Government of Goa
State Council of Educational Research and Training
Alto-Porvorim, Goa 403521.
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No.DE/SCERT/WISF/87/Part-V/ 2276 Date:1st November 2023

To,

The Heads of Secondary and
Higher Secondary Schools with Science Streams

Sub: - **33rd State Level Western India Science Fair 2023-2024.**

Sir/Madam,

The State Council of Educational Research & Training, Porvorim, Goa, in collaboration with Goa Science Centre, Miramar, Goa and Nehru Science Centre, Mumbai, will organize State Level Western India Science Fair from **28th to 30th November 2023 at Ravindra Bhavan, Sanquelim, Goa,** with the broad objective to stimulate and motivate the Secondary and Higher Secondary School Students (VIII to XII) to explore new horizons in the field of science. The Western India Science Fair is an exhibition of students who will be required to prepare the projects on any scientific theme having a bearing of scientific and technological development to mankind such as small scale model making, exhibit fabrication, etc. It provides innumerable benefits to students, which encourages their educational and even social development. Perhaps one of the most valuable benefit is the chance to showcase, explain and talk about the project to others.

Western India Science Fair is organized at two levels viz.

1. State Level and 2. Zonal Level

1. The State Level Science Fair will be organized at **Ravindra Bhavan, Sanquelim, Goa** for the selection of five team projects and three teaching aids projects to participate at the Zonal Level Western India Science Fair 2023-24.
2. The Zonal Level Western India Science Fair will be organized by Nehru Science Centre, Worli, Mumbai at Mumbai from **13th to 16th December 2023**.

STATE LEVEL SCIENCE FAIR

PARTICIPANTS

a. Students Projects

The students from Std. VIII to Std. XII Science can take part in the fair. They are requested to prepare Science models/exhibits on any topics given in the guidelines under the heading "Topics for the Fair".

The exhibits will be on display for other students and general public for a period of three days.

b. Teaching Aids

The teaching aid competition is open to Secondary and Higher Secondary School Science Teachers. The topic for the teaching aid should be from the syllabus of Std. VIII to Std. XII Science and as per the topics given in guidelines under the heading "Topics for the Fair".

Classification of Projects

Every school can participate in both projects.

1. **TEAM PROJECTS** – In this competition each school may participate in the fair with a maximum of one school project along with two students and one guide teacher.
2. **TEACHING AID** – This project being for the teachers only, each school may participate with one teaching aid accompanied with one teacher only.

Selection Procedure

Selection of projects for higher stage will be done on following basis.

Project	Student's Project Team	Teacher Project
Creative ability	25	30
Scientific thoughts & engineering goals	25	30
Thoroughness	12	-
Skill	12	15
Clarity	10	10
Teaching value	-	15
Team work	16	-

Projects will be selected by a panel of three judges and certificates will be awarded on the last day of the exhibition. Further the first five Team Projects and first three Teaching Aids will be required to participate in the Zonal Level Western India Science Fair at Mumbai from 13th to 16th December 2023.which will be compulsory.

PRIZES: - It is proposed to award the following prizes at State Level Science Fair.

TEAM PROJECT:

First Prize	----------	Rs. 2,000/-
Second Prize	----------	Rs. 1,500/-
Third Prize	----------	Rs. 1,000/-
Fourth Prize	----------	Rs. 750/-
Fifth Prize	----------	Rs. 500/-

TEACHER PROJECT – TEACHING AIDS:

First Prize	----------	Rs. 2,000/-
Second Prize	----------	Rs. 1,500/-
Third Prize	----------	Rs. 1,000/-
Fourth Prize	----------	Rs. 750/-
Fifth Prize	----------	Rs. 500/-

The State Level Science Fair will be held at the Ravindra Bhavan, Sanquelim, Goa, From 28th to 30th November 2023.

Timing: On 28th November the participants shall report at the Venue at 9.30 a.m. The exhibition will be inaugurated at 11.30 a.m. and shall remain open for public till 5.00 p.m. On 29th & 30th November the timing will be from 10.00 a.m. to 5.00 p.m.

TRAVELLING EXPENSES:

The expenses towards travel of students from the school to the place of exhibition and back for all the three days and the expenses towards TA of teachers will have to be borne by their respective schools.

WESTERN INDIA SCIENCE FAIR PARTICIPANTS

The winners from the State Level Western India Science Fair will participate in the Zonal Level Western India Science Fair, Mumbai with five Team Projects and three Teacher's Teaching Aids.

Dates of Zonal Level Western India Science Fair 2023 – 2024

Dates : 13th December 2023 to 16th December 2023

Venue : Nehru Science Centre, Dr. E. Moses Road,
Worli, Mumbai 400 018

Judgement : The criteria of the judgement will be the same as prescribed at State Level Science Fair.

PRIZES for Western India Science Fair:

Students' Project:

Best Project of the Fair (team of two participants): Rs. 3000/- each
Guide teacher of 1st Prize winner: Rs. 2000/-
School of 1st Prize winner: Rs.5000/- (In the form of kits, book & CD's).
State Best Award (Except Best Project of the Fair Winner State): Rs. 4000/- (1 no. each)
Guide Teacher of State Best Prize Winner: Rs. 2000/- (1 no. each)
School of State Best Prize Winner: Rs. 3000/- (In the form of science kits, books & CDs) - (1 no. each)

Teacher's project:

1st Prize (individual) : Rs. 2000/- (1 no.)
2nd Prize (individual) : Rs. 1500/- (1 no.)
3rd Prize (individual) : Rs. 1000/- (1 no.)

Expenses for organization of the Western India Science Fair such as local hospitality, boarding and lodging, educational tours and organization of training sessions will be borne by Nehru Science Centre, Mumbai. It is made clear that Nehru Science Centre, Mumbai will not be able to make any arrangements for any extra persons like Peon, Clerk, other family members etc. along with participants (2 students and one guide teacher with student's project and one teacher with teaching aid).

You are, requested to submit the entry, in enclosed proforma for Team Project and for Teaching Aid, to the Director, State Council of Educational Research & Training, Porvorim Goa so as to reach this office latest by **24th November 2023.** And also on Google form link provided for

Students:https://docs.google.com/forms/d/e/1FAIpQLSequ3LzoPKtqzookVjYY7U2wmVDvy01yuBfq5j2QU8pkdGT8Q/viewform?usp=pp_url

Teaching Aid: https://docs.google.com/forms/d/e/1FAIpQLScwaWsUKuRp-gF6vmxfdNWfDrqYniE96KtMjL97cDEWgTHGJw/viewform?usp=pp_url

STATE COUNCIL OF EDUCATIONAL RESEARCH & TRAINING ★ GOVT. OF GOA ★

Yours faithfully,

[Dr. Shambhu S.Ghadi]
Director, SCERT
Alto-Porvorim, Goa

Copy to:

1) **The Director of Education,**
   Directorate of Education, Porvorim-Goa.
2) **Dy. Director of Education,**
   North/Central/South Educational Zone, Mapusa/Panaji/Margao
3) **All A.D.E.I.'s in Goa**
4) **The Curator,** Nehru Science Centre, Worli, Mumbai.
5) **The Project Coordinator,**
   Goa Science Centre, Marine Highways, Miramar, Goa.

NEHRU SCIENCE CENTRE
(National Council of Science Museums)
Ministry of Culture, Govt of India
Dr. E. Moses Road, Worli, MUMBAI – 400 018
State Level Entry Form WESTERN INDIA SCIENCE FAIR 2023 – 2024

Students' Project (Team)

1.Name(s) of the student(s) :I._____

(In Block Capital Letters) :II._____

2.Whether member of any Science Club ? : Yes / No

If yes, write the name of the Science Club : _____

3.Name of the Guide Teacher :_____

4.Name & Address of the School : _____

: _____

E-mail: _____

Phone No.: _____ Fax:_____

5.Name of the Project : _____

6.Scientific Theme of the Project: _____

7.Material/Apparatus used : _____

8.Brief Description : Maximum 500 words, Attach separate sheet please.

(Please highlight uniqueness of the project) : _____

a) Working details (250 words) :_____

b) Synopsis (250 words) : _____

9.Diagram : Attach separate sheet/s

10.Application/usage : _____

11.Approximate cost of the Project:_____

12.Requirement of display :Area_____ X _____ mm Power: AC/DC

Maximum space available : Table 1220 mm x 750 mm with a panel on backside

13.Special requirements, if any (e.g. water, darkroom etc.) : _____

14.Signature of the student :I._____

:II._____

15.Signature of the Teacher : _____

(Seal of the School) (Signature of the Principal / HM)

NEHRU SCIENCE CENTRE
(National Council of Science Museums)
Ministry of Culture, Govt of India
Dr. E. Moses Road, Worli, MUMBAI – 400 018
State Level Entry Form WESTERN INDIA SCIENCE FAIR 2023–24

TEACHING AID

1.Name of the Teacher : _____
(In block capital letters)
2.Whether member of any
Any Science Club : Yes / No
If yes, write the name : _____
of the Science Club
3.Name & Address of the School :_____
_____
E-mail:_____
Phone No.:_____Fax :_____
4.Name of the Teaching Aid : _____
5.Scientific theme of the Teaching Aid: _____
6.Material/Apparatus used : _____

7.Brief Description : Maximum 500 words, Attach separate sheet, please.
(Please highlight uniqueness of the project):
a) Working details (250 words) : _____
b) Synopsis (250 words) : _____
8.Diagram : Attach separate sheet/s
9.Application/usage : _____
10.Approximate cost of the Teaching aid: _____
11.Requirement of display : Area: _____X _____m Power: AC/DC.
Maximum space available : Table 1220 mm x 750 mm with a panel on backside
12.Special requirements if any
(e.g. water, dark room etc.) : _____
13.Signature of the Teacher : _____

(Seal of the School) (Signature of the Principal / HM)

NEHRU SCIENCE CENTRE
(National Council of Science Museums)
Dr. E. Moses Road, Worli, MUMBAI – 400 018
State Level Entry Form WESTERN INDIA SCIENCE FAIR 2023–24

GUIDELINES:

Topics for the Fair:

- **Physics:**
  Theories, principles and laws governing energy and the effect of energy on matter – solid state, optics, acoustics, particle, nuclear, atomic, plasma, super conductivity, fluid and gas dynamics, thermodynamics, semiconductors, magnetism, quantum mechanics, biophysics etc.

  Computer Science:
  Study and development of computer hardware, software, engineering, internet networking and communications, graphics (including human interface), simulations/ virtual reality or computational science (including data structures, encryption, coding and information theory).
- **Mathematics:**
  Development of formal logical systems or various numeral or algebraic computations and the application of these principles – calculus, geometry, abstract algebra, number theory, statistics, complex analysis and probability.

- **Engineering:**
  Technology, projects that directly apply scientific principles to manufacturing and practical uses – civil, mechanical, aeronautical, chemical, electrical, photographic, sound, automation, marine, heating and refrigeration, transportation, environmental engineering, etc.

- **Environmental Science:**
  Study of pollution (water and land) sources and their control, ecology etc.

- **Bio-Chemistry:**
  Chemistry of life processes – molecular biology, molecular genetics, enzymes, photosynthesis, blood chemistry, protein chemistry, food chemistry, hormones etc.

- **Chemistry:**
  Study of nature and composition of matter and laws governing it – physical chemistry, organic chemistry (other than biochemistry), inorganic chemistry, materials, plastic, fuels, pesticides, metallurgy, soil chemistry etc.

- **Earth & Space Sciences:**
  Geology, Minerology, Physiography, Oceanography, Meteorology, Climatology, Astronomy, Speleology, Seismology, Geography etc.

- **Botany:**
  Study of plant life-agriculture, agronomy, horticulture, forestry, plant taxonomy, plant physiology, plant pathology, plant genetics, hydroponics, algae etc.

1. **Who can Participate?**

Students from standard VIII to XII from Indian schools (All Boards) can participate in the Western India Science Fair 2019–2020 through the District/State/ UT level competitions.

2. What is Expected?

Considering the high level of competition at various stages and prestige of the Fair, the projects must have **innovation, uniqueness, originality,** quality and research potential which would reveal something new. It must be **investigatory** in nature. The researcher must maintain a diary of stages of experimentation and data. Help of a research scientist, teacher or parent could be taken as a guide.

3. How to Conceive a Project?

(i) **Selection of topic**: Pick up a subject out of the given topics and pick a problem/idea you want to study/investigate or develop.

(ii) **Literature Review:** Go to libraries or Internet, if you have, and learn everything you get on your problem/idea. Observe related events and look for unexplained or unexpected results. Discuss with professionals in the field.

(iii) **Organise:** Arrange everything you have learnt and narrow down your hypothesis.

(iv) **Guide:** choose your guide/sponsor/qualified scientist who could guide you in your project.

(v) **Make a Timetable**: Make a strict calendar of your activity with the help of your guide. Enough time should be given to experimentation.

(vi) **Plan Experiment**: Once the research plan has been drawn, write your researching procedure, exactly describing your method of experiment, steps etc. Discuss with your sponsor/guide.

(vii) **Experimentation**: After a careful thought of experimental design, keep notes of every experiment, measurement and observation. Try all variable possibilities.

(viii) **Examine Results**: After completion of experimentation organize your findings. If you got expected results as per your hypothesis, analyses the data and draw conclusions.

(ix) **Modify Experimental set up/project**: After you have succeeded, put up your project in presentable form for the Fair. Display information, results and write the research paper, give title, contents, experiments, explanation, conclusion, acknowledgement and references.

4. Project Parameters: Display & Safety Regulations

Maximum Size: 122 x 75 x 244 cms.

ELECTRICAL REGULATIONS

(i) Participant requiring 220 Volt AC electrical circuits must bring his / her own a ISI mark 3 – wire extension cord which is no more than nine feet in length and which might be appropriate for the load and equipment.

(ii) Electrical power supplied to projects and, therefore, the maximum allowed for projects is 220 Volt, AC single phase, 50 cycles only. Maximum circuit amperage/wattage available is determined by the electrical installation capacities of the exhibition hall and may be adjusted on site by the competent authority of the Centre.

5. Hints for good Project Presentation

a) Choose a Good Title
b) Display Photographs
c) Organise your presentation
d) Make your display eye catching
e) Correctly present your well-constructed project

6. Project Report

Each project must be supplemented by a research report giving(i) Purpose of experiment, (ii) hypothesis, (iii) Procedures used, (iv) data, (v) conclusion, (vi) usefulness of the experiment, (vii) references, (viii) acknowledgement.