India's Defence Preparedness

A seminar on India's Defence Preparedness was organized by Nehru Centre recently. The seminar covered all the three wings of defence preparedness namely, Army, Navy and Air Force. The first one was Army. Major Shashikant Pitre (Retd.) spoke on defence preparedness of the Indian Army. His presentation was covered in the monthly Newsletter for June, August and September 2015.

Vice Admiral Vinod Pasricha presented a paper on the state of Indian Navy. Some excerpts from his speech were published in the monthly Newsletter for October, November and December 2015.

Air Marshal (Retd) B.N. Gokhale, PVSM AVSM VM, Former Vice Chief of the Air Staff, gave his presentation on the state of Indian Air Force Challenges and Opportunities. Some excerpts from his presentation were published in the monthly Newsletter for January, February, March and April 2016. Following are some more excerpts from his presentation:

**Indigenization and Self-reliance**

India having gained independence through non-violence movement, the initial Indian policy sort of abhorred production and export of weapons. Added to this was the policy of non-alignment which further affected development and export of weapons. It is a well

**Library**

- **Launch and Panel Discussion**
  What Children Really Want written by Dr. Coomi S. Vevaina
  7th May, 2016, 4.30 p.m.

- **Hall of Culture**
  Discovery of India Building
  (Open to all)

- **Children's Literature Festival**
  Folktales & Mythology, Writing Workshops, Fun Sessions, Interactive Sessions, Tales, Karadi Tales, Self-Portraits, Bilingual Books, Nonsense Verse, Enid Byton
  16th May 2016, 10.30 a.m. to 5.30 p.m.

- **Hall of Harmony**
  ‘Who Are We’ Hall, Library Nehru Centre
  (Open to all)

**Cultural Wing**

- **Summer Camps - Workshops** *(Sur, Taal, Nritya & Abhinay)*
  by Smt. Padma Talwalkar
  Pt. Suresh Talwalkar
  Pt. Birju Maharaj
  Shri Vijay Kumar
  9th to 13th May 2016
  Venue: Hall of Culture, Hall of Harmony & Nehru Centre Auditorium
known fact that to avail advantage from the 'scale of economy', export of defence systems is a must. India however, never ventured into this lucrative market, in turn denying herself an opportunity to build a comprehensive military-industrial complex. On the other hand, efforts in fits and jerks affected the indigenous development as massive financial outlays had to be set aside later for projects such as Tejas Light Combat Aircraft (LCA) and Arjun Main Battle Tank (MBT) with no satisfying results. To illustrate, after successful design of HF-24 fighter aircraft, India did not follow up with other designs, leading to loss of expertise and the art of manufacturing complex systems.

After the success of Kiran Jet Trainer, had India pursued with advanced models of trainer alone, by now India could have been a leader in manufacturing and exporting trainer aircraft. Instead we have recently imported Swiss made Pilatus basic trainers and the British Hawk AJT. While India has produced many weapon systems under license, India continues to be hampered in many critical core areas such as engines, metallurgy, sensors and seekers to name a few. The challenge therefore is of ensuring self-reliance and to minimize dependence on foreign suppliers. The indigenous product support will also ensure very high states of serviceability of aircraft and equipment.

There are new opportunities for the Indian industry, both in the public and private sectors to take advantages of the prioritized clauses such as 'Buy (Indian)', 'Buy and Make (Indian)' promulgated in DPP 2013 and the 'off-set' clause. However, there are many issues including cleft handling of contracts on our part, which will be very important. While provisions have been made, unless the 'know-why' is acquired, we will once again be confined to 'transfer of manufacturing process' and not the essence of 'transfer of technology'. With a sizeable revamp of inventory in near future, IAF could be instrumental in energizing this process and therefore a major stakeholder in realizing the indigenous, self-reliant capability.

There is a need to encourage larger participation in private industry and let them collaborate with foreign partners than to allow Foreign Direct Investment of 50% as being mentioned recently. Such collaborations should also have a clause for export. Another important aspect is of accepting indigenous equipment with scope for incremental improvement in next versions. Similar approach termed as 'Mark-I to Mark-II philosophy' has been adopted by the Chinese to encourage use of indigenous equipment and to learn lessons, which are then incorporated for improvement in the next version. We have also started similar approach and Akash surface to air missile is one such example. Induction of LCA by IAF is another such incremental project. Brahmos is a classic case of collaborative project, which has benefited not only DRDO but also private industry. DRDO has now got expertise in early warning radars, surface to surface and air to air missiles, AEW&C aircraft and need encouragement by the Services. However, more indigenous efforts are needed to acquire latest technology and 'know why' in areas of engines, metallurgy and sensors. UAV is another area in which India is fast acquiring indigenous capability. Netra,1 UAV made by R&D (Engrs) Pune along with JIT, Mumbai is a classic case of using expertise in such academic institutions.

**Strategic Vision**

With her growing economic potential, need for increased energy resources as well as buoyant trade and commerce, India now looks way beyond her traditional borders. Apart from trade, the Indian cultural ties with littorals of Indian Ocean and beyond makes the country envision her strategic boundaries all the way from the Malacca straits in the East to the African coast in the West and from Central Asian Republics in the North to Antarctica in the South. Engaging in a globalized economy is another reason for such a strategic vision. Indian Armed Forces have to be prepared therefore to protect the interests arising from such strategic vision.

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**What Nehru said...**

... It is a matter of importance to us, of course, to China that these countries, which have now almost about 1,800 miles of frontier, should live in terms of peace and friendliness and should respect each other’s sovereignty and integrity, should agree not to interfere with each other in any way, and not to commit aggression on each other....

*May 15, 1954*
Space Science Lecture

Dr. Sanjay S. Limaye, Distinguished Senior Scientist, Space Science and Engineering Center, University of Wisconsin, Madison, WI, USA delivered a Space Science Lecture on ‘Venus – So near, Earth like and yet so very different’, on Wednesday, 17 February, 2016 at 5 pm in the Hall of Culture, Discovery of India Building, Dr. Annie Besant Road, Worli, Mumbai 400018. We bring you the summary of the talk.

Dr Sanjay Limaye said that Akatsuki spacecraft made history by succeeding in its second attempt to go into orbit around Venus, after missing it during the first time in December 2010. Equipped with cameras to image Venus in reflected sunlight and emitted infrared light, Akatsuki will primarily observe the weather on Venus to answer its main scientific goal – what makes the atmosphere of Venus rotate faster than the underlying planet, an outstanding problem in atmospheric science.

Further he mentioned that since 1962, Venus has been investigated by many spacecraft – from fly-bys, orbiters, descending probes and even two balloons. Yet, the planet, shrouded in a thick global cloud cover made of dilute sulfuric acid droplets has not given up its mysteries.

Formed at about the same time as Earth and similar in size and mass, Venus today is much warmer, so even though the planet harboured liquid water on its surface in its ancient past, its evolutionary path has been very different from Earth and that of Mars.

There are many more questions about Venus compared to Mars that puzzle us and include – why does Venus rotate backwards, slower than any planet in our solar system? When did the surface start getting warmer? Are there active volcanoes on Venus today? Did life evolve on Venus? What substance or substances cause the contrasts in the cloud cover?

Many Venus mysteries remain, including – Why does Venus rotate more slowly and backwards as compared to other planets in our solar system? When did surface warming begin? Does Venus have active volcanoes? Did Venus ever harbour any lifeforms?

What substances account for the cloud cover contrasts? Why does the atmosphere super rotate? Akatsuki hopes to reveal the answer to the last one at least!

He ended his talk by affirming that Akatsuki will certainly raise more questions about Venus and also shed some light on the existing questions. Without the ability to make measurements from within the atmosphere, we will need to wait for future missions from the international agencies to answer them.
Month of May of 2016 brings us two celestial events of which one is rather a rare one.

On 9th of May the planet Mercury can be seen travelling across the disk of the sun. The event is called transit. The transit will begin at about 4:42 p.m. and it will end at 12 minutes past midnight. Obviously the end of the transit will not be visible from India.

On 22nd Mars will be at opposition to the Sun. That is the Earth will be between the Sun and Mars. The planet will rise as the sunsets. Thus Mars will be available for observations all through the night.

Venus will be too close to the sun for observations. It will be visible next month above the western horizon after the sunset.

Jupiter will be visible throughout the month, nearly overhead at sunset. It would set close to 3 a.m.

Waxing gibbous moon will make its closest approach to star Regulus (Magha) in Leo on 14th May. It will be about 3 deg. from the star. Next day on 15th the Moon passes closest to Jupiter. On 18th waxing gibbous Moon will pass within 5deg of Spica (Chitra). Waning gibbous Moon can be seen just about 3 degrees from Saturn on 23rd.

Mars and Saturn will be visible throughout the month. The planets would rise close to midnight can be seen till pre-dawn hours. On 18th Saturn, Mars and Antares will make perfect triangle. Mars and Saturn will make triangular pattern with waning gibbous moon on 22nd.

(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.)
Cultural Wing

Summer Camps *(Sur, Taal, Nritya & Abhinay)*

Nehru Centre is organizing the following workshops

**Workshop on Hindustani Classical Music**  
by Smt. Padma Talwalkar

Padma Talwalkar inherited the impulse to sing from her grandfather, Shri Kanebuva. At the tender age of ten, she became the pupil of Late Pt. Gangadharbua Pimpalkhare of Pune, who imbibed in her the best of the Gwalior and Kirana traditions of music.

She has performed in all major music concerts in India.

Venue: Hall of Culture  
Timings: 3.00 pm to 6.00 pm

**Workshop on Tabla & Pakhawaj**  
by Pt. Suresh Talwalkar

Tabla Taalyyogi Pandit Suresh Talwalkar, is one of the greatest Tabla exponents of the present times.

As an accomplished artist and as a Guru, he has contributed immensely to the glorious tradition of Indian Classical Music.

Venue: Hall of Harmony  
Timings: 3.00 pm to 6.00 pm

**Kathak Darpan**  
A Workshop on Kathak Dance  
by Pt. Birju Maharaj

Birju Maharaj is a leading exponent and torch-bearer of the Kalka-Bindadin gharana of Lucknow. He has performed in almost all the countries of the globe. He is also a wonderful singer with a strong grip over Thumri, Dadra, Bhajan and Ghazals. He gave his first performance at the age of seven. Pandit Birju Maharaj is not only a Kathak dancer but also a sensitive poet and captivating orator.

Venue: Nehru Centre Auditorium  
Timings: 10.00 am to 7.00 pm each day

**Appreciation of Theatre**  
A Workshop on Theatre  
by Shri Vijay Kumar

Mr. Vijay Kumar is an alumni of National School of Drama (1994), Film & Television Institute of India (F.T.I.I. 1996), Central School of Speech and Drama, London (2001). He has directed more than 60 plays. He is a leading voice and speech teacher in India. He is also a visiting faculty at different theatre and films schools.

Mr. Vijay Kumar has acted in more than 20 feature and short films, Television advertisements and Television serials.

Venue: Hall of Harmony  
Timings: 10.00 am to 1.00 pm

**Monday, 9th to Friday, 13th May 2016**

Entry: Forms of the above workshops can be collected from the office of the Cultural Wing or downloaded from the Nehru Centre’s website: www.nehru-centre.org
Programmes for May 2016

MADHUSUDAN K. KELKAR

Shri M. K. Kelkar was a disciple of Master Painter Shri S. L. Haldankar. Shri Kelkar himself was also a Master Painter. He died in 2009 at the age of 93. He completed the course of painting from Sir J. J. School of Art, Mumbai.

He was also a water colourist like his Guru. He published a booklet on water colours. He was honoured by many Art organisations in India.

He visited UK, Singapore, Bahrain and Russia and did paintings and had exhibitions in these countries. This year his family is celebrating his Birth Centenary. His water colours are on display.

Tuesday 3rd May to Monday 9th May 2016
( AC Gallery )

RAHUL REPE .
YOGESH SATAM .
SHRADDHA POMBURLEKAR

Rahul completed G.D.A. in Painting from Kolhapur. He has participated in many exhibitions and won awards. His abstract paintings are in oil and acrylic.

Yogesh obtained G.D.A. from Kolhapur. His figurative compositions are in acrylic, oil and collage.

Tuesday 10th May to Monday 16th May 2016
( AC Gallery )

PRADEEP RANGDAL .
ARUN DHAVALI .
VIJAY SHAH

Pradeep completed Art Master Diploma from Belgaum. He has been in animation industry for more than 12 years. His paintings are on horses in acrylic and oil.

Arun received art degree from Karnataka. He has been a visualizer in agencies from Bangalore. His figurative compositions are in acrylic on canvas.

Vijay obtained Masters in Visual Art from Nagpur. Presently working in Symbiosis Institute of Design, Pune. He has had many prestigious shows and won awards. His compositions are in black & white.

Tuesday 3rd May to Monday 9th May 2016
( Circular Gallery )

JUILEE MAHAJAN

Juilee has secured G.D.A. and A.T.D. from Karandikar Kala Academy, Thane. She has had many solo and
group shows in India. Her paintings are abstract compositions in acrylic on canvas.

Tuesday 10th May to Monday 16th May 2016 (Circular Gallery)

NANDKISHOR THORAT .
NISHIGANDHA GARATKAR .
YOGESH PAWAR .
KIRAN SATHE .
DEEPAK BACHCHHAV .
MAHENDRA BHAPKAR .
ANIL PARANDE

Nandkishor completed M.F.A., B.F.A. from Mumbai and A.T.D. from Dhule. He has won many awards for his abstract paintings.


Yogesh received M.F.A. from Aurangabad and Dip.Ed. from Mumbai. His paintings are on the horses and they are in mix media on canvas.

Kiran secured B.F.A. in Sculpture from Sir J. J. School of Art, Mumbai and A.T.D. from Ahmednagar. His sculptures are in marble and stones.

Deepak completed G.D.A. from Dhule and Dip.A.Ed. from Jalgaon. He has been exhibiting his works here and won awards. His paintings are in oils on canvas.

Pravin obtained M.F.A., B.F.A and A.T.D. from Dhule with distinction. He received many awards for his landscapes in different mediums.

Mahendra secured B.F.A. & M.F.A. with First Class from Sir J. J. School of Art, Mumbai. He has also received Dip.A.Ed. and A.T.D.. He has had many exhibitions and won awards. His compositions are in acrylic on canvas.

Tuesday 17th May to Monday 23rd May 2016 (Circular Gallery)

SANTOSH KUMAR SHARMA

Santosh Kumar completed B.F.A. from Lucknow. He has had shows in India. His paintings are on various subjects in oil and acrylics.

Tuesday 17th May to Monday 23rd May 2016 (Circular Gallery)

RACHANA PAREKH

Rachana secured B.F.A. from Sir J. J. School of Art, Mumbai. She does thematic paintings in oils and mix media on canvas.

Tuesday 24th May to Monday 30th May 2016 (Circular Gallery)

SACHIN BHANGADE

Anil has B.F.A. & M.F.A. degree with First Class from Sir J. J. School of Art, Mumbai and won awards for portraits. His portraits are in oil, acrylic and pencil.

Tuesday 17th May to Monday 23rd May 2016 (AC Gallery)

Sachin completed G.D.A. in Applied Art and A.T.D. from Pune. He has had many exhibitions to his credit and won awards. His landscapes are in water colour.

Tuesday 24th May to Monday 30th May 2016 (Circular Gallery)
## Nehru Centre Library

- **Children's Literature Festival**
  - **Folktales & Mythology**
  - **Writing Workshops**
  - **Fun Sessions**
  - **Tales**
  - **Interactive Sessions**
  - **Self-Portraits**
  - **Bilingual Books**
  - **Nonsense Verse**
  - **Karadi Tales**
  - **Enid Byton**

### Launch and Panel Discussion

**What Children Really Want**

- **Written by:** Dr. Coomi Vevaina
- **Date:** Saturday, 7th May 2016
- **Time:** 4.30 p.m.
- **Venue:** Hall of Culture, Nehru Centre

**About the book:** What Children Really Want is a need-based, self-empowering book which is easy to read and can truly change the way you relate to children. It is however, NOT a book that you can rapidly skim through from cover-to-cover and put away on your bookshelf. You need to work with it and use it the same way as you would any utility item like a kitchen knife, a pen or a computer.

### New Arrivals: Some books for children

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<td>1.</td>
<td>Intriguing insects</td>
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<td>Make, do, be: The activity joyride</td>
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<td>विख्यात वेषणाप्रायू हुनिया</td>
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<td>5.</td>
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<td>The diary of a space traveller and other stories</td>
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<td>Once around the sun</td>
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<td>The seeds of time: *The animal talkers</td>
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<td>Max goes to Jupiter: *A science adventure</td>
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### Nehru Centre Library

- **Open:** Monday to Friday, 1st, 3rd & 5th Saturdays
  - **Timing:** 10 am to 6 pm
- **2nd & 4th Saturday**
  - **Timing:** 10 am to 2 pm
- **Closed on Sundays and public holidays**

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**NEHRU CENTRE LIBRARY**

- **Discovery of India (VCD Version)**
- **Set of ten greeting cards**
- **Based on Discovery of India Exposition**
- **Set of five assorted gift cards**
- **Designed by Handicapped children**

**Available at:**

- Discovery of India Exposition, Ground Floor, NEHRU CENTRE, Worli, Mumbai - 400 018.

**NEHRU CENTRE LIBRARY**

- **Open:** Monday to Friday, 1st, 3rd & 5th Saturdays
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