 10 problems are used according to the Rating List (RL) announced by IOC.
Every team that takes part in SFF forms this RL. Every team ascribes the integer number of points to any problem it wishes. But the total sum of these points has to be equal to 100. The whole list of 17 problems is used to form the RL. In the Semi-finals the Opponent can challenge the Reporter to any of these 10 problems. While SFF the Reporter can reject 2 problems without penalty. For every subsequent rejection the coefficient of the Reporter is decreased by 0.5.

XI. The Problems for the Final
The teams that have got the highest R (or the TSP if the Rs are equal) take part in the Final. They get the list of 5 new problems that is formed and announced by the Jury at 8 a.m. The teams prepare their solutions themselves (without their team leaders help). The Fight starts after 5 hours elapsed since problems announcing. The teams can report any of these 5 problems. While the Final, Reporter can reject just once without penalty. After every next rejection the coefficient of the Reporter is decreased by 0.2.

XII. The YPT Winners. Individual Championship
The winner in the Individual Championship is determined in accordance with his personal Individual Rating (IR). Just the points for the report or opposition (if the mean point for speech is more than 6) are used for IR calculation. The excess of the mark over the 6 is taken for IR calculations. In a case when there were two Reporters the points are divided fifty-fifty among them. The Rating points are given for the participation in the Selective Fights and Semi-final ones.

XIII. The Appeal
The team can appeal if it isn’t satisfied with:
   a) the fight results;
   b) the FP work;
   c) the Jury work;
The Appeal is given to the YPT OC by the captain in 1 hour time after the fight.
The Appeal has to include:
   a) the statement of the infringement;
   b) the items of the rules that were infringed;
   c) the teams or the FP confirmations to the fact of infringement;
In this case the Appeal will be accepted and taken up by the YPT OC.
The pretensions won’t be considered if:
   a) the infringement isn’t out the rules;
   b) the Jury and other participants don’t find any infringement;
   c) the infringement doesn’t change the fight results;
In a case of the fair Appeal the YPT OC considers the way of its satisfaction at the general Jury meeting.