

Newsletter

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Nehru Centre



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Events At a Glance...

Cultural Wing

Rang-E-Heena-O-Ghazal
(A Two Days Programme)

Presentation of Marathi Ghazals
6th January 2012, 6.30 pm

**Presentation of Ghazals in Urdu of
Classic and Contemporary Poets**
7th January 2012, 6.30 pm

Venue: Nehru Centre Auditorium

Library

**A Complete Workshop on Landscapes in
Different Seasons**

6th January 2012, 10.00 am - 1.00 pm

Workshop on Cartooning

7th January 2012, 10.00 am - 1.00 pm

Resource person: **Smt. Bhavna
Panchamiya**

Venue: Hall of Quest,
Planetarium Basement

Nehru Planetarium - Lectures

Please see the details of the programmes
on page 4

**"Workshops on Sustainable Roads for
Mumbai City"** by Experts from Central
Road Research Institute, New Delhi

10th and 11th January 2012
9.30 am to 5.30 pm

Venue: Hall of Culture, Ground Floor
Nehru Centre

Book Discussion

20th January 2012, 4.30 pm

Venue: 14th Floor Conference Room,
Nehru Centre

Future of Nuclear Power after Fukushima

Dr. H. N. Sethna Memorial Lecture was delivered by Dr. M. R. Srinivasan, former Chairman, Atomic Energy Commission. The first part of his lecture was covered in the monthly Newsletter for November 2011. The second part was covered in the December 2011 issue. The third part is covered in the present issue.

Referring to the Fukushima accident, he stated "Fukushima is located in the north east coast of Japan and housed two nuclear power stations. The Daiichi station had six units: Unit 1 of 460 MW, Units 2, 3, 4 and 5 of 784 MW and Unit 6 of 1100 MW. They were all put in to operation during 1970-80. The Daini station located close by had four units of 1100 MW, put in to operation from 1982 to 1988. All these ten units were designed by General Electric of U.S. and Toshiba, and Hitachi had a major role in building these units. On March 11, 2011 at 2:46 pm, an earthquake of 9.0 intensity on the Richter scale hit Tohoku, near Fukushima and Sendai. The tsunami that accompanied this earthquake had a magnitude of 9.1. Both these are the fourth highest on record in the world. There was large scale destruction and flooding at Fukushima, Sendai and other places. Prior to the earthquake, units 1, 2 and 3 at Daiichi were operating while units 4, 5 and 6 were under maintenance. At Daini, all four units were operating. As soon as the earthquake struck, all the three operating units at Daiichi and the four units at Daini shut down, as per design intent. The reactor installations appear to have withstood the massive

earthquake, though they may have shaken more than they were designed to. The earthquake, however, disrupted the four transmission lines connected to Daiichi units 1 to 4 and the two lines connected to units 5 and 6."

Continuing he explained "In a nuclear reactor, even when it is in a shut down condition, it is important to cool the nuclear fuel, which continues to produce heat as a result of decay of the radioactivity in it. Normally the shut down cooling is provided by pumps which supply water to the reactor core, and power for this purpose is drawn from the grid. When grid power is lost for whatever reason, emergency diesel generators are provided to supply power to the shut down pumps. At Daiichi, there were ten sea water cooled diesel generators and three air cooled diesel generators. Although the diesel generators started after the earthquake, very soon after the tsunami struck, all the ten diesel generators cooled by sea water and two of the three air cooled diesel generators were disabled. Since no cooling was available in units 1, 2 and 3 of Daiichi, the fuel heated up and there was partial melting of the fuel. The plant personnel attempted to pump sea water in to the reactors, in sheer desperation. In the mean time, the hot zirconium alloy cladding of the fuel reacted with water liberating hydrogen. The hydrogen on coming in to contact with air exploded and destroyed the outer building of the reactor. Normally, the vessel immediately surrounding the reactor

contd. on page 2

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plant personnel attempted to pump sea water in to the reactors, in sheer desperation. In the mean time, the hot zirconium alloy cladding of the fuel reacted with water liberating hydrogen. The hydrogen on coming in to contact with air exploded and destroyed the outer building of the reactor. Normally, the vessel immediately surrounding the reactor is filled with nitrogen to prevent a hydrogen explosion. In this instance however, due to fuel overheating, the pressure built up to a point leading hydrogen to enter in to the outer
(to be continued)

What Nehru said....

.....any attempt to reduce what is called the social service side would be unfortunate. Whether it is health or education, both are vital to the community always, more especially in wartime. The casualties of war by enemy action are far less than the casualties from diseases which spread in wartime especially amongst the soldiers and others. Therefore, it is vital to retain schemes of health and education. Education is vital from yet another point of view. In the past we have talked a lot about basic education. How far we have given effect to it is doubtful. But the idea of basic education-or of education that has connected with productive work-is highly important.

January 18, 1963

Library



New Arrivals - Books

Sr. No.	Title	Author
1.	Wealth from waste: Trends and technologies	Banwari Lal & M.R.V.P. Reddy. Eds.
2.	India's financial markets" An insider's guide to how the markets work	Ajay Shah & others
3.	Gopal Ganesh Agarkar: The secular rationalist reformer	Aravind Ganachari
4.	From here to infinity	John Gribbin & Mary Gribbin
5.	Space: The frontiers of modern defence	K. K. Nair
6.	Marketing services	Venkata Ramana Vedula
7.	Strategic human resource management	Rajib Lochan Dhar
8.	Indo-Tibet-China conflict	Dinesh Lal
9.	Wealth management	Naliniprava Tripathy
10.	The theory and practice of managerial ethics	Jayashree Sadri

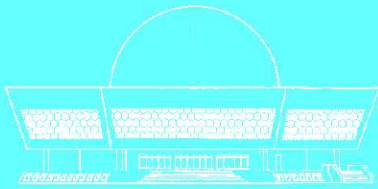
Nehru Centre Library is open for reference. Xeroxing facilities are available.
Timings: 10.30 am to 5.00 pm Contact: Arati Desai, Librarian Phone: 2498 3921

Discovery of India Exposition - Elocution Competition

The Discovery of India Exposition of the Nehru Centre is organizing an Elocution Competition for school students of Standards VIII & IX.

Thursday, January 26, 2012, Between 11:00 hrs to 13:00 hrs

For details contact : Mrs. Gauri Jadhav



NEHRU PLANETARIUM

SKY SHOWS: Shows & Timings

- "Stars of the Pharaohs" 12 noon (Hindi)
- "Awesome Universe" 1:30 pm (Marathi)
- "Stars & Wonders of the Universe" 3:00 pm (English)
- "Hide & Seek in the Sky" 4:30 pm (Hindi)

MONDAY CLOSED

Prof. Subrahmanyan Chandrasekhar Lecture Series

Prof. Spenta R. Wadia, Director, International Centre for Theoretical Sciences, TIFR, Mumbai delivered the third Lecture of the series on 29 October 2011. He spoke on Black Holes: A window into A New theory of Space Time. We bring you here second and final part from his talk.

So Special Relativity says that the speed of light is finite and in 1905, Einstein developed the Theory of General Relativity. In it constant gravity can be understood in terms of constant accelerations. And this is called as the principal of equivalence and it's connected to Galileo's first experiment. The Principle of equivalence cannot be right if gravity acted differently on two different masses.

Now what about Gravity and Time? Gravity changes the flow of time.

John Wheeler once had said.

"Matter tells space-time how to curve, and curved space tells matter how to move"

This is what General Theory of Relativity says in a nutshell without equation.

Interestingly, Einstein did not believe in the solution of Schwarzschild, he did not believe in the existence of black holes.

So, if you shine light, at a black hole, even light cannot get out. If the light passes the horizon, you will see nothing. So, Schwarzschild gave the solution, which Einstein did not believe in. But Chandrasekhar said, it's inevitable, Stars have to collapse, beyond a certain point into a black hole that was the great contribution of Chandrasekhar in 1931. Which he considered at that time, what

is called white dwarfs, if a star goes beyond the certain critical mass, which is 1.4 solar mass, then they collapse into either a neutron star or a black hole. So black holes are inevitable.

Black hole hunt is a very big subject in astronomy and astrophysics today. So in principal, one cannot see a black hole, as it doesn't emit light. So then how does one see it? One can see, only by the effect it has on the matter around it. The other interested thing with high gravitating object is that, if one shine a torch behind it, the light will be seen bent, it's called gravitational Lensing. So the gravitating object behaves like a lenses and this is a very important probe in modern astronomy.

And now we come to theoretical physics.

So the stuff is predicted, the equations are working down very well, people have seen it. But what about the theory, it gives rise to very important theoretical principals or a result.

The first property is Universality; the final shape of the black hole is, it's independent of how it was formed. So if we take 3 different types of stars and whatever collapses into a black hole, afterwards there is no memory of where it came from.

Second thing is, a very interesting theorem, which was proved by Stephen Hawking, for example, suppose you have two black holes, A1 and A2 and they collide, to make the third black hole and in that collusion may be, gravitational waves are releases, which we are hoping to detect in the future. The area of the horizon always increases; this is the theorem of geometry, which you can prove from Einstein's equation. It is called the Area theorem.

So now we have discussed classical black holes. It means black holes, which just arise from the solutions of Einstein's

equations, and we were just doing classical physics. We know that physics, but the real world is of Quantum mechanical and not the stuff that you see around you.

Classical mechanics says nothing comes out of black hole. But quantum mechanics says that is not true. Whatever goes in, in some measures comes out. But it comes out as thermal radiation. And that is what is called as Hawking Radiation.

There is a problem with the quantum theory of gravitation, when you marry general relativity with Quantum mechanics you run into a fundamental issue. And there is very deep reason to bother, because ultimately all that science wants to do is explain the universe, the so called the Big Bang point. And then there is the radiation coming out, then these small perturbations grew, made galaxies, stars, planets, and ultimately we came in. So all this stuff is very important to understand, so in order to understand all this you need a good quantum theory of gravity. There is a reason to work on these issues. So in 1960 people came up with a very good idea of explaining totally different phenomenon. People wanted to explain the physics of neutron and protons in the 60's and they came up with a certain models of protons and neutrons, which is now called the string theory. And then few years later they found, this string theory is consistent with the laws of quantum mechanics,

Investigation of black hole reveal that string theory has new degrees of freedom, which enables and gives a consistent description of black hole and quantum gravity. And gravity is holographic and emerges from an interacting theory on the boundary of the space-time. And the connection seems to unravel, unsuspected connection of different problems in physics and mathematics.

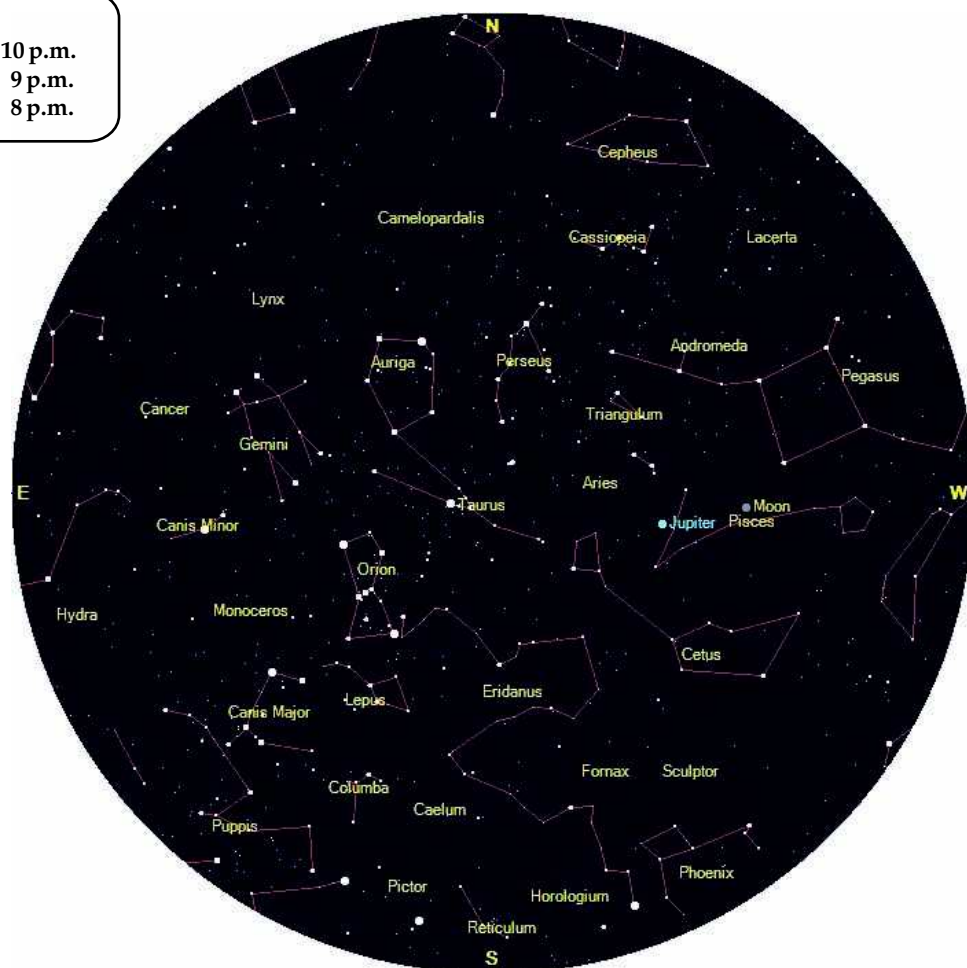
STAR CHART FOR JANUARY 2012

Use the Chart :

Early month : 10 p.m.

Middle month: 9 p.m.

Late month: 8 p.m.



Hold the chart vertically before your eyes and turn until the geographical direction you are facing shows the bottom of the chart. Jupiter is in Pisces, and Venus is in Sagittarius in the evening sky. Saturn is in Virgo and Mars is in Leo region in the dawn sky.

Phases of the Moon (timings in IST hh:mm)

New Moon (Amavasya)	First Quarter (Shukla Paksha Ashtami)	Full Moon (Poornima)	Last Quarter (Krishna Paksha Ashtami)
23 January, 13:09	31 January, 09:40	09 January 13:00	16 January, 14:38

SPECIAL ASTROPHYSICS LECTURE

A Special Astrophysics Lecture "The Restless Universe (Palomar Transient Factory)" by Prof. Srinivas R. Kulkarni, Principal Investigator, Palomar Transient Factory, Director, Caltech Optical Observatories, California Institute of Technology, Pasadena, USA on Sunday, 8 January 2012 at 11 a.m.

PROF. SUBRAHMANYAN CHANDRASEKHAR LECTURE SERIES

Fifth lecture of the PROF. SUBRAHMANYAN CHANDRASEKHAR LECTURE SERIES by Professor G. Srinivasan, Former Jawaharlal Nehru Fellow, Raman Research Institute (Retired), Bangalore on "From White Dwarfs to Black Holes: The Legacy of Subrahmanyan Chandrasekhar" on Saturday, 21 January 2012 at 5:00 p.m.

Venue : Nehru Centre's Hall of Culture, Ground Floor, Discovery of India Building, Dr. A. B. Road, Worli, Mumbai

Cultural Wing

Rang-E-Heena-O-Ghazal

(A Two Days Programme)

A Presentation of Ghazals in Marathi of late Shri Suresh Bhatt, Shri Vijay Avahad, Shri Sadanand Dabir, Shri Manohar Ranpise, Shri Arun Sangole, Shri Raman Randive, Smt. Lalit Bantiya and Shri Anil Kamble will be rendered.

Singer: Smt. Aparna Aparajita, Shri Madhav Bhagwat and Smt. Suchitra Bhagwat

Music: Late Prabhakar Pandit, Shri Saroj Suman, Shri Madhav Bhagwat, Shri Manohar Ranpise and Shri Ashok Patki.

Music coordination by Shri Prashant Lalit

Accompanying musicians:
Shri Avinash Aher on Tabla
Shri Arun Tawde on Side Rhythm

6th January 2012, 6:30 pm
Nehru Centre Auditorium

A Presentation of Ghazals in Urdu of Classic and Contemporary Poets

Singer: Shri Jaswinder Singh

Music: Shri Kuldeep Singh

Accompanying musicians:
Shri Ashish Jha on Tabla
Shri Vishal Dhumal on Synthesizer
Shri Manas Kumar on Violin

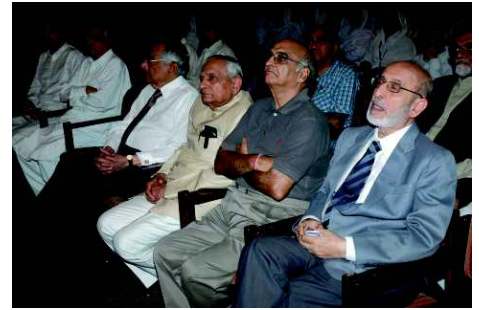
7th January 2012, 6:30 pm
Nehru Centre Auditorium

Entry: Entrance Cards for the above programmes will be available on **3rd January 2012** from 10.30 am until availability of entrance cards from the Booking Counter of the Nehru Centre Auditorium.

Review

Centenary Celebrations of the Legendary Poet Faiz Ahmed Faiz
(A Three Days Event)

The Event was held from **15th to 17th December 2011** dedicated to the memory of Poet **Faiz Ahmed Faiz**.



An Academic Deliberation was organized on 15th December 2011. An introduction of Faiz Ahmed Faiz was given by Prof. Zaheer Ali in his book "Talmeehat-E-Faiz" which was followed by discussion by Janab Abdul Ahad Saaz, Janab Javed Siddiqui, Janab Shahid Latif and Janab Sohail Warsi.

Reading of letters, written by Denis Faiz to Faiz Ahmed Faiz and his replies, was presented in a dramatized form by Salim Arif and Lubna Salim on 16th December 2011 followed by ghazal rendition by Ms. Khushboo Khanam and Ms. Pooja Gaitonde.

Mushaira



An Annual Mushaira in its 23rd edition was organized on Saturday, 17th December 2011. The Mushaira was inaugurated by Shri I. M. Kadri, General Secretary, Nehru Centre by lighting the traditional *Shama* alongwith poets present. The Nizamat was done by Janab Irfan Jafri and the Mushaira was presided over by Janab Mohammed Alavi. The Mushaira was a feast for the Urdu poetry lovers.

PROGRAMMES FOR JANUARY 2012

RAHUL PHULKAR

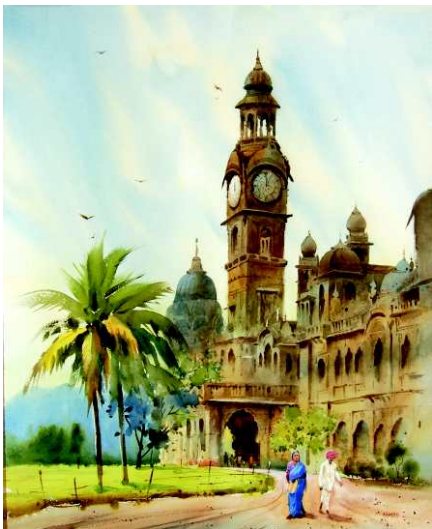


Painting by Rahul Phulkar

Rahul received Govt. Diploma in Applied Art from Abhinav Kala Mahavidyalaya, Pune. His paintings in acrylic are on Indian Miniature style.

**Tuesday 3rd January to
Monday 9th January 2012
(Circular Gallery)**

KISHOR NADAVDEKAR



'New Palace' - Painting by Kishor Nadavdekar

Kishor is a self taught artist with his hard work he has won National and International awards.

He has had many exhibitions to his credit, has given demonstrations and attended many workshops. He has been an expert guide for the Art Study Camps organised by Nehru Centre. He works in water colours, acrylic and oil in realistic figurative style.

**Tuesday 10th January to
Monday 16th January 2012
(AC Gallery)**

MADHU JAIN



'Cherry Blossom' - Painting by Madhu Jain

Madhu had art education from New Delhi. Later studied "Sumi-e" (Ink Painting) in Tokyo, Japan. Also researched Nihonga (Japanese style Painting) in Tokyo. Had many exhibitions all over the world. She will display her Japanese paintings on 'Nature' and 'Folklife' in acrylic and water colours with unique textures.

**Tuesday 10th January to
Monday 16th January 2012
(Circular Gallery)**

WESTERN REGION ART EXHIBITION BY CAMEL ART FOUNDATION

15th Western Region Art Exhibition is being organised by Camel Art Foundation.

The first exhibition was held in 1998. The works are called from the artists

and art students from various States. The work are judged by the panel and given cash awards for professional and students categories.

**Tuesday 17th January to
Monday 23rd January 2012
(Both Galleries)**

"ART BAND"

Art Band is a group of artists formed by the ex-students of Raheja School of Arts, Mumbai. This is to give an opportunity to young artists to display their works with established artists.



Painting by Shridhar Badekar



Photograph by Yatin Dandekar

In last February the Art Band organised an art contest for one thousand art students which was a great success. There are around fifty artists including painters, sculptors and photographers in this exhibition.

**Tuesday 24th January to
Monday 30th January 2012
(Both Galleries)**

Review

Indian Master's Retrospective Shri Gajanan Narayan Jadhav

The 19th Indian Master's Retrospective of Shri G. N. Jadhav was inaugurated on 17th December 2011 by Shri R. D. Pradhan, Vice Chairman, Nehru Centre. He also released a catalogue on Shri G. N. Jadhav. Also present on the occasion was Smt. Bakul Patel, Jt. Secretary, Nehru Centre.

A large number of artists, art lovers and family members of Shri G. N. Jadhav had assembled at the Nehru Centre Art Gallery for the inauguration.

The exhibition is **on view till 8th January 2012** for the art lovers at the **Nehru Centre Art Gallery**.



Shri R. D. Pradhan, Vice Chairman, Nehru Centre inaugurating the exhibition by light the traditional lamp



A catalogue on Shri G. N. Jadhav was released on the occasion



Shri Shrikant Jadhav briefing Shri R. D. Pradhan, Vice Chairman, Nehru Centre and Smt. Bakul Patel, Jt. Secretary, Nehru Centre



Art lovers engrossed in the exhibition



Art lovers going around the exhibition

FOR PRIVATE
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DISCOVERY OF INDIA EXPOSITION

NEHRU CENTRE PUBLICATIONS
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1. G. N. JADHAV

2. ART HERITAGE OF MAHARASHTRA

3. HAREN DAS

4. PROF. P. A. DHOND

5. COLLECTOR'S PRIDE

6. K. B. KULKARNI

7. VINAYAK S. MASOJI

8. SAMAKALEEN

(Contemporary Five Artists)

VINAYAKRAO WAGH

RAJARAM PANVALKAR

KRISHNAJI KETKAR

DATTAJIRAO DALVI

GOVIND MALADKAR

9. NAGESH B. SABANAVAR

10. NARAYAN L. SONAVADEKAR

11. "GURU-SHISHYA"

BABA GAJBAR &

GANPATRAO WADANGEKAR

12. D. G. KULKARNI (DIZI)

13. MILLENNIUM SHOW

(A Century of Art from Maharashtra)

ART FUSION 2007 / 2008 / 2009 / 2010

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Glimpses

Know Your India:

IMPACT OF THE WEST: ESTADO DA INDIA

While Portuguese as a spoken language has nearly disappeared from India, loan words from it survive in the everyday vocabulary of Indian languages. For example, in Hindustani the word for a room is kamra, a usage directly derived from the Latin term for chamber, camera, and shipped to India by the Portuguese. Even the English term for that social category unique to India, caste, originates in the Portuguese word for race or breed, castra.

Words were not all that the Portuguese gave to India. Roman Catholic Christianity, with its Baroque churches, its musical liturgy, its great monastic orders committed to education and scholarship, came to India in Portuguese boats. And this was by design. He came in search of "spices and Christians", declared Vasco when he reached Calicut, and Albuquerque's victory over Bijapur was commemorated by a church dedicated to Our Lady of the Rosary. Their trade and empire are things of the past but that church - and their faith - endures.

The hardest thing to change in a culture is its cuisine. People are conservative about what they eat and drink. But the Portuguese changed our diet in fundamental ways. They brought the peanut from Africa, the papaya from the West Indies, the pineapple from South America and even the familiar *lal mirch* or red pepper, turns out to be a Portuguese import from Pernambuco.

Before Jacques Nicot introduced tobacco into France (nicotine is derived from his name), the Portuguese brought it to the Deccan in 1508. Emperor Jehangir denounced it as a poisonous weed but his subjects were not listening. In *hookahs*, *bidis*, *paan* and snuff; chewed, sniffed and inhaled, tobacco installed itself as an Indian habit. In this, as in so much else, life after the Portuguese was never the same again.

Exposition open from 10.30 am to 5 pm - Every Day except Monday

TO OUR READERS

Kindly write to us if there is any discrepancy in the address (or name). It is our aim to reach this publication well before the beginning of the month, to ensure that you do not miss any programmes of Nehru Centre.

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