

# Newsletter

Vol. 13 Issue 3 MARCH 2012

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## Nehru Centre



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## Events At a Glance...

### Art Gallery

Exhibition of Paintings of Study  
Camp to Mussorie & Dehradun in  
Uttarakhand

28th February to 5th March 2012  
(AC & Circular Gallery)

Nehru Planetarium  
35th Anniversary Celebrations - 2012  
Contests for Students

01.03.2012 - Astro-Quiz Contest  
(For Students of Std. VIII & IX)

Time: 10.00 am to 1.00 pm

For further details contact Shri Suhas  
Naik-Satam

### Cultural Wing

'Tagorenama'  
(A Three Days Programme)

15th-17th March 2012, 6.30 pm  
Venue: Nehru Centre Auditorium

### Library

Meet-the-Author: R. Rajagopalan  
Prof. Rajagopalan will talk to students  
about his new book 'Environment: An  
Illustrated Journey' in an interactive  
workshop. For Students of Stds. VI-VIII

March 17, 2012, 10.00 am to 1.00 pm  
Hall of Quest, Nehru Planetarium

### Book Discussion

#### The Best of Quest

Edited By Laeeq Futehally, Arshia  
Sattar and Achal Prabhala  
Panelists: Prof. Vijay K. Sinha, Mrs.  
Neela D'Souza & Ms. Supriya Nair

March 30, 2012, 4.30 pm  
Conference Hall, 14th Floor  
Discovery of India Building

## Indo-China Relations

A book discussion of the book "On China" by Dr. Henry Kissinger, former Secretary of State of the United States of America was organized on 25th August 2011. Shri N. Narasimhan former Secretary, Cabinet Secretariat, Government of India was one of the panelists who spoke on the book.

Shri Narasimhan with his in-depth knowledge of India-China relations spoke extensively and critically on the various aspects dealt with by Dr. Kissinger in his book. He also expressed his own views on India-China relations. Following are some of the issues on which he spoke.

"Not being a critical element to his main purpose of the book, the war of 1962 which is dealt with in Dr. Kissinger's broad brush treatment of the history and actual developments preceding the October-November 1962. Chinese attack on India, the facts are smudgy and a number of crucial issues have been glossed over. In fact, there are arguably many historic inaccuracies, if not exactitudes.

Nevertheless, this book has done yeoman service to the Indian cause by conclusively demonstrating that the Chinese attack was a well planned and meticulously executed "malice aforethought" which was personally handled by Mao himself."

In this connection, Shri Narasimhan observed that "three other Mao

quotes given by Dr. Kissinger on India-China 1962 are worth reproducing, as they unambiguously establish the "malice aforethought" of Mao to unleash the war on India, as supplementary diplomacy, with meticulous preparedness.

"You (perhaps referring Nehru) wave a gun, and I will wave a gun. We will stand face to face and can each practice our courage". Mao defined it as policy of "armed co-existence".

"Lack of forbearance in small matters upsets great plans. We must pay attention to the situation".

"We fought a war with old Chiang (Kai-shek). We fought a war with Japan, and with America. With none of these did we fear. And in each case we won. Now the Indians want to fight a war with us. Naturally, we do not have fear. We cannot give ground. Once we give ground it would be tantamount to letting them seize big piece of land equivalent to Fujian province". Since Nehru sticks his head out and insists on us fighting him, for us not to fight with him would not be friendly enough. Courtesy emphasizes reciprocity".

Referring to India's ineffective responses to Pakistan's long persisting low intensity war strategy based on the false perception that India would not dare to use

contd. on page 2

conventional arms for fear of nuclear attack from Pakistan, he suggested that India needs to drastically change the ambience of bilateral equations in subcontinent and gain strategic space and strategic autonomy by appropriate actions and responses to periodic provocations by Pakistan.

On the various issues dealt with by Dr. Kissinger, Dr. Narasimhan observed that some pertinent overall impressions, if not conclusions emerging out of the very detailed accounts of different issues, different personalities, in different sections of the book, transcending the chronology perspective can be briefly noted down as under:

The Chinese leadership of all generations practices with consummate success all verbal and physical feints, duplicity, outright lies, wrapped in deliberate studied ambiguity, grandstanding calls for World Resolutions against Imperialism, Revisionism, Hegemonism, Brinkmanship in readiness to risk nuclear war annihilation, as a tool of blackmail, and so on, to achieve well planned, meticulously executed, long range objectives of domination, even from an intrinsically weak position.

The known history of the 1962 India-China Border War, and the "unknown" developments in this area of the past three decades since the resumption of the dialogue between the two countries, post the 1962 war hiatus at the close-to-home, hurtful, demonstration of these "Chinese Characteristics".

Most of the time they have succeeded in pulling the wool over the eyes of "friends" as well as "foes" at the given point of time.

All along, the Chinese Leadership has demonstrated extraordinary capacity to mobilize resources, man power, material and what have you, on a stupendous scale, and concentrate these to tackle the tasks on hand, be it the Korean War,

Taiwan Straits crises, border show downs etc.

Shri Narasimhan highlighted his views forcefully and emphatically on India-China relations and the steps needed to be taken by Government of India in dealing with China. He said "The nitty-gitty of the post Nehru era India-China border dispute negotiations have been marked by near total secrecy. This has been plainly proven to be purposeless, self defeating, counter productive, and arguably much worse. This has given rise to lot of unhealthy speculation about various proposals proffered by either side."

One of these is a "swap" attributed to different Chinese Leaders including Mao, Chou, Deng, at different points of time. In essence this amounted to a Chinese offer that they would allow India to keep the disputed area in the Eastern Sector, in return for India's acceptance of the Chinese claims in the Western (Ladakh) sector.

India's relations with China is one area which can be safely postulated as extrinsic to, and fairly well insulated from the vagaries of domestic electoral politics, which can be safely kept that way unless violently mishandled.

To be continued....

### What Nehru said....

#### PARLIAMENTARY DEMOCRACY

Parliamentary democracy demands many virtues. It demands, of course, ability. It demands a certain devotion to work. But it demands also a large measure of co-operation, of self-discipline, of restraint. It is obvious that a House like this cannot perform any functions without a spirit of co-operation, without a large measure of restraint and self-discipline in each group. Parliamentary democracy is not something which can be created in a country by some magic wand....

March 28, 1957

## Library



### New Arrivals - Books

Sr. No.	Title	Author
1.	Traditional buildings of India	Ilay Cooper & Barry Dawson
2.	An Indian affair	Archie Baron
3.	The evolution of physics: From early concepts to relativity and quanta	Albert Einstein & Leopold Infeld
4.	The nuclear jihadist: The true story of the man who sold the world's most dangerous secrets... and how we could have stopped him	Douglas Frantz & Catherine Collins
5.	The trouble with Islam today: A wake-up call for honesty and change	Irshad Manji
6.	The reluctant fundamentalist	Mohsin Hamid
7.	Deception: Pakistan, the United States and the global nuclear weapons conspiracy	Adrian Levy & Catherine Scott-Clark
8.	Stranger to history: A son's journey through Islamic lands	Aatish Taseer
9.	A better India, a better world	N. R. Narayana Murthy
10.	Collected plays of Satish Alekar	Satish Alekar

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



## SKY SHOWS: Shows & Timings

- "Stars of the Pharaohs" - 12 noon (Hindi)
- "Awesome Universe" - 1:30 pm (Marathi)
- "Awesome Universe" - 3:00 pm (English)
- "Awesome Universe" - 4:30 pm (Hindi)

MONDAY CLOSED

## Prof. Subrahmanyan Chandrasekhar Lecture Series

Prof. Priyamvada Natarajan, Departments of Astronomy & Physics, Yale University, USA spoke on "From fasting to feasting: the feeding habits of black holes in the Universe". We bring you here second and final part from her talk.

Black holes are basically like anorexic supermodel, they eat once in a while, and they starve themselves most of the time. So when we look at the center of the galaxy the light you see is not that is coming from the black hole it is dominated by the star sitting right around the center of the galaxy, possibly right around the black hole.

Now the question is, how black hole reveals their presence? If they are sitting at the centre of the galaxy, as I said, typically galaxies are mostly in fasting stages, but as soon as they start feasting, we start seeing them. One way we can see them is, when there is a collision of two galaxies, the black hole at the center starts feeding and it reveals its presence by pushing out these very powerful jets that are seen. These jets last as long as feasting last, and the feasting can last up to 100 million years almost. And then as the gas get depleted they are back to fasting. So the center of galaxy can reveal the presence of black holes in many different ways and this is one of them.

When we talk about black hole, the so called Schwarzschild radius is very important, it's the radius within which you have packed stuff, it's so dense that not even light can escape, the point of no return. Once we cross the event horizon, you get into the back hole.

So the question is how does gas actually flow and fall into the black hole? At this point, we don't have computational facilities to understanding, how to model the flow of gas around black holes. And it's not advanced enough to reach all the way to the event horizon, we can bring it

up to a point, then we know, it's going to make its way in.

Typical in galaxy like our Milky Way the black hole will be right there at the centre. And we are sitting away from the center about 33,000 light years. As we are sitting in its plain, we don't have an over view of our own galaxy. All we can see is dust, gas, stars towards the centre. It's very dense and active part of the galaxy. And as I have mentioned the black hole at the centre of our galaxy is fasting, so there is no gas left, it has depleted all the gas, there is nothing funneling in there, and there is no signature of the black hole. So then you can say, how do we believe you? How can you say there are dead black holes? Just because I say so, no. It turns out, while the disadvantage is that; we cannot really have a bird's eye view of the entire galaxy. But when we look at the individual stars at the centre of the galaxy they mark the location of the black hole. What we see is, the stars orbit right around the center of the Milky Way. There are individual stars that we can track and are being tracked, we can track their motion, around which, their orbits are closing into nice little ellipses. And from that we can infer there is a black hole sitting there. And we can also determine the Mass of the black hole at the center of the Milky Way and it's 2 million times the mass of the sun. And remember I told you the feasting black holes are 1000 times more massive. So the black hole at the center is not only wimpy but also fasting.

The question is how did the first black hole came into being? The starting point is, what you see is the filament of the early universe, because we know the initial condition of the universe quite well at this point. We do a sample of a small portion of the universe; setup the initial conditions, the only questions that are relevant, those are gravitational force. So you calculate gravitational force between any two points, little bit of acceleration, you recalculate and you keep doing that and you can calculate how things flowed in the early universe. And it turns out there is no real easy way to do it.

So what do we have in the universe is, the universe is dominated by dark matter. It's not an ordinary atom, it's some exotic stuff, and we have no idea what it is. Kind of embarrassing, but that's the way it is. We think that the dark matter halos and gas in the universe falls into the dark matter. This is when the first galaxies start to form in the universe. Then it turns out that you can form a disk, and some of these disks can be so massive and so unwieldy, that they can start funneling mass to the centre. And the only way to form a black hole, the challenge is to funnel lot of stuff to the centre and make it very dense; the density of the black hole is the issue. So the disk becomes unstable and you can shed lot of matter into the center. This is a theoretical idea; we did a lot of nice calculations to show. Because we want to catch something in action, we want to catch an object in the universe in the stages, which I talk about. And the widow is very short. And in next few years, if we are very lucky there will be a new satellite sent up from US James Web Space Telescope that will be able to look at the universe at the very early stages and we should be able to see these things.

In the study of black hole, the picture that we have of black hole is going in refinement all the time; it's a very rapidly changing field. I can tell you its fun, its exhausting, its competitive to be in this field. But I think, the thrill that you get by doing the little bit of science, however small the discovery is, however small the prediction is, it is really great being in. and I urge all of you to experience it sometime.

The Nehru Planetarium has organized the concluding function of its **35th Anniversary Celebrations** on **Saturday, 3 March 2012, 5:00 pm.**

**Prof. (Mrs.) Mita Rajaram**, *Director-In-charge*, Indian Institute of Geomagnetism, Navi Mumbai would be the chief guest.

Venue: **Hall of Quest**, Nehru Planetarium

# STAR CHART FOR MARCH 2012

## The Planets in March 2012

**Mercury** (Budha) can be seen prominently, though close to the western horizon, soon after the sunset till about 10th of March 2012. It is at its highest above the horizon on 5th and 6th of March. It remains in Pisces, the Fishes (Meena) this month.

**Venus** (Shukra) continues to shine brilliantly above the western horizon. It moves from Pisces, the Fishes (Meena) to Aries, the Ram (Mesha) on 5th and then crosses over to Taurus, the Bull (Vrushabh) on 30th. It is within 3 degrees of Jupiter on 13th of March.

**Mars** (Mangal) rises soon after the sunset and continues to rise early as the time marches on. It is in Leo, the Lion (Simha). In the beginning of the month it is in line with two stars (see the map) above Denebola. These two stars make our nakshatra Purva Phalguni. Denebola is Uttara Phalguni. The planet is moving towards Regulus (Magaha).

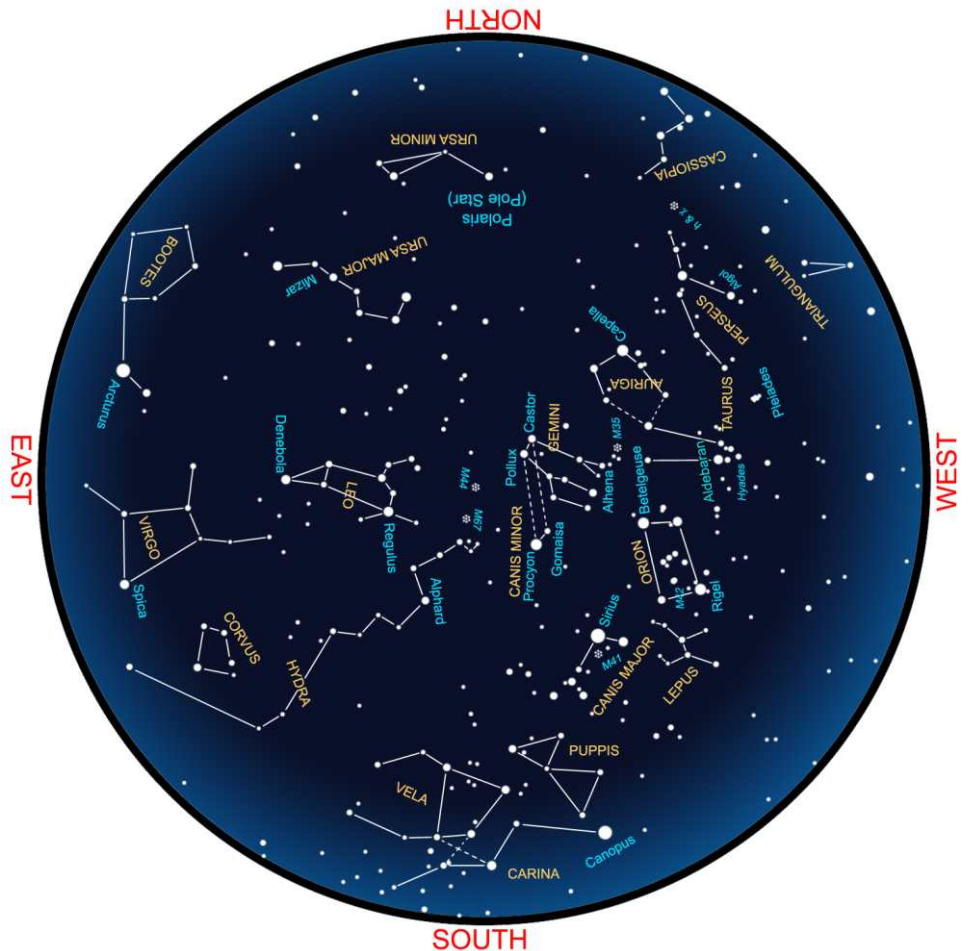
**Jupiter** (Guru or Bruhaspati) remains in Aries, the Ram (Mesha) all through this month. (See also Venus above).

**Saturn** (Shani) is in Virgo, the Virgin (Kanya) this month. It is slowly moving towards Spica (Chitra)

**March of the Moon.** About half illuminated Moon passes within about 4 degrees of Pleiades (Krutika) on 1st of February. It is then less than 2 deg. from Spica (Chitra) on 12th of February. You must mark evenings from 25th to 27th of February for viewing pleasure of Moon sliding past Venus and Jupiter. It would be a grand sight to see thin crescent north of two bright planets above the western horizon.

*(Disclaimer: The Indian names of the stars and planet, given in parenthesis for the purpose to remind the reader that India has a rich astronomical tradition. We do not subscribe to astrology.)*

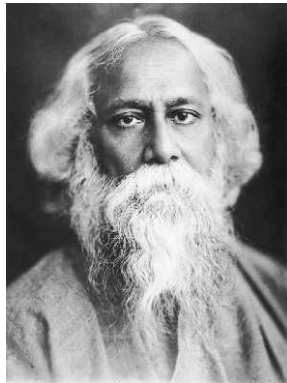
Use the Chart :  
 Early month : 10 p.m.  
 Middle month : 9 p.m.  
 Late month : 8 p.m.



The map shows slightly more sky than that will be visible from a given location. Thus the map can be used elsewhere in India at 21:00 hrs Indian Time. Hold the chart vertically before your eye and turn it until the geographical direction you are facing shows at the bottom of the chart.

Phases of the Moon (timings in IST hh:mm)			
First Quarter (Shukla Paksha Ashtami)	Full Moon (Poornima)	Last Quarter (Krishna Paksha Ashtami)	New Moon (Amavasya)
01 March, 06:51	08 March, 15:09	15 March, 06:55	22 March, 20:07

# Cultural Wing



Gurudev Rabindranath Tagore

To celebrate 150th Birth Anniversary of **Gurudev Rabindranath Tagore**, a three days programme, titled '**TAGORENAMA**' will be presented from 15th March to 17th March 2012 at the **Nehru Centre Auditorium**.

The programme is devised by Darpana Academy, Ahmedabad.

## Programme Details:

15th March 2012

### RITU CHAKRA

Australian Dancer Choreographer Liz Lea and Revanta Sarabhai will create a full evening of dance to Tagore's cycle of seasons reinterpreted in contemporary fashion by composers Shashank Acharya & Sandeep Pillai.

*Choreography:* Liz Lea, Revanta Sarabhai

*Music:* Ravindranath Tagore interpreted by Shashank Acharya & Sandeep Pillai

*Performed by:* Mallika Sarabhai and Liz Lea with Charmy Modi, Kishore Dave, D. Padmakumar, Manoj Bagga, Pooja Purohit, Revanta Sarabhai and Sonal Solanki.

*Lighting design:* Liz Lea

16th March 2012

### STREET OF VOICES

Scottish Puppetry Theatre Director Symon Macintyre will create a production inspired by the short stories of Tagore using Puppets, Dancers, Actors and Film with original music by Sandeep Pillai and performed by Mallika Sarabhai and the Darpana artists.

*Devised, written and directed by:* Symon Macintyre

*Assistant Director:* Anahita Sarabhai

*Performed by:* Mallika Sarabhai with Charmy Modi, Kishore Dave, D. Padmakumar, Jayan Nair, Manikandan, Manoj Bagga, Murali Nair, P. Rajesh, Pooja Purohit, Revanta Sarabhai, Shajeesh Rajan, Sonal Solanki and T. Palanivelu.

*Lighting and Video design:* Symon Macintyre

*Animations:* Kabini Amin, Ketki Jadhav, Mayura Datar, Neerav Doshi

*Puppets and Masks:* Cassandre Boy Else Bourdin

17th March 2012

### WITH LOVE

Mallika Sarabhai and Australian Director Steve Mayer Miller will create Tagore as Paints, Ponders and Battles personal demons with Tom Alter and Revanta Sarabhai as Tagore and Mallika Sarabhai as Victoria Ocampo.

*Concept and choreography:* Mallika Sarabhai

*Script and Direction:* Mallika Sarabhai and Stever Mayer Miller

*Music:* Sandeep Pillai and Jayan Nair

*Performed by:* Tom Alter, Mallika Sarabhai and Revanta Sarabhai with Charmy Modi, Kishore Dave, D. Padmakumar, Harman Dua, Hitarth Mehta, Ishani Trivedi, Jignesh Patel, Manoj Bagga, Murali Nair, Nisharg Trivedi, Pooja Purohit and Sonal Solanki.

*Lighting design:* Mallika Sarabhai

*Set design:* Cassandre Boy and Elsa Bourdin

*Special thanks:* Akash Karnataki, SPIN Academy

**15th March to 17th March 2012, 6: 30 pm**  
**Nehru Centre Auditorium**

Entry: Entrance Cards will be available on **12th March 2012** from 10.30 am until availability of entrance cards from the Booking Counter of the Nehru Centre Auditorium.

## PROGRAMMES FOR MARCH 2012

SANJAY SHELAR



Painting by Sanjay Shelar

Sanjay secured Govt. Diploma in Painting from Kalaniketan Mahavidyalaya, Kolhapur. Books on his 'Still Life', 'Sketching & Drawing' and 'Oil Painting' has been published. He has won many awards and had many exhibitions in India. His figurative paintings and portraits are in oils.

**Tuesday 6th March to  
Monday 12th March 2012  
( AC Gallery )**

## DATTATRAY JAMALE . SOMNATH BOTHE

Dattatray received G.D.A. in Painting from Pune. He has exhibited his paintings in acrylic on canvas in Maharashtra.

contd....

## Study Camp at Mussoorie, Uttarakhand

Nehru Centre's Art Gallery had taken 19th Study Camp of selected Art College students from Mumbai, Panvel, Pune, Kolhapur and Jalgaon to Mussoorie, Uttarakhand.

The student artists visited snow laden Dhanaulti; Kamal Cottage, Barlawgunj (Upper Mussoorie); Forest Research Institute, Dehradun; Kempty Falls and Jharipani Falls and did paintings on the locations.

The students of the Oak Grove High School had active interaction with the student artists and expert guide during the paintings done at the School premises. They gained tips about how one can do paintings on the spot.

In this exhibition, the paintings done by students on the locations under the expert guide Shri Kishor Nadavdekar will be on display.

The exhibition will be on view at the Nehru Centre AC Gallery and Circular Gallery.



In the above photographs students and the expert guide Shri Kishor Nadavdekar doing on the spot painting at various locations during the study camp at Mussoorie, Uttarakhand

**28th February 2012 to 5th March 2012**

**11.00 am to 7.00 pm**

An 'On the Spot Art Contest' for the Handicapped Children has been organized on the **12th March 2012** from **10.00 a.m to 1.00 pm** . About 200 students are expected to participate.

Somnath also received G.D.A. in Painting and A.T.D. from Pune. His landscapes are in water colours. He has won many awards.

**Tuesday 6th March to  
Monday 12th March 2012  
( Circular Gallery )**

**GAJRAJ CHAVAN . SATYAJEET  
SHINDE**



Painting by Gajraj Chavan

Shri Chavan received G.D.A. in Fine Arts from Pune. He has had over seventy shows in India. Apart from many other he also won National award. Presently working as Principal, Abhinav Kala Mahavidyalaya, Pune. His acrylic paintings are Figurative in Indian style.

Shri Shinde obtained G.D.A. in Painting with distinction and Dip.Ed. from Pune. He has had many shows to his credit and won awards. His paintings are in acrylic on canvas.

**Tuesday 13th March to  
Monday 19th March 2012  
( AC Gallery )**

**VIJAY JADHAV**



Painting by Vijay Jadhav

Vijay secured G.D.A. in Painting from Sangli. He has done many group shows and won awards. His paintings are figurative in water colours.

**Tuesday 13th March to  
Monday 19th March 2012  
( Circular Gallery )**

**PRASHANT PRABHU**

Prashant is a self taught artist. He expresses his landscape paintings in water colour. He won State Award and his work review appeared in French magazine. He has exhibited extensively in India.

**Tuesday 20th March to  
Monday 26th March 2012  
( AC Gallery )**

**SWATI JADHAV**

Swati has M.A. degree in Fine Arts from S.N.D.T. University. Her paintings are landscapes and portraits on Rajasthan in acrylic on canvas.

**Tuesday 20th March to  
Monday 26th March 2012  
( Circular Gallery )**

**RAMESH PACHPANDE .  
B. P. KARTHIK . CHIK MATH F. V.  
SUDHIR PHADNIS**

Ramesh received G.D.A. in Fine Arts and Dip.Ed. from Sir J. J. School of Arts, Mumbai. His paintings are in charcoal on paper highlighting facial expressions of human beings with simplicity.

B. P. Karthik secured Diploma in Fine Arts from Ken School, Bangalore. In his oil paintings you find a form of abstract and figurative. His work speaks with nature, wild plants, soft environment, birds, animals and flowers. His realistic work is with deeper emotions and feel.

Chik Math F.V. has done M.A. in Fine Arts from Gulbarga and Art Master Diploma from Dharwad. He has had many shows to his credit, attended large numbers of workshops and camps. His paintings are figurative in unique style in acrylic.

Sudhir has Govt. Diploma in Art from Dharwad and also in Painting from Dharwad and also in Painting & Commercial Diploma from Bijapur. He paints musical curves and motion of atoms. His acrylic paintings see the beauty in the deepest particles. He has had many shows in India.

**Tuesday 27th March to  
Monday 2nd April 2012  
( AC Gallery )**

**PRADIP MAHADIK . SHIVRAJ  
BANDAL**

Pradip secured G.D.A. in Fine Arts and ATD from Sir J. J. School of Art, Mumbai. His paintings are figurative and landscapes in water colour.

Shivraj had Art Diploma from Rachna Sansad Academy, Mumbai. He has been an Art Director for several films and TV serials. His landscapes are in water colours.

**Tuesday 27th March to  
Monday 2nd April 2012  
( Circular Gallery )**

FOR PRIVATE  
CIRCULATION ONLY

## DISCOVERY OF INDIA EXPOSITION

NEHRU CENTRE PUBLICATIONS  
BOOKS

## REMEMBERING EINSTEIN

INDIAN ASTRONOMY  
A Source BookEXPLORING THE UNIVERSE:  
The Planetarium Way

## SCIENCE IN INDIA: PAST &amp; PRESENT

DISCOVERY OF INDIA  
Abridged and illustrated & VCD Version

## NEHRU REVISITED

## RULE OF LAW IN A FREE SOCIETY

## CHALLENGES TO DEMOCRACY IN INDIA

*Colourful Catalogues of*

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 &amp;

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: GRID OF EMPIRE

The post card and the inland letter still connect more Indians than the telephone, the telex or the fax machine. Letters and postmen join us to distant places, while more urgent messages hum down telegraph wires. The way in which most Indians stay in touch has not changed much since Lord Dalhousie as Governor-General (1848-56), introduced the half-anna post and opened the first telegraph line in 1854.

Before Dalhousie reformed the postal service, only the rich wrote letters: it cost a rupee to post a letter from Calcutta to Bombay. The blue, half-anna stamp marked 'East India Postage', which featured the young Victoria in profile, represented a revolution in Indian communications. The red post boxes that dotted the empire, were rivets that joined a nation. The most visible and spectacular monuments to the Raj, were the feats of civil engineering performed by the Public Works Department. A good example of this is the skill with which the Raj's engineers spanned the Ganga. At one end, the delicate bridge at Lakshman Jhoola, upstream of Rishikesh; at the other, the massive solidity of Howrah, just before the Ganga meets the sea.

The Raj was not content with bridging the Ganga - in 1854, it re-routed it. When Sir Proby Cautley built the Upper Ganga Canal by diverting the bulk of the Ganga's waters at Hardwar, and channelling it into the parched fields of the western Gangetic plain, it was the largest irrigation project in the world. Cautley found ingenious solutions to problems of terrain. At Solani, he made the canal leap a river like an immense flyover of water, by building an aqueduct; at Pathri, he plunged it under a stream like a sub-way; at Dhanauri, he ran it through a river's course like a road at a level crossing. The Ganga Canal was not just a marvel of colonial engineering - it was a triumph of the imperial imagination as well.

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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