

1. INTRODUCTION

GOA SCIENCE CENTRE, PANAJI

FACILITIES: 3-D Science Shows, Planetarium Shows, Science Demonstration Lectures, Popular Science Lectures, Sky Observation, Online and Offline Creative Science Workshop, Science Film Shows, Temporary Exhibitions, Teachers Training Programme, Community Training Programmes, Outreach Programmes & Exhibitions, Meet The Scientist, Science Fiesta, Commemorative and Collaborative Programmes.

Goa Science Centre organized various commemorative programs like World Population Day, National Energy Conservation Day, Swachhta Pakhwada, World Tourism Day, World Water Day and so on by generating sponsorship in organizing various programs and competitions for students, teachers and general public.

Goa Science Centre developed 01 numbers of Science Park Exhibit name gyro ring and 13 table top exhibits.

New Science Demonstration on Atmospheric Pressure and Vacuum was developed by the centre in which 6 Science Demonstration Kit including Vacuum Table was fabricated.

The centre organized a grand festival of Science called Science Fiesta 2023 in the premises of GSC from 26th to 28th Feb. 2023. Various Popular Science Lectures, workshops, Live Science Demonstration, Star Gazing and competitions were organized for the students, teachers and general public.

Travelling exhibition mounted on two buses of the Citi-Chhatrapati Shivaji Maharaj Vastu Sangrahalaya (CSMVS) 'Museum on Wheels' was open for the public on 26.09.2022 and 27.09.2022 in the premises of the Centre. Total 1315 students, teachers and general public witness the exhibition.

During the year total 128 Science Demonstration Lectures were arranged to

impress upon the students and teachers that lectures in classrooms can be made more exciting and enjoyable using exciting experiments with the aid of low cost kits and demonstration equipment.

To enhance the curiosity about the astonishing celestial event the Centre made special arrangement to observe partial solar eclipse, Conjunction of Saturn & Venus, Conjunction of Jupiter & Venus through telescope. Also during the year the centre conducted 42 Sky Observation Program in which 5417 students, teachers and general public were benefitted.

As a part of Astro-Night Tourism the centre organized sky observation program for the tourist at Miramar beach of Goa on March 27-28, 2023. During the program the tourist were astonished to see Crescent Moon with craters, Venus and mars and open star cluster Pleiades. Total 1635 tourist witnessed the event.

In addition, 13 nos. of Popular Science Lectures on different subjects were organized at the centre during the year.

The centre participated in the Science Film Festival of India organized by Vidnyan Parishad Goa at ESG complex, Campal from April 26-28, 2022. During the program science kits, 3D printing models etc. were kept on display. In total around 3650 students and teachers visited the exhibition.

The centre also arranged free visit of underprivileged Children. The students were provided with guided tour to the galleries, science demonstration lectures, 3D show and Planetarium show. The students were also given refreshments and science kits. In all 1663 children got benefitted.

2. GENERAL INFORMATION

	GOA SCIENCE CENTRE, PANAJI
Head of Museums / Centre & Designation	Shri Vilas D Chaudhari. Project Co-ordinator
Full Address	Marine Highway, Miramar, Panaji, Goa 403 001
Gram	--
STD Code	0832
Phone No.	2463426
Fax Email	2463426 gscgoa@gmail.com
Hours of Opening	9.30 AM to 6.00 PM
Closed on	Diwali & Holi
Admission fee A.Science Centre	
•General Public	Rs.30/-
•Students	Rs.10/-
•Tourists/Group of 15 or more	
•Members	Rs.20/-
B. Planetarium	Free
•General Public	
•Tourists/Group of 15 or more	Rs.40/- Rs.30/-
•Students	
C. 3D Show	Rs.15/-
•General Public	
•Tourists/Group of 15 or more	Rs.20/- Rs.15/-
•Students	Rs.10/-

	GOA SCIENCE CENTRE, PANAJI
Inaugurated on	19.12.2001
Total Floor area in Sq. M.	2475
Staff Strength:	
• Scientific & Technical	08
• Non-Technical	05

VISITORS TO MUSEUM/CENTRE

Name of Museum/Centre	GSC Panaji
No. of School Groups	562
No. of Students in group visits	34561
Visitors to special Programmes	26042
No. of General Visitors (excluding students in groups & visitors to special programmes)	50806
No. of visitors to Planetarium	49056
No of Outreach Visitors	19976
Total visitors to the Museum/Centre during the year	111409
Total visitors to the Museum/Centre during the year (including outreach visitors)	131385
Total visitors since inauguration up to the period of report	1959996

*Comparative visitor statistics in **ANNEXURE-I**

3. EXISTING GALLERIES

Name of the Museum/Centre	Names of the Galleries/Facilities	Floor Area sq. m.	Date of Inauguration	Date of major Renovation	No. of Exhibits
GSC Panaji	Reception Hall / Fun Science	256	19.12.2001	----	30
	Science of Ocean	256	19.12.2001	13/12/2013	65
	Mirror Gallery	256	18.11.2016	----	37
	Digital Planetarium	145	12.05.2012	----	---
	Innovation Hub	348.50	01.07.2019	----	---

4. NEW GALLERIES/OTHER FACILITIES/MAJOR RENOVATIONS

5. MOBILE SCIENCE EXHIBITION UNITS IN THE MUSEUM/CENTRE

Name of the Museum/Centre	Title of the unit	Unit developed at	No. of Exhibits	Year of Development	Date of Major Renovation
GSC Panaji	1. Popular Science*	VITM, Bangalore	24	1998	2005
	2. Water*	RSC, Calicut & GSCP	24	2002	2014
	3. Human Anatomy & General Science		20	2020	--

- Not in working condition

6. SCIENCE PARK

Name of the Museum/Centre	Area of the Science Park	No. of Exhibits	Date of Inauguration of Park	Number of Exhibits added during the year, if any
GSC Panaji	2 Acres	56 (incl. children's park)	19.12.2001	01

7. EXHIBIT DEVELOPMENT

Name of the Museum/Centre	GSC Panaji
No. of gallery Exhibits	--
No. of Park Exhibits	01
No. of MSE Exhibits	--
No. of Exhibits for Temporary Exhibition	--
No. of new Kits / Aids developed	19
No. of duplicate Gallery exhibits	--
No. of duplicate Park exhibits	--
No. of duplicate Kits	--
No. of gallery exhibits renovated	--
No. of park exhibits renovated	--

List of Exhibits/Kits fabricated & renovated in **ANNEXURE- II**

8. MOBILE SCIENCE EXHIBITION PROGRAMMES

The Mobile Science Exhibition (MSE) is meant to take the knowledge of science & technology to the doorstep of common man, especially to students living in rural areas. The sites for holding such exhibitions are selected in consultation with Education Departments of respective States/UTs. In addition to holding of the exhibition, mounted on specially designed buses, science film shows, sky observation programmes, Taramandal shows, science demonstration lectures etc., are also arranged as special attractions for rural place.

Name of the Museum/Centre	Name of the Vehicle	Theme of Exhibits	No. of Exhibition days	Km. Travelled	No. of Exhibition sites	No. of Visitors
GSC Panaji	GA 07 F 7031	Human Anatomy & General Science	75	917	39	13042

9. SCIENCE EDUCATION ACTIVITIES

A. SCIENCE DEMONSTRATION LECTURES

Science Demonstration Lectures are arranged to impress upon the students and teachers that lectures in classrooms can be made more exciting and enjoyable using exciting experiments with the aid of low cost kits and demonstration equipment. This aspect of teaching acts as a supplement to formal science education in schools.

Name of the Museum/ Centre	Name of the Science Demonstration Lecture Unit	No. of Lectures held in Museum / Centre	No. of Students Attended the lecture	No. of Lectures held outside Museum/ Centre	No. of Students Attended the lecture
GSC Panaji	* Fun with chemistry * Dry Ice Show * Fun with physics * Liquid Nitrogen Show * Science vs Miracles * Exciting Chemical reactions	105	9865	23**	4568

** includes SDL at MSE Site

B. NATURE STUDY / ENVIRONMENT AWARENESS CAMPS

Nature study camps are regularly organised under environment awareness programmes.

Student members and other participants are taken in such camps to study particular ecosystem.

Name of the Museum/Centre	Venue of the Camp	Duration of Camp	No. of Students	No. of Teachers
GSC, Panaji	Science Park	1 hr	60	3

C. SCIENCE FILM SHOWS

Science film show programme is a regular activity in all science centres and at mobile science exhibition sites. Films on important topics of science & technology are screened.

Name of the Museum/Centre	No. of film shows held	Total No. of visitors in the film shows
GSC Panaji	13*	946
	21**	1964
	--***	--

* Film shows were organised in Exhibition halls.

** Film shows were organised under Mobile Science Exhibition programmes.

*** Film shows were organised during science film festivals.

D. SCIENCE FILM FESTIVALS

Science centres under NCSM organise regular science film festivals for schools. Schools are given a wide choice of titles to select from the list.

E. POPULAR SCIENCE LECTURES

Popular Science Lectures regularly organised by all Centres are intended to create awareness amongst school students, teachers and visitors about the latest developments in science and technology. The lectures are delivered by eminent scientists, technologists, doctors etc. on current scientific issues of topical interest.

Name of the Museum/Centre	No. of Popular lectures held	Audience
GSC Panaji	13	2014

(Please see ANNEXURE- III for details of lectures)

F. TARAMANDAL/PLANETARIUM SHOWS

A digital Planetarium screens daily 4 shows on specific timings. The Show run presently is Sunstruck. Each centre rganized regular taramandal shows for teachers, students and general public.

Name of the Museum/Centre	No. of shows held	Audience
GSC Panaji (Planetarium)	1861	49056

G. SCIENCE QUIZ

Science Quiz Contest is a regular activity of every science centre. These contests, both written as well as oral, are organized on knock out basis for schools of the city, town or district of operation of the science centre. The objective is to instill a sense of competition and enhance interest and knowledge of students in science and technology. Questions are also asked on the exhibits of the centre to evaluate their understanding.

Name of the Museum/Centre	No. of quiz rounds held	No. of participants	Audience
GSC Panaji	22	916	1816

H. SKY OBSERVATION

Sky observation programmes of the centre are held at least twice a week (weather permitting) after sunset & attract a large number of enthusiasts. The programme introduces them to the wonders of the universe through a slide show followed by sky observation using a telescope. The participants are explained about the celestial objects, their locations and movements etc.

Name of the Museum/Centre	No. of programmes held	No. of participants
GSC Panaji	42	5417

I. 3 D Fantasy Show

This state-of-the-art facility provides the visitors an out of the world immersive experience in which the near realistic visuals will appear to come out from the static screen right in front of their eyes. It screens films with definite messages for audiences.

Name of the Museum/Centre	No. of shows held	Audience
GSC Panaji	2083	56877

J. SLIDE OR VIDEO SHOWS

Name of the Museum/Centre	No. of programmes held	No. of participants
GSC, Panaji	04	378

K. INNOVATION HUB

Innovation Hub is a facility for students to work on their own projects - fabrication of innovative science kits/experiments. It is also a place to convert their innovative ideas to prototype models.

Name of the Museum/Centre	No. of members	No. of sessions	No. of participants	No. of Projects
GSC Panaji	45	37	365	01

10. CREATIVE ABILITY CENTRE

A. SCIENCE FAIR/CAMP

Name of the Museum/ Centre	Venue of the Fair/ Camp	Date/s	Level (Dist./ Zonal/ State)	No. of School Participated	No. of Students & Teachers	No. of Science Club participated	No. of Projects	No. of Visitors
GSC Panaji	GSCP	8-11 November 2022	State	19	110	--	44	645
		30 November 2022	State	42	160	--	80	320
		6-8 February 2023	State	76	82	--	82	1516
		25-28 February 2023	Science Fiesta	16	80	--	--	11807

- State Council of Education, Research and Training, Govt. of Goa in collaboration with Goa Science Centre organized the **State Level Western India Science Fair** from November 8-10, 2022. In total 33 group projects by students and 11 teaching aids by teachers were displayed from all over Goa. In total 645 visited the fair.
- State Council of Education, Research and Training, Govt. **Of Goa In Collaboration With Goa Science Centre Organized State** level Inspire Awards- Manak Exhibition on November 30, 2022. Total 80 projects from different schools of Goa participated and displayed their projects. 320 students visited.
- The centre in collaboration with State Council of Education Research & Training organized **State Level Science, Mathematics & Environment Exhibition and Rashtriya Bal Vaidnyanik Pradarshani** from February 6-8, 2023 in which total 82 students displayed their projects. Total 1516 students, teachers and general public witnessed the exhibition.
- **Science Fiesta 2023**
Goa Science Centre celebrated the National Science Day by organizing a Grand Festival of Science called Science Fiesta 2022 from 25.02.2023 to 28.03.2023. The Science Fiesta was inaugurated by Prof. Sunil Kumar Singh, Director, CSIR-National Institute of Oceanography and Shri Satish Nayak, President, Association of Friends of Astronomy. 16 Nos. of scientific research institutions and NGOs participated in the exposition by displaying their research work during all four days.
During Fiesta various programs such as Meet The Scientists, astrobiology workshop, Science Demonstration on Atmospheric Pressure and Vacuum, Fun at Low Temperature, Fun with Dry Ice, Foldscope Making activity, demonstration on FTC robotics, Demonstration on Fibre Optics, Astronomy Slide Show, Dr. APJ Kalam Memorial Astronomy Seminar, Fancy Dress Competition, water rocket workshop, nature walk, Earth Hour Wild Life Quiz, nuclear energy quiz, Innovate with Paper Craft Contest, live demonstration on vermicomposting & Jeevamrut, demonstration on fingerprinting & forensic science, demonstration on fire safety, Face Painting competition, C.V. Raman Memorial Lecture etc.
In all 11807 students, teachers and general visited witnessed the event.

B. SCIENCE SEMINARS

Name of the Museum/Centre	Venue	Date/s	College/School	Level (Dist./ Zonal/ State)	No. of Students	No. of Institutions	Audiences
GSC Panaji	GSCP	20.01.2023	Invited Guest	State Level	163	75	--
	GSCP	07.02.2023	Teachers	State Level	142	130	--

- As a part of 6th bird festival of Goa, A one day seminar on Significance of Avifaunal Conservation scenario in western Ghats was organized by Forest Department, Govt. of Goa on January 20, 2023 in the auditorium of the centre. Total 163 invited guests were present for the seminar.
- State level science seminar for teachers on topic Scientific Innovation for Sustainable Future was organized February 07, 2023 in collaboration with State Council of Education Research & Training, Govt. of Goa. Total 142 teachers attended the seminar.

C. CREATIVE ABILITY / VACATION HOBBY WORKSHOP

The creative science activities for students are conducted in the centre to inculcate an attitude of scientific inquiry and for encouraging students in experimentation and innovation. Every year during summer and Diwali vacations creative science workshop are conducted in the disciplines of science (Physics, Chemistry, Life Science), electronics, computers, art & craft, aeromodelling, model rocketry, clay modeling, etc.

Name of Museum/ Centre	GSC Panaji
No. of projects in Museum's CAC	--
No. of students involved in above	--
No. of Vacation CAC in Museum	19
No. of students involved in above	381
No. of projects completed in above	428
No. of outstation CAC programme	--

D. SIT & DRAW / ESSAY WRITING & OTHER CREATIVE PROGRAMMES / COMPETITIONS

These programmes are organised to encourage children to express their thoughts on various science topics. The programmes are well attended and the work of children is normally commendable.

Name of the Museum/ Centre	Name of the Contest	Venue	Date & Occasion	No. of Students	Subject
Goa Science Centre, Panaji	Painting & Poster Designing Competition	GSCP	June13, 2022 World Environment day	282	Save Environment, Save Earth Only One Earth
	Elocution Competition	GSCP	July 8, 2022 World Population Day	72	Effect of over population on development and nature
	Essay Writing Competition	GSCP	July 9, 2022 World Population Day	44	Rise in Population: A major Problem in India
	Spot Quiz		August 23, 2022 NPCIL- Iconic Week Celebration	153	Nuclear Energy
	Painting Designing Competition	GSCP	August 24, 2022 NPCIL- Iconic Week Celebration	258	Nuclear Power & Environment Next Generation Power: Nuclear Power
	Fancy Dress Competition	GSCP	September 25, 2022 World Tourism Day	23	Goan Culture
	Design Your Own Shopping Bag Competition	GSCP	September 27, 2022 World Tourism Day	68	Shopping Bag
	Coconut Shell Craft Competition	GSCP	September 27, 2022 World Tourism Day	76	Coconut Shell
	Science Model Making Competition	GSCP	September 28, 2022 International Day of Scientific Culture	59	Human Body
	Spot Quiz & Essay writing	GSCP	November 1, 2022 Vigilance Awareness Week	63	Vigilant India
	Online Science Quiz	GSCP	November 10, 2022 International Science Centre & Science Museum Day	66	General Science
	Exhibit Hunt Quiz	GSCP	November 10, 2022 International Science Centre & Science Museum Day	56	GSCP Exhibits

	Essay Writing Competition	GSCP	December 7, 2022 National Energy Conservation Day	86	Role of Student making an effort to reduce energy consumption.
	Painting & Poster Designing Competition	GSCP	December 12, 2022 National Energy Conservation Day	365	Save Energy for Sustainable Future Energy is Life: Conserve It
	Fancy Dress Competition	GSCP	December 17, 2022 21 st Anniversary Day Celebration	59	I am Scientist
	Exhibit Hunt Quiz	GSCP	December 17, 2022 21 st Anniversary Day Celebration	78	GSCP Exhibits
	State Level Inter School Science Quiz Contest	GSCP	2022-23 Annual Science Quiz	1816	General Science
	Writtren Elimination Round State Level Earth Hour Quiz	GSCP	February 20, 2023 Earth Hour	44	Wild Life
	Fancy Dress Competition	GSCP	February 26, 2023 Science Fiesta 2023	65	Recyclable Material
	Final Round of State Level Earth Hour Quiz	GSCP	February 27, 2023 Science Fiesta 2023	146	Wild Life
	Science Quiz	GSCP	February 27, 2023 Science Fiesta 2023	123	Nuclear Energy
	Innovate with Paper Craft Contest	GSCP	February 27, 2023 Science Fiesta 2023	51	Paper Craft
	Face Painting Competition	GSCP	February 28, 2023 Science Fiesta 2023	69	Alien

11.

A. TEACHERS' TRAINING PROGRAMMES (TTP)

Teachers' Training Programme envisages providing an opportunity and exposure to secondary/primary school teachers in handling of tools & raw materials. It also introduces them to new techniques as well as ideas for developing low cost teaching aids with ultimate goal of '*build your own laboratory*' concept.

Name of Museum/Centre	Number of Programmes	No. of teachers trained	No. of teaching aids/kits developed
GSC Panaji	02	126	126

- The Projector Cordinator of Goa Science Centre Shri Venkata Durga Prasad K. delivered key note address during the inaugural function of Induction Course for TGT (Mathematics) in Navodaya Leadership Institute, South Goa on June 6, 2022. In total 82 teachers attended the program.

- The Centre organized two batches of teachers training programme from February 7-8, 2023 on “Design of Scientific Teaching Aids Using Science Curriculum”. During the training session the teachers were guided in designing and fabricating teaching aids. They were also exposed with different science experiments under Science Demonstration Lecture. All together 126 teachers participated in the programme.

B. COMPUTER TRAINING PROGRAMMES

Computer training programmes are organised for students, teachers, housewives & senior citizens where they are exposed to the basics of Computer, use of computers in classroom teaching etc.

Name of Museum/Centre	Number of the Programmes	No. of Participants	Subject
GSC Panaji	--	--	Basics of computer, Graphics Multimedia, Window, MS Office Internet, E-mail, etc.

C. CYBERSKOOL

D. ASTRONOMY & TELESCOPE MAKING PROGRAMMES

During the telescope making programme the participants are given training in grinding & polishing of mirrors and finally in fabrication of reflector type telescopes and testing of the same.

Name of Museum / Centre	Venue	No. of Programmes	No. of Participants	No. of Projects made
GSC Panaji	--	--	--	--

- During the year conducted 42 Sky Observation Program in which 5417 students, teachers and general public were benefitted.
- To enhance the curiosity about this astonishing celestial event the Centre made special arrangement to observe partial solar eclipse through telescope for the citizens of Goa and students on October 25, 2022. The eclipse was observed via projection method using special telescopes, special goggles and simulated software. Special solar goggles were also made available at Centre for general public. Total 503 public witnessed the event.
- Conjunction of Saturn and Venus observation program from January 21-24, 2023 for the students, teachers and general public. Around 563 students, teachers and general public witness the event.
- During Science Fiesta astrobology workshop was organized on February 25, 2023 by Shri Satish Nayak, President of Association of Friends of Astronomy in which 43 students attended the workshop.
- During Science Fiesta Dr. APJ Kalam Memorial Astronomy Seminar was organized for 10 selected schools on February 26, 2023 wherein they have presented the seminar on different astronomy related topic. Total 103 audiences were present for the seminar.

- The slide show presentation on Astronomy related topic was conducted by the team of Association of Friends of Astronomy on February 25 & 27, 2023 which was followed by sky observation program. Total 364 students, teachers and general public were present.
- The activity on solar system was conducted by the team of Association of Friends of Astronomy on February 26, 2023 which was followed by sky observation program. Total 196 students, teachers and general public were present.
- The centre made a special arrangement to observe rare celestial event i.e. Conjunction of Jupiter and Venus on March 1-2, 2023 for the students, teachers and general public. Around 369 students, teachers and general public witnessed the event. Also the Jupiter - Venus Conjunction observation programme was arranged during Mobile Science Exhibition at Digas Madhyamik Vidyalaya, Digas, Tahsil Kudal, Dist. Sindhudurg, Maharashtra in which total 136 witness the event.
- The centre organized sky observation program for the tourist as a part of Astro-Night Tourism at Miramar beach of Goa on March 27-28, 2023. During the program the tourist were astonished to see Crescent Moon with craters, Venus and mars and open star cluster Pleiades. Total 1635 tourist witness the event.

E. AEROMODELLING

Aeromodelling programmes are conducted with an objective to enthuse students to take interest in aviation science. During the programme participants are briefed about the principles of aerodynamics and different aspects of airplanes & flying machines. They are also trained to make models such as chuck gliders, catapult and rubber powered gliders etc.

Name of Museum/Centre	No. of Programmes held	No. of Participants	Types and nos. of models
NSC Mumbai			
RSC Nagpur			
GSC Panaji	02	42	2/42

F. MODEL ROCKETRY

Model Rocketry programmes are organised to introduce the participants to the principles of rocketry and for training them in fabricating various types of rockets. The students also fabricate launch pad and range finder to measure the height attained by rockets. The students also test the rockets.

Name of Museum/Centre	No. of Programmes held	No. of Participants	No. of models
GSC Panaji	2	33	33

12. COMMUNITY PROGRAMMES

A. DEVELOPMENT OF SCIENTIFIC TEMPER

This programme is aimed at creating scientific temper by demystifying various myths and superstitions prevalent in the society. Demonstration lectures are regularly organised in each centre.

Name of Museum/Centre	Venue	No. of programmes	Audience	No. of outside volunteers trained
GSC Panaji	St Teresa High School, Sto Estevem	01	563	00

B. SCIENCE DRAMA / PUPPETRY / OTHER FORMS OF PERFORMING ART

Science Centres incorporate various science communication methods to effectively disseminate the information. This programme is one of such methods, which is very effective for young children. NCSM has launched this nationwide programme through the network of NCSM Centres.

Name of the museum/centre	Venue & Level	Topic	No. of Schools	No. of participants	Audiences
GSC Panaji	GSCP/ State Level	Science & Society	47	564	1516

NATIONAL SCIENCE DRAMA FESTIVAL

WESTERN ZONAL LEVEL SCIENCE DRAMA COMPETITION

C. OTHER COMMUNITY PROGRAMMES

Science Centres, specially Regional Science Centres and District Science Centres organise regular community programmes to create awareness and educate rural and urban population on new developments in science and technology relevant to them.

Nehru Science Centre, Mumbai

Raman Science Centre, Nagpur

Regional Science Centre, Bhopal

District Science Centre, Dharampur

Goa Science Centre, Panaji

1. The Centre organized various programs and competitions on occasion of Azadi Ka Amrit Mahotsav from August 10-15, 2022. Around 400 students, teachers and general public participated in this program. The details of the programs are given below:
 - The Rainbow Fire workshop organized for the students of class VII to X on August 10, 2022. In total 15 students participated in this workshop.
 - Rangoli competition organised for the students of class VI to X on August 11, 2022. The topic of the competition was 'Culture of India'. In total 25 students participated in this workshop.
 - An outreach program organised in association with Children's Right in Goa on August 12, 2022 for the underprivileged children at a construction site in Kadamba Plateau, Old Goa. During the program the children were shown live science demonstration on general physics and they also fabricated a science kit. In total 50 underprivileged children participated in this program.
 - Spot quiz on 'Independence of India' was organised for the visitors of Goa Science Centre on August 13, 2022 and August 15, 2022. In total 60 general public participated in this program.
 - A live science demonstration lecture on the topic 'Science Magic Show' was organised for the general public on August 14, 2022. In total 145 general public participated in this program.
 - The Indian flag was hoisted on August 15, 2022 by Shri Vilas D. Chaudhari, Project Coordinator, Goa Science Centre. Other staff members and general public were also present during this occasion. Map of India was also decorated with Tricolour and affixed in the science park on this occasion.
 - A live science demonstration lecture on the topic 'Super cooled bodies with Liquid Nitrogen' was organised for the general public on August 15, 2022. In total 105 general public participated in this program.
 - Programs for the underprivileged: The centre extended free visit to total 1663 Underprivileged children was arranged during the year. During their Visit they benefitted with guided tour to the galleries, 3D show, Planetarium show, make and take science kit session and Science Demonstration.
2. Programs for Divyangs (Specially Abled)
During World Water Day Celebration in collaboration with National Centre for Polar & Ocean Research organized painting & Poster Designing competition on March 3, 2023 for specially abled children followed by Film show.
3. Programs for Girls and Women
During World Tourism Day celebration the centre organized hands on shell craft workshop for housewives on September 27, 2022 in which total 20 ladies participated.
4. Environmental Awareness Programs
 - Nature games on April 20, 2022 & quiz on 'Planet Earth' was organized for students on April 22, 2022 as a part of World Earth Day. In total 60 students participated in this program.
 - World Environment Day celebration from June 5-15, 2022 by organizing various programs like slogan writing, spot quiz, plant a sapling activity, painting/poster designing, cleanliness drive, popular science lecture and so on.

- Tree Plantation by project Coordinator of Goa Science Centre on August 22, 2022 as a part of NPCIL iconic week celebration.
 - The nature walk organized in the premises of the centre by Arannya Environment Research Organization on February 26, 2023 during Science Fiesta where bird watching activity was conducted. Total 63 students attended the program.
5. Conducted written elimination round of National Standard Examination in Junior Science & NSE examination in Physics, Chemistry, Biology & Astronomy on November 26-27, 2022 respectively.

13. COMMEMORATIVE EVENTS

Science Centres regularly organise commemorative programmes to celebrate special Days, viz. World Earth Day, National Technology Day, International Museum Day, World Environment Day, international Yoga Day, World Population Day, International Science Centre & Science museum Day, National Science Day, etc. in order to mark the significance of these days in the history of development of science & technology and contribution of these developments in human welfare.

The detailed report for commemorative events is given in **ANNEXURE-IV**.

14. COLLABORATIVE PROGRAMMES

Science Centres organize a number of educational programmes for school/college students and general public throughout the year. For organizing such programmes the Centres join hands with outside organisations having common objectives of creating scientific temper in the society.

The detailed report for collaborative programmes is given in **ANNEXURE - V**.

15. TRAVELING/TEMPORARY EXHIBITIONS

Temporary exhibitions are organised to highlight various important issues concerning society with scientific input.

1. An exhibition on My Own Collection inaugurated on May 18, 2022 as a part of International Museum Day wherein 12 participants displayed their hobby collections like stamps. Coins, etc. Total 1652 visitors witnessed the exhibition.
2. Travelling exhibition Museum on Wheels mounted on two buses of the Citi-Chhatrapati Shivaji Maharaj Vastu Sangrahalaya (CSMVS) was open for the public on September 26, 2022 and September 27, 2022 in the premises of the Centre. Total 1315 students, teachers and general public witnessed the exhibition.
3. Display of philately stamp collection titled 'A Philatelic Tribute to National Youth Day' by Dr. M.R. Ramesh Kumar, Ex Scientist from NIO, Goa on January 1, 2023 to January 15, 2023. Total 968 visitors witnessed the exhibition.
4. As a part of 74th Republic Day the centre organized display of portrait of Freedom Fighter by Shri Vasant Nagarsekar from January 26, 2023 to January 28, 2023 in the premises of centre. Many school groups and general public witnessed the exhibition.

16. LIBRARY

Name of the Museum/ Centre	Item	Total holding as on 31/3 of previous year	No. acquired during the current year	No. written off during the current year	Net holding as on 31/3 of current year
GSC Panaji	Books	582	--	--	582
	Journals	24	--	--	24
	Newsletters	-	--	--	-
	Leaflets	--	--	--	--
	Films 16 mm	06	--	--	06
	Video tapes	09	--	--	09
	Slides	--	--	--	--
	VCD/DVD	202	--	--	202
	Photo-prints	3866	--	--	3866
	CDs	33	--	--	33
	Audio cassettes	--	--	--	--
Maps & Charts	02	--	--	02	

17. PUBLICATIONS

Name of the Museum/Centre	Name of the publication	Process	Quantity	Agency
Goa Science Centre, Panaji	Certificates of Creative Science Workshops	Colour Digital Prints	100	Suraj.com
	Certificates World Environment Day	Colour Digital Prints	400	Suraj.com
	Certificates World Population Day	Colour Digital Prints	200	Suraj.com
	Certificates of International Museum Day	Colour Digital Prints	30	Suraj.com
	Brochure of Innovation Hub	Offset Prints	1000	Haldankar Offset print
	Certificates of Inter School Science Quiz Contest	Colour Digital Prints	200	Suraj.com
	Certificates of NPCIL Iconic Week Celebration celebration	Colour Digital Prints	400	Suraj.com
	Certificates of Azadi Ka Amrit Mahotsav	Colour Digital Prints	150	Suraj.com
	Certificates of World Tourism Day	Colour Digital Prints	200	Suraj.com
	Certificates of International Science Centre & Science Museum Day	Colour Digital Prints	50	Suraj.com
	Posters Science Fiesta 2023	Colour Digital Prints	40	Suraj.com
	Certificates Science Fiesta 2023	Colour Digital Prints	400	Suraj.com
	Certificates of World Water Day	Colour Digital Prints	100	Suraj.com

18. CONSTRUCTION, REPAIRS & RENOVATION

Name of the Museum/ Centre	SI No	Name of the Work	Tender value of work in lakhs of Rupees	Gross value of work done during 2021-2022 (Rupees in Lakhs)	Date of commencement of work as per the Agreement/ Work Order	Date for completion
1	2	3	4	5	6	7
GSC Panaji	1	Renovation of Toilets near office and auditorium in GSC, Panaji	1.50	1.42	06.07.2022	05.08.2022
	2	Painting and face lifting of Compound wall	2.36	2.07	16.03.2023	24.03.23

19. PROCUREMENT OF EQUIPMENTS

Name of the Centre	SI. No.	Name of Equipment	Qty.	Date of Procurement	Cost (Rs.)
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Goa Science Centre, Panaji	1.	HP Work Station	01 No.	10.05.22	1,69,679
	2.	HP computer Desktop	02 Nos.	10.05.22	1,59,763
	3.	HP Color Laser Printer	01 No.	10.05.22	30,675
	4.	Premier Electronics 412 Exp CLI EPABX System	01 No.	08.06.22	17,161
	5.	Vacuum Pump 3CFM 1/3 HP 1440 RPM	01 No.	01.12.22	9,899
	6.	5 KVA Servo Stabilizer Micron Make	01 No.	09.12.22	16,508
	7.	Exide 12V 65AH SMF Batteries for 3 KVA UPS system of Planetarium	8 Nos.	16.12.22	52,994
	8.	Blue Star make 1.5 TR 3 star High wall split AC for Planetarium	04 Nos.	25.01.23	1,78,822
	9.	EPSON Projector EB E01	01 No.	01.02.23	39,350
	10.	Datamini Biometric Tab	01 No.	03.03.23	18,500
	11.	Blue Star make 1.5 TR 3 star High wall split AC for Conference Room	02 Nos.	16.03.23	89,590
	12.	Brother DCP-L2520D/7500D make Printer	01 No.	23.03.23	17,500
	13.	Amaron Quanta 12V 65AH SMF Batteries for 5 KVA UPS system of 3-D Theatre	20 Nos.	25.03.23	1,30,560
	14.	Amaron Quanta 12V 100AH SMF Batteries for 5 KVA UPS system of Innovation Hub	8 Nos.	25.03.23	82,352
	15.	EPSON Projector EB E01	01 No.	25.03.23	39,350
	16.	Ahuja make Amplifier TZA200 DD with wall speaker and Horn Speaker	01 No.	25.03.23	57,980
	17.	Non Depolarizing 3D silver Screen 165" Dia	01 No.	25.03.23	92,040
	18.	Air Blower	01 No.	27.03.23	5,304
	19.	3D Acrylic white letters laser cut LED Signage Board	01 No.	27.03.23	50,976
	20.	Bosch Make Angle Grinder Model GWS900-125(S)	01 No.	27.03.23	6,053
	21.	MAKITA M9202B Random Orbit Sander	01 No.	27.03.23	5,800
	22.	DC Power supply	01 No.	27.03.23	5,100
	23.	ESAB Arc 200i Inverter welding machine	01 No.	27.03.23	15,630
	24.	Aluminum Ladder Self Support 12' extendable upto 21'	01 No.	27.03.23	12,600
	25.	Taparia 4" Bench Vice	01 No.	27.03.23	11,460
	26.	Saliz make Electronic weighing machine	01 No.	27.03.23	5,841
	27.	Bosch Make Cordless Impact Drill Machine Model GSB-18LI 18v	01 No.	27.03.23	12,850
	28.	Senses Intelligent Panel 65"	01 No.	31.03.23	1,77,000

20. PERSONNEL**NEW APPOINTMENT ON CONTRACTUAL BASIS FOR ONE YEAR**

Name of the Museum / Centre	Sl. No.	Full Name of personnel	Designation	Date of Joining
GSC, Panaji				

NEW APPOINTMENTS (REGULAR)

Name of the Museum / Centre	Sl. No.	Full Name of personnel	Designation	Date of Joining
GSC, Panaji	1.	Vinay Gaurkar	Technician A	14/11/2022

PROMOTIONS

Name of the Museum / Centre	Sl. No.	Full Name of personnel	Designation Prior to Promotion	Designation after promotion	Effective date of promotion
GSC, Panaji	-	--	--	--	--

TRANSFERS

Sl. No.	Name of personnel	Designation	From	To	Effective date of transfer
1.	Venkata Durga Prasad	Curator C	GSC Panaji	NSC, Mumbai	30/06/2022
2.	Vilas D Chaudhari	Education Officer D	RSC, Nagpur	GSC Panaji	30/06/2022
3.	Elvis John D Souza	Office Asstt. Gr II	GSC Panaji	NSC, Mumbai	11/01/2023

RETIREMENT / REPATRIATION / RESIGNATION

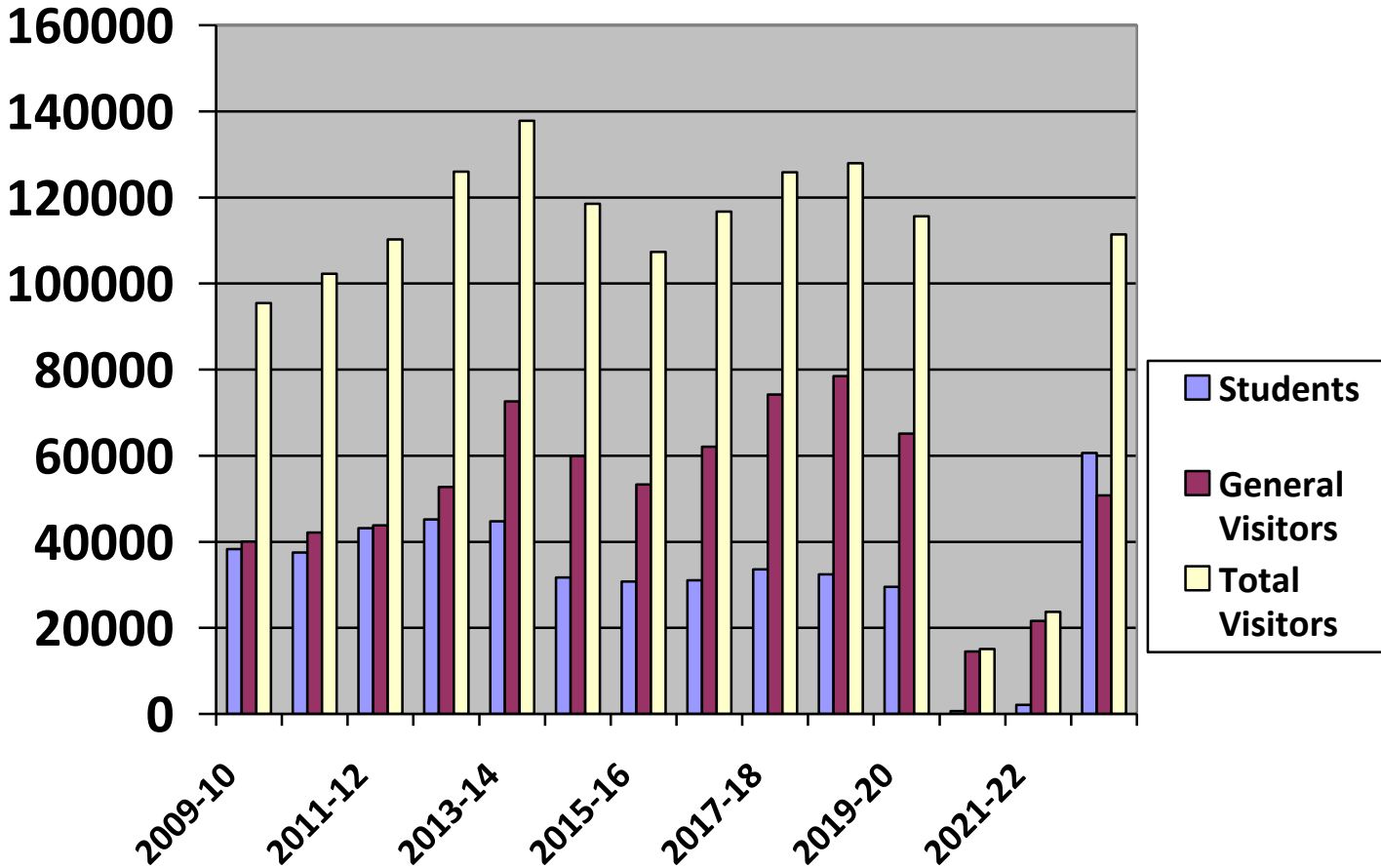
Name of the Museum / Centre	Sl. No.	Full Name of personnel	Designation	Retirement/ Repatriation/ Resignation	Effective date
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21. MISCELLANEOUS**DISTINGUISHED VISITORS**

GOA SCIENCE CENTRE, PANAJI		
1.	Dr. Rupa Naik	Deputy Director, Public Health, Directorate of Health Services, Govt. of Goa
2.	Dr. Kalpana Mahatme, Depty	Director, National Vector Borne Disease Control Program, Directorate of Health Services
3.	Shri K.R. Mohan Ram	Kaiga Generating station, Kaiga
4.	Shri Rohan Khaunte,	Hon'ble Minister for Tourism, Govt of Goa
5.	Dr S Srinivasa	Group Director, National Remote Sensing Centre, ISRO, Hyderabad

ANNEXURE-I

VISITOR STATISTICS of GSCP during period 2009-10 to 2022-23



ANNEXURE-II

C. Kits/Teaching Aids Developed

Sr. No.	Name of the Kit/Teaching Aid	Type
1.	Vacuum Table	Science Demonstration Lecture
2.	Vacuum Gun	
3.	Bernoulli's gun	
4.	Resonance	
5.	Newton's Third Law	
6.	Electromagnetic Induction	
7.	Floating & Sinking	Kit cum Table Top Exhibits
8.	Who wins the race?	
9.	Newton's Cradle	
10.	Bicycle wheel gyroscope	
11.	Jumping disc	
12.	Rising Arc	
13.	Sympathetic swing	
14.	Floating ball	
15.	Pendulum swinging in Magnetic field	
16.	Curie point	
17.	Pin screen	
18.	Resonating Pendulums	
19.	Double ended cone	

ANNEXURE- III

LIST OF POPULAR SCIENCE LECTURES

Goa Science Centre, Panaji

Sr. No	Date	Venue	Topic	Name of the Lecturer	Audience
1.	15/06/2022	GSCP	Only One Earth	Dr. Pranoy Baidya faculty in department of post-graduation and research at Govt. College of Arts, Science & Commerce, Sanquelim	208
2.	07/07/2022	GSCP	Adopt family planning measures and write a new chapter of progress	Dr. Rajendra Borkar, Chief Medical Officer, State Family Welfare Bureau, Directorate of Health Services, Govt. of Goa	137
3.	26/08/2022	GSCP	Awareness about Nuclear power	Shri K.R. Mohan Ram, Kaiga Generating station, Kaiga	50
4.	27/08/2022	GSCP	Awareness about Nuclear power	Shri K.R. Mohan Ram, Kaiga Generating station, Kaiga	68
5.	09/09/2022	GSCP	Srinivasa Ramanujan the great Indian Mathematician	. Mrs. Aruna Ravindra Shobhane, President of Kanishtha Mahavidyakaya Ganit Shikshk Parishad, Nagpur	90
6.	20/09/2022	GSCP	Waste Management	Ms, Harshada Gauns, President, Aranya Environment Research Organization, Goa	166
7.	12/12/2022	GSCP	Energy Conservation	Shri Abhinav Apte, Environmental Consultant in Sustainability and Certified Energy Auditor	106
8.	25/02/2023	GSCP	Nuclear Power: Clean, Green and Safe	S.K. Jena from Nuclear Power Corporation of India Ltd, Mumbai	263
9.	27/02/2023	GSCP	Environmental aspects of Nuclear Power	S.K. Jena from Nuclear Power Corporation of India Ltd, Mumbai	178
10.	28/02/2023	GSCP	The science behind Goa's traditional knowledge	Mr Shayeesh Pirankar, Aranya Environment Research Organisation	186
11.	28/02/2023	GSCP	Marine robotics- helping hand for scientist	Dr Pramod Maourya, Scientist from National Institute of oceanography	191
12.	28/02/2023	GSCP	unlocking science for health	Dr. Bishnupriya Mohanty, Gomantak Ayurvedic Mahavidyalaya & Research Centre	173
13.	28/02/2023	GSCP	Sir C. V. Raman Memorail Lecture	Prof G Srivastava, Group director, National Remote Sensing Centre, ISRO, Hyderabad	198

ANNEXURE - IV

COMMEMORATIVE EVENTS

DISTRICT SCIENCE CENTRE, DHARAMPUR

GOA SCIENCE CENTRE, PANAJI

1. National Technology Day 2022 on May 11, 2022 by organizing an Aeromodelling workshop. In total around 10 students participated in this Workshop.
2. International Museum Day by organizing exhibition on my own collection, exhibit hunt quiz, make and take science toy making session, science show, chat show on air FM rainbow from May 16-20, 2022.
3. World Population day in collaboration with State Family Welfare Bureau, Directorate of Health Services, Govt. of Goa from July 8-11, 2022 by organizing Elocution competition. Essay writing competition and popular science lecture.
4. Moon Landing day in collaboration with Association of Friends of Astronomy organized Astronomy Seminar on July 20, 2022. Total 15 students participated in the seminar.
5. Centre celebrated the Hindi Day by organizing Hindi Pakhwada from September 15-28, 2022. During this fortnight an Essay writing competition on the topic '75 years of independence: science and Technology' was organized for the students of class VIII to X on 23.09.2022. In total 96 students participated in this competition. Also to encourage the staff to make maximum use of Hindi in their daily works competitions like poetry recitation and translation of English words to Hindi was organized on September 23, 2022.
6. International Day of Scientific Culture was observed on September 28, 2022 by organizing Science model making competition using clay and science toy making session.
7. World Tourism Day was observed in collaboration with Department of Tourism, Govt of Goa by organizing fancy dress competition, designing shopping bag competition and coconut shell craft competition for school students from September 25-27, 2022.
8. Vigilance Awareness Week was observed from October 10, 2022 to November 6, 2022 by organising essay writing competition, spot quiz and integrity pledge.
9. International Science Centre and Science Museum Day from November 10-11, 2022 by organizing exhibit hunt quiz, online science quiz and water rocket workshop.
10. National Energy Conservation Day in collaboration with State Designated Agency, Electricity Department, Govt. of Goa from December 7-12, 2022 by organizing

painting/poster designing competition, essay writing competition, Mobile van exhibition on energy conservation and popular science lecture.

11. 21st Anniversary day celebration of the centre from December 17-19, 2022 by organizing fancy dress competition, exhibit hunt quiz, make and take science toy session and launched new science demonstration on vacuum and atmospheric pressure.
12. National Youth Day celebration by organizing workshop on 'Explore the microscopic world' for school students on and robotics workshop using Legokit on January 11, 2023.
13. National Science Day. Was celebrated by way organizing Science Fiesta during February 25-28, 2023. Various programmes such as Meet The Scientist, AstroBiology Workshop, Foldscope Making Activity, Demonstration on FTC Robotics, Demonstration on Fibre Optics, Astronomy Seminar, Fancy Dress Competition, Water Rocket Workshop, Nature Walk, Astronomy Slide Show, Earth Hour Wild Life Quiz, Nuclear Quiz, Innovate with Paper Craft Contest, Workshop on Vermicomposting & Jeevamrut, Demonstration on Fingerprinting & Forensic Science, Demonstration on Fire Safety, Astronomy Slide Show etc.were organized.
14. World Water Day in collaboration with National Centre for Polar & Ocean Research organized Spot quiz on topic water to create awareness about water conservation on March 3, 2023 and painting & Poster Designing competition was organized on 23.03.2023 for special children followed by Film show.

ANNEXURE - V

COLLABORATIVE PROGRAMMES

GOA SCIENCE CENTRE, PANAJI

- The centre participated in the Science Film Festival of India organized by Vidnyan Parishad Goa at ESG complex, Campal from April 26-28, 2022. During the program science kits, 3D printing models etc. were kept on display. In total around 3650 students and teachers visited the exhibition.
- During Azadi ka Amrit Mahotsav celebration organized outreach program in association with Children's Right in Goa on August 12, 2022 for the underprivileged children at a construction site in Kadamba Plateau, Old Goa. During the program the children were shown live science demonstration on general physics and they also fabricated a science kit. In total 50 underprivileged children participated in this program.
- As outreach activity the centre participated in Scientistica 3.0 program organized by St. Theresa High School, Sto Estevem on March 7, 2023. As a part of the program science demonstration lecture on topic Science & Miracle was organized for school students. Total 563 students, teachers and parents attended the program.
- The centre in collaboration with International Film Festival Worldwide Cell screened an Environmental documentary film 'Chemical Bros' directed by Mr. Massimiliano Mazzotta, Sardina, Italy on January 24, 2023 followed by an interaction session with the team. Total students 134 attended the program.
- Swachhta Pakhwada. The centre in collaboration with Rotary club of Miramar organized various programs to commemorate Swachhta Pakhwada.
 - **Beach cleaning program** at Miramar beach, Baina beach with the support of JCI Mormugao Port Town, and at Calangute beach with the support of JCI Mapusa on September 15, 22, 23, 2022, respectively. In total 364 students, teachers and JCI members participated in the cleaning program.
 - **Spot quiz on swachhata** for the general public on September 16-18, 2022. In total around 79 visitors participated in the quiz.
 - The visitors of the Centre dropped their slogan on Swachhata in the box provided on September 17, 2022. In total 19 visitors participated.
 - **Popular Science lecture** on the topic 'Waste Management' was delivered by Ms, Harshada Gauns, President, Arannya Environment Research Organization, Goa on September 20, 2022. In total 166 students and teachers attended the lecture.
 - Street play at Miramar beach circle on September 21, 2022 where the members of Uzwaad: Rays of hope Ngo group and students of Dhempe College of Arts & Science, Miramar performed the street play on topic swachhta. Total 453 public witnesses the play.
 - Scientific Toy Making Competition using trash organized for school students on September 24, 2022. Total 71 students participated in the competition.
 - Cleanliness drive was done in the premises of the Centre during the event.

- **International Day of Yoga**

Staff of Goa Science Centre practiced Yoga Asanas from 7.30am to 9.00am on June 21, 2022 on occasion of 8th International Day of Yoga. The program was jointly organized by Nehru Science Centre, Mumbai and Art of Living.

22. COMMITTEE MEMBERS

LOCAL ADVISORY COMMITTEE OF GOA SCIENCE CENTRE, PANAJI

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