



INTERNATIONAL SCIENCE OLYMPIADS

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*MAJOR OLYMPIAD PROGRAMME IN BASIC
SCIENCES IS OPERATIONAL IN THE COUNTRY.*

*THE PROGRAMME AIMS AT PROMOTING
EXCELLENCE IN SCIENCE AMONG PRE-UNIVERSITY
STUDENTS AND SELECTING TEAMS OF STUDENTS
TO REPRESENT INDIA AT THE INTERNATIONAL
OLYMPIADS IN PHYSICS, CHEMISTRY,
BIOLOGY, ASTRONOMY AND JUNIOR SCIENCE*

*THIS BOOK GIVES THE NECESSARY INFORMATION
TO ALL CONCERNED : STUDENTS, TEACHERS,
PARENTS AND OTHERS REGARDING THIS
PROGRAMME.*



ANNEXURE : INFORMATION ABOUT OLYMPIADS

The need for a national Olympiad programme in basic sciences had been recognized by the scientific community in India for a long time. India started participating in the International Mathematics Olympiad from 1989. It was felt that with a large base of quality human resources in science, the country must also participate in the International Olympiads in basic sciences: Physics, Chemistry, Biology and Astronomy.

In 1997-98, Homi Bhabha Centre for Science Education (HBCSE) [a National Centre of the Tata Institute of Fundamental Research (TIFR), Mumbai] and the Indian Association of Physics Teachers (IAPT) jointly took initiative in starting the physics olympiad programme. A year later, HBCSE took the initiative to extend the programme to chemistry and biology also. IAPT came forward to offer its wide network for help in the conduct of chemistry and biology examinations also. These initiatives received strong support and encouragement from the Department of Atomic Energy (DAE), Department of Science and Technology (DST) and the Ministry of Human Resource Development (MHRD) of the Government of India. India sent its first team to the International Physics Olympiad (IPhO) in 1998, International Chemistry Olympiad (IChO) in 1999 and International Biology Olympiad (IBO) in 2000. Around the same time TIFR in association with the National Council of Science Museums and Astronomical Society of India initiated efforts to participate in the International Astronomy Olympiad (IAO). Our first foray into IAO was in 1999. The good performances of the Indian teams right from the first few years of participation helped in the consolidation of the programme.

each with only one of the four options correct.

National Standard Examination in Astronomy (NSEA)

The tests for NSEA (Jr.) and NSEA (Sr.) are conducted in parallel.

The exam contains following questions :

- (A1) 30 Questions, with only one of the four options correct, and
- (A2) 10 Questions, each with one or more than one option correct. To get credit, all correct option(s) and no incorrect option(s) should be marked.

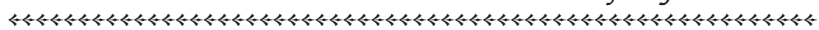
National Standard Examination in Junior Science (NSEJS)

The exam contains following questions :

- (A1) 30 Questions, with only one of the four options correct, and
- (A2) 10 Questions, each with one or more than one option correct. To get credit, all correct option(s) and no incorrect option(s) should be marked.

How to Enroll : Find out from the principal and / or the head of department whether your school/college is a registered centre. (Each registered centre may be an examination centre for all the subjects.) If so, enroll your name by paying the required fee. Your school/ college will give you all necessary instructions pertaining to NSEs.

If your school/ college is not a registered centre, visit the IAPT website: <http://www.iapt.org.in>. This website displays details of the centres which were registered last year. This may be of help to you in locating the centre nearest to you



and in enrolling your name at the centre by paying the required fee.

Please note that NSEs are the organizational responsibility of IAPT. If you have any queries about NSEP, NSEC, NSEB, NSEA and NSEJS or if you have any difficulty in getting enrolled for these examinations, you should contact IAPT.

For each subject, the top 300 students on the basis of the merit list of NSE qualify to appear for the stage II examinations i.e. Indian National Olympiad Examinations (INOs). In the event of a tie at the last position in the merit list, all students with the same marks at the last position will qualify to appear for the INO in the concerned subjects.

Candidates who have represented India in the International Olympiad (IPhO, IChO, IBO, IOAA, IAO and IJSO) need not appear for the first stage NSE examination in the respective subject. They may be allowed on request to the respective National Coordinator, to directly appear for the second stage Indian National Olympiad (INO) examination provided they satisfy other eligibility criteria such as age, pre-college status, etc.

There will be no other criterion or provision for selection to the Indian National Olympiad Examinations (INOs).

STAGE II	Indian National Olympiad Examinations
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Indian National Olympiads is held in physics, chemistry, biology, astronomy and junior science. They are organized by HBCSE. These examinations are held at about 15 centres in the country. The dates and schedule of these examinations are communicated in the first week of January to the eligible students selected from Stage I examinations. As far as possible the National Olympiads in different subjects are held on



separate days/timings so that a student who is eligible to appear for more than one subject can do so.

Indian National Physics Olympiad Examination (INPhO)

Duration 3 hours

The syllabus for INPhO is broadly equivalent to NSEP.

Indian National Chemistry Olympiad Examination (INChO)

Duration 2 hours

The syllabus for INChO is broadly equivalent to NSEC.

Indian National Biology Olympiad Examination (INBO)

Duration 2 hours

The syllabus for INBO is broadly equivalent to NSEB.

Indian National Astronomy Olympiad Examination (INAO)

Duration 3 hours

The syllabus for INAO is broadly equivalent to the NSEA (Junior & Senior level).

Indian National Junior Science Olympiad Examination (INJSO)

Duration 3 hours

The syllabus for INJSO is broadly equivalent to the NSEJS.

The above are broad syllabus guidelines. Questions and problems in National Olympiads are usually non-conventional and of high difficulty level, and comparable to the International Olympiads.

SELECTION :

For Physics, Chemistry and Biology : On the basis of performance in the Indian National Olympiads 35 students



a valedictory function where distinguished scientists are invited to speak to the students.

On the basis of their performance in OCSC the top 5 students in Physics, top 4 in Chemistry and top 4 in Biology are declared to be special merit awardees. These special merit awardees are given Rs. 5000/- each in the form of books and cash. In addition there are special prizes in each subject to recognize meritorious performance in theory and experiments.

The 5 special merit awardees in Physics constitute the 5-member student team to represent India at the International Physics Olympiad. The special merit awardees in Chemistry constitute the 4-member student team to represent India at the International Chemistry Olympiad. The special merit awardees in Biology constitute the 4-member student team to represent India at the International Biology Olympiad (IBO).

Astronomy Olympiad : The selected groups for junior and senior levels respectively are invited together to the Orientation cum Selection camp at HBCSE. The camp is of about three weeks' duration. The camps are held in April-June. The camp includes several theoretical, data analysis and observation tests. Students are trained in basic concepts in astronomy and astrophysics during the camp. Orientation is provided to students especially for problem-solving in astronomy, astrophysics and for observational astronomy tests.

The camp concludes with an award function where distinguished scientists are invited to speak to the students. The best 3 students from juniors will qualify to be part of the



The recommendations of the examination committees of the INOs and OCSCs in the various subjects regarding special merit awardees and other awardees are treated as final.

STAGE IV	Training of Indian teams for International Olympiads at HBCSE
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The selected Indian teams undergo a rigorous training programme at HBCSE in theory and experiment and in (case of astronomy) observational astronomy. Special laboratories have been developed at HBCSE for the purpose. Resource persons from different institutions across the country are invited to the training camps. As per International Olympiad statutes, the training in chemistry and biology is limited to 2 weeks' duration. In physics the training may be longer. For Astronomy, Astronomy and Astrophysics and Junior Science the training camp is of a week's duration.

The 5-member student team, 2 teacher leaders and one scientific observer constitute the delegation to represent India at the International Physics Olympiad (IPhO).

The 4-member student team, 2 teacher leaders and one scientific observer constitute the delegation to represent India at the International Chemistry Olympiad (IChO).

The 4-member student team, 2 teacher leaders and one scientific observer constitute the Indian delegation to the International Biology Olympiad (IBO).

The two leaders for IAO and two leaders and one scientific observer (if any) for IOAA accompany the Indian teams for IAO and IOAA respectively.

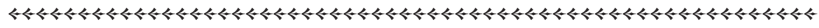
The 6-member student team and 3 teacher leaders constitute the Indian delegation to the International Junior Science Olympiad (IJSO).



WHAT HAPPENS AT INTERNATIONAL SCIENCE OLYMPIADS

International Science Olympiads are organized by an International Committee whose President is elected from International Members of Organization. The purpose of Olympiads is to promote interest and education in Science among high schools students. By participating in the competition, students of different countries meet fellow students of the same interest and make friends. This leads to good understanding among country and hence collaboration in future researches. Education Ministries of different countries are involved in organization of Olympiad. The Education Ministry in term hands over the responsibility to a leading organization to select students to represent the country on International level. In India, Olympiads are handled by Homi Bhabha Centre for Science Education (HBCSE) likewise, in US the Olympiad are handled by American Association of Physics teachers, in UK by university of Cambridge, in Taiwan by Ministry of Education (MOE), in Singapore by National University of Singapore, in Australia by Australian Research Council, in Japan by the Physical Society of Japan, in Canada by University of Toronto and in Pakistan by Pakistan Institute of Engineering and Science. The selection of team is based on International Rules and Regulation and runs into five stages as discussed in the chapter earlier.

When any team reaches the host country where the Olympiad is going to be held, the host or representative of that country appoints a team guide who is at the airport to welcome every team. The team guide remains with the team all through the competition. Organizing International Olympiad is a matter of pride for any country and it requires massive preparation which runs into months and years. You



Day 6 : Students write the second test whereas team leaders go for excursion.

Day 7 & 8 : Excursion / Lecture / Projectwork and Board Meetings.

Day 9 : Closing Ceremony / Result.

Day 10 : Departure.

Flags of all the participating countries are hoisted at hotels and all other venues of the competitions. Participation in Olympiads is recognized worldwide as a huge achievement by all universities / educational institutions of the world.

The importance of this Olympiad can be formulated as when The Presidence of High School Counselor from the Department of Education, Indonesia Dr. Sungkowo motivated the Indonesian participants by offering them. "The rewards of this event for the continuation of Indonesian Olympians education will be ready to be harvested later. This is because the President of Republic of Indonesia has promised to support financially until doctoral for every student who won the Gold medal. Besides that, for every winner, there will be rewards in the form of money and certificate."

(Rinda/fanny)
News Agency-Indonesia

International Science Olympiads are nothing less than the Olympic games and it is an honour for any student to represent his country in any Olympiad.

The President of Indonesia
Sh. Susilo Bambang Yudhoyono