THE IMPLEMENTATION OF THE INFORMATION TECHNOLOGY AND MASS MEDIA IN THE TEACHING-LEARNING PROCESS
RULES FOR THE INTERNATIONAL CONFERENCE OF SCIENTIFIC AND METHODOLOGICAL PAPERS

Argument:

The International Conference of Scientific and Methodological Papers is expected to be a challenge for all the teachers who wish to make lessons which are far from ordinary and may have a strong impact on students and on the school and local community. In a period in which everything takes place in a rapid and often misunderstood rhythm, in which the explosion of information and knowledge seems to have no limits, it is essential for teachers to use appropriate methodological means and didactic materials as well as acquire new conceptions about the teaching domain. This year, The Conference of Scientific and Methodological Papers is designed to go beyond the borders of one country under the title "Quality in Education – an International Challenge." The teachers who want to bring more value into the teaching activity have the opportunity to express their points of view with reference to a concept which currently guides the educator's interests in the Romanian and European high school education and which is supported especially by the teaching practice and the daily reality of a teacher's work.

Purpose:

The stimulation of didactic creativity and managerial innovation of teachers towards the adoption of the most appropriate teaching methods and strategies and the use of the latest teaching means, didactic materials and technical devices in the context of the curriculum reform.

Target Group:

The target group includes teachers of all subjects who have a direct impact on Mathematics and Information Technology in Romania (Piatra Neamţ, Roman, Bacău, Focşani, Vaslui, Galaţi, Iaşi, Suceava and Botoşani), Bulgaria, Estonia, Lithuania, The Republic of Moldova, Poland, Slovakia, Spain, Sweden, Turkey, Ukraine and various other countries that will be invited to join us this year.

Aims:
- To encourage teachers to express their ideas and opinions regarding particular problems they encounter in their activity as well as the application of the IT means in the curriculum;
- To stimulate the achievement of an interdisciplinary/trans-curricular approach to the teaching process through exchanges of expertise between teachers of various domains from different countries;
- To promote ideas of competition and performance in education;
- To promote implementation of modern methods of teaching, didactic materials and technical devices in lessons;
- The introduction of virtual and experimental models, of simulations and educational software in lessons, with the purpose of facilitating learning and improving the teaching activity;
- To exchange expertise among teachers regarding high performance in school in order to make the teaching act more efficient;

The presentation of the scientific and methodological papers:

Each participant will present by means of a computer, in Romanian or English, the most important aspects of the paper for 10-15 minutes. After the presentation, the participant may be asked questions by the colleagues for clarifying or completing certain aspects of the subject which have remained unclear or incompletely presented.

Criteria of selection for the participation at the conference of the scientific and methodological papers:
1. The originality of the subject regarding modern didactic innovation and up-to-date information;
2. The degree of applicability in classroom lessons;
3. The implementation of educational software, experimental and virtual models and simulations;
4. The integration in the teaching process of modern means of education: interactive boards, experimental kits, computers, video-projectors;
5. The interdisciplinary/ trans-curricular approach in the paper;

The board of examiners of the papers will include highly regarded national and international University Professors and high school Methodists.

Final products:
1. The International Conference of Scientific and Methodological Papers will result in the editing of a book about good didactic strategies with ISBN;
2. The most appreciated/popular papers will be placed, with the agreement of the authors, on the official site of The National College of Computer Science.

IMPORTANT:
THE DEADLINE FOR ENLISTING IN THE CONFERENCE: December, 3rd, 2010, on the email address
cni_pn@yahoo.com

Each author will specify:
- The TITLE of the paper, their FIRST AND SECOND NAME and the SCHOOL;
- A short description of the paper which should include one or two pictures of it;
- It is important to specify in the email the necessary technical support required for the presentation;
- When the paper is presented, the authors will **obligatorily** provide the board of examiners with the material on electronic support (disk, CD, DVD);
- Not respecting these conditions leads to disqualification.

RULES OF THE INTERNATIONAL FESTIVAL OF MATHEMATICS AND COMPUTER SCIENCE
MATHEMATICS COMPETITION- INDIVIDUAL SECTION

Art 1: The subject will contain 4 problems with a different degree of difficulty, for each 4 years of study. The timeline is 3 hours. Half an hour is awarded for students to read and become familiar with the subjects.

Art 2: For each correct solution, 7 points will be awarded. The partial solutions (that are not complete, but still correct) will be pointed according to the marking scheme of the subjects. Any solution different from the one found in the marking scheme will be pointed as suitable.

Art 3: The maximum score for a test is 28 points and the minimum score is 0.

Art 4: The evaluation committee will be formed of professors and teachers that do not have any students in the contest at the respective level.

Art 5: The students who want to dispute the evaluation of their test will complete a form received from the contest secretary office. For each contested problem the student will complete a form.

Art 6: The re-evaluation of each subject is made by the evaluation committee in front of the student. The student's teacher or any other person except the student is forbidden to assist the re-evaluation.

Art 7: An appeal to re-evaluation is accepted (by increasing or reducing the initial score) if the difference between the initial score and the re-evaluated score is bigger than 1 point. If a problem first graded with 6.5 is re-evaluated, than the new grade is the one given by the re-evaluation committee.

Art 8: Diplomas and prizes will be awarded for each year of study.

THE INTERNATIONAL FESTIVAL OF MATHEMATICS AND COMPUTER SCIENCE
RULES OF THE MATHEMATICS COMPETITION – THE TEAM SECTION
– THE 2010 EDITION –

Article 1 – Description of the competition

During The International Festival of Mathematics and Computer Science – the 2010 edition, the team section of The Mathematics Competition will be organized according to the programme of the festival presented in the appendage. This section requires teams formed of three students, grades 8-10 (not more than one student in the 10th grade; and not more than two students from the same level of knowledge or grade)

Article 2 – How to enter the competition

The enlisting in the competition will be done by sending an email from the participant school to the address: letitia.spataru@cni.nt.edu.ro with the personal data of each member of the team (first name, surname, and grade). In this email, there must be specific reference to the member of the team who has been assigned the role of "team captain" as he/she is the one who will ensure the exchange of information between the members of the team and the board of examiners during the competition.

Article 3 – The Board of Examiners

The Chairman of the Competition supervises and is responsible for the organization of the team section of the contest. She/he chooses the members of the board of examiners which includes: six mathematics teachers, a secretary and three assistant teachers.

Article 4 – The test

The team section of The Mathematics Competition includes four rounds, each of them consisting in solving one problem (algebra, geometry, logic). For each round, the assistant teachers will give the suggested problem to each team captain, at the precise time established for the beginning of the test. The time for solving the problem in each round is 20 minutes, the break between the rounds being at least 15 minutes. When the time for solving each problem is over, each team captain will give the answer paper to the assistant teachers and will accompany them to the board of examiners, who will evaluate the answers on the spot and mark the paper according to the marking scheme. The secretary of the board collects the results at the end of each round. For each round, only the problems which receive complete and correct solutions are scored.

Article 5 – The Marking Scheme

Each problem completely and correctly solved receives three points. If students come up with wrong or incomplete solutions, each problem will receive 0 points. If a problem is solved correctly and follows after another correct one, it receives a bonus consisting in the number of points of the previous problem plus 1 point. If a correct solution follows after a wrong one, it receives maximum 3 points. The final number of points gathered by a team is formed of the sum of all the points obtained for the four rounds of the test. The minimum number of points that a team can get is 0 points and the maximum is 18 points.

Article 6 – The final classification

The team who obtain the highest score after evaluation are declared the winners of the test. The final classification is presented in the decreasing order of the scores. In case two or more leading teams get the same number of points at the end of the test, a special test is organized to determine the order of the first three teams. This test includes one round organized only for the teams with the same score. If necessary, other rounds will follow until a difference in score appears between the teams. The distinction between the teams who participate in the differentiating test will be established in the following ways: one 15-minute problem is provided; for each team the time of solving the problem is recorded; after assessment, the difference between the teams is established according to the correctness of the answer and the recorded time; the team who solve the problem correctly in the shortest time are declared winners.

Article 7 – Rules of behaviour for the participants

I. It is forbidden to use the computer (or any other type of similar device), the mobile phone or any other instrument for distance communication through which a team can exchange information and gain any advantage for providing the solution to the suggested problems. The teams who break that rule will be expelled from the competition.

II. Members of different teams are not allowed to cooperate during the progress of the test. The teams who break that rule will be expelled from the competition.

III. The teams who delay the delivery of the answer sheet at the end of each round for more than 60 seconds added to the time specified at article 4 will be expelled from the competition.

IV. The members of each team will communicate in a way that will not disturb the other teams during the progress of the test.

Article 8 – The awarding of prizes

Prizes will be awarded to the first three teams according to a procedure established by the organizers of the Festival.

Article 9 – The display of the results

The subjects, solutions, marking schemes and results will be displayed on the internet, on the site www.cni.nt.edu.ro after the competition ends.

THE COMPUTER SCIENCE SECTION

THE CONTEST TRIAL

The contest is taking place in the National College of Computer Science laboratories between 9 o'clock and 12 o'clock. The contestants have to arrive in the class half an hour before the contest.

When designing the contest subjects, there will be given a great importance to tasks which are meant to use the students' synthesis and analytic capacities and the knowledge accumulated in the years of study. The subjects will be designed according to the syllabus corresponding to each year of study.

The innovatory spirit and the creative spirit of the students will also be tested.

THE PROGRAMING CONTEST

1) In the morning preceding the contest, the committee will multiply the subjects and keep them out of the public sight.
2) The assisting teachers will instruct the students that are participating at the contest about their attribution and behaviour in the contest.
3) When applying for the contest every student will receive a numeric ID.
4) The programming environments used are :
- For C/C++: MinGW, Developer Studio;
- For Pascal: Free Pascal;
5) The evaluation is made with an automated evaluation system (a software which compiles the students source, executing the students program for each set of entry data prepared by the evaluation committee and verifying if the exit data are correct , and so giving each student a score according to the marking scheme).
6) The contestants will have to solve 2 problems, each having a maximum score of 100 points.
7) The evaluation system requires the exact following of the requests specified in the regulations and in the problem's text.
8) In the first half an hour the contestants are allowed to ask the evaluation committee questions about the problems, if they have doubts. The questions will be formulated so that they can be answered with "YES" or "NO". The answer to any ambiguous question will be "NO COMMENT".
9) The entry data reading will be made from the entry file specified in the text of the problem, and the results will be shown in the exit file. You must follow strictly the name and extension of the file (written in small letters) and the format of data specified in the text. Any line from the exit file must end with finish marking (Enter).
10) The compilation time is written on the contest sheet.
11) C++ programmers must pay attention that the function type "main()" is "int" and to return the value 0 (return 0).
12) After the competition, no modifications of the contestants subjects are allowed.

THE SOFTWARE CONTEST

The software contest will be for the next sections:

1) **Educational software.**
2) **Utilitarian software.**

1) Every contestant must present to the committee his work in electronic format and accompanied by the afferent paperwork containing:
    1) The section in which he/she participates;
    2) Type of work;
    3) Student/Students'name(s)
    4) Guiding teacher(s)'name(s);
    5) School;
    6) A short description of the work, containing one or maximum two images of it;

2) **The works are presented with the help of a PC and a projector.**
    The work's installation on the PCs will be made by every participant in the previous evening. The students will have with them every software needed for the good functioning of their work. We are not responsible for any errors of the installation process.

3) The application presentation must not be longer than 15 minutes.

4) The works can be made by teams of up to 3 contestants but can only be presented by one of them.

5) The members of the committee will establish the evaluation criteria that will be communicated to the contestants too.

6) The prize awarding will be made in the decreasing order of the points between the limits established by the committee.

NOTE: The subjects, solutions, marking schemes and results will be displayed on the internet, on the site www.cni.nt.edu.ro after the competition ends.

The subjects and the works of the contestants will be elaborated and presented in English.