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103rd Indian Science Congress 2016 ISC NEWSLETTER

Science & Technology for Indigenous Development in India

Special Issue 04 January, 2016

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The student perform Bharatanatya as part of Culture event of 103rd ISC

Work With Passion for Science: Prof CNR Rao

"Whenever we come across the word Science, there comes the term Technology along with it. But we have to respect the pure Science and its contribution" said Bharatarathna Prof C N R Rao delivering the BharataRathna Sir M Vishveshwaraya lecture in the 103rd Indian Science Congress, on 'Doing Science in India' at University of Mysore, Mysuru.

Prof C.N.R. Rao said that, "As I travel across all the rural parts of the Bharatarathna Prof C N R Rao addresing Vishveshwaraya lecture in the gathering on the first day of the 103rd Indian Science Congress at enthusiastic about Science. There are a Mysore University

lot of Einsteins and Faradays in India, but how many opportunities are offered to them is my concern." He advised the young scientists saying that, when C V Raman, Ramanujam were working hard on new possibilities in Science, there was no government to provide them scholarships. It is my advice not to worry about the money, but to work with passion for Science".

United States of America and China are publishing innumerable papers on Science when compared to India. Many may ask what is the need of such publications? The answer to this was astoundingly given by Michael Faraday, when he explained Science with three words, 'Work, Finish and Publish'. With 62 years of yeoman service in the field of Indian Science, Prof. Rao explained his experience and stated that, we have to look at Science differently. He recalled the contributions of the Indian scientists during early days of the Indian freedom, when the country was struggling to earn its bread. "If Indians do not work hard. we won't prosper in the field of Science. I am not



Photo-Shreeharsha C M

satisfied with the growth of Science in India. The budgetary allocation of the government on Science and the contribution of Science to GDP are not satisfactory to me. Over the years, the quality of students output has declined", he lamented.

Questioning the simplicity and modesty of the young scientists Rao said that, simplicity comes in hand with greatness. Michael Faraday was such a man. When power came to him, he chose his laboratory over the power. How many of our scientists will do so? How many will work so selflessly, he wondered.

Describing the situation of India as unique Prof. Rao said, no country in the world had ever faced the situation that India is facing. We have to feed the poor, we have to produce new technologies, we have to think over the climate change, where all happens simultaneously. Such is the greatness of this country. Prof. Rao expressed his desire to live in the world of science as long as he is alive.

-Shreeharsha C M

Smriti Irani Pitches for Inclusive Participation of Women in Science

'Science can enrich Plutonium but can't enrich the heart of men' commented the HRD Minister Smirti Zubin Irani while inaugurating the 5th Women's Science Congress at University of Mysore, Crawford Hall here. She added with a light stride that, if men's heart were enriched there was no need for a separate women's congress. we carry as a society she commented that, Science doesn't



Commenting on the prejudices HRD Minister Smirti Zubin Irani delivering addresing Women Science part of India's scientific we carry as a society she Congress at Crawford hall, University of Mysore, Mysore iourney will effectively

Photo-Madhu

urged the women's science congress to ponder upon these and come up with suggestions.

She stressed that government has launched two programmes 'Rastriya Aviskar Yojana' where children are given opportunity and 'Unnat Bharath Abhiyan' where 5 villages will be adopted to enhance the living conditions. Mrs. Irani pointed out that fact ordinary saree clad Indian women were the faces behind our successful Mars Mission and what we need today is 'Science for Everyday Women'. ISCA General

(Continued in p.6...)

journey will effectively

address this challenge and

teach any of these it just enriches our knowledge. But, we more probably women are affected by these unvocal prejudices dramatically and the biggest and most fundamental challenge is to answer how to overcome this.

While mentioning women's contribution in all spheres of life Mrs. Irani said, we easily recall names of the scientists who are men and very hardly remember any women's contribution in the field of Science and Technology. This calls for addressing the challenges at the school level, where she called upon teachers and academicians to enlighten our future

India has a Great Opportunity for Fundamental Research: Prof. Arthur



Prof. Arthur B McDonald speaking at 103rd Indian Science Congress at University of Mysore, Mysore Photo-Nalini B

Mysuru: Nobel laureate Prof Aurthur felt that India has great opportunity to contribute to the rapidly growing fundamental research in particle Physics, using the facility at Indian Neutrino Observatory, located at Madurai, Tamil Nadu.

He was addressing the plenery session on value of Science for society and public, in the 103rd Indian Science Congress organised by University of Mysore.

Prof. Arthur B McDonald of Canada shared the Nobel Prize for Physics in 2015 with Takaaki Kajita of Japan.

Pondering over the universe he said, 25% of the universe is made of dark matter. This leads to the grand question what is this dark matter made of? he wondered.

Speaking on the understanding of the universe in the past, present and possibilities of the future, he explained the causes of Nutrions origin. He pointed out the abundance of neutrino particles around us and its presence in stars like the Sun and the Berry Banana. He emphasised the importance of the SNO Lab (Sudbury Neutrino Observatory), a detector facility which is 12m diameter, with 9500 light sensors, located outside Sudbury, Ontario. The discovery that neutrino have a finite mass has brought the mankind to better understanding of the universe. The experiments at SNO would enable the scientists to make unique measurements that would otherwise be obscured by the background from cosmic radiation, he said. He briefed about the present understanding of the universe from the beginning of time and the potential of particle astrophysics.

-Nalini B.

Mega Science: A New Dimension in Science for Innovative Solutions

-Shrithi Joyappa K

Mega Science is the natural evolution of various endeavors along National Projects to Global Projects and Individual Institutions to Multi-Institutional Networks which involves large-scale investment of resources, said, Dr. Kasturirangan, while speaking in the Special Session "Value of Science for Society" in 103rd Indian Science Congress held at University of Mysore, Mysuru. He emphasized on the concept of Mega Science and said that both global and National Mega Science programs could additionally revitalize Indian University systems, strengthen institutional mechanisms, besides creating new avenues for innovative solutions to meet national challenges in areas like healthcare, energy, agriculture, water and environment.

Referring to ITER (International Thermonuclear Experimental Reactor) he said that, ITER demonstrates the scientific and technological feasibility of producing energy using fusion technology. Dr. Kasturirangan, lauded the Indian contributions to ITER and the benefits of ITER to India in the fields of Science, Technologies, Domestic Industry and also



Dr. K Kasturirangan addressing on the topic "Mega science: a new dimension to science and technology endeavor" at Amphitheater Photo-Nalini B

Human Resource. Dwelling of significance of mutely disciplinary research and its benefits to India Dr. Kasthurirangan brought out a thorough insight into LHC(Left Hand Circular) Configuration- its objective, important discoveries and Indian contributions to LHC and benefits of LHC to India; TMT(Thirty Meter Telescope)- its motivation, scientific goals, configuration and India's contributions to TMT; SKA (Square Kilometre Array)- India's contribution to SKA and benefits of SKA to India; INO(India-based Neutrino Observatory)- its scientific objectives and experimental setup; LIGO(LaserInterferometric Gravitational-wave Observatory)- its significance, multi disciplinaries and its benefits to India.

"A key Imperative to fulfill the holistic goals of the "Make in India" initiative of the present Government is to transform India into a 21st century knowledge society. An important element of such a knowledge society is its ability to successfully conduct missions like Mega Science, that place highest demands on the intellectual and professional abilities of individuals, institutions, and nations", said Dr. Kasturirangan as concluding remarks.

Padma Bhushan Prof. S S Katiyar, chairman of UP State Council of Higher Education from Lucknow was the chairperson and the session was cochaired by Prof. Rangappa, Vice-Chancellor, University of Mysore, Mysuru and Dr. Ashok Kumar Saxena, General President, ISCA, Kolkata.

'We need people who like Science; we need to popularize pure science at early age. Future of India will be bright, if we popularize science among children.'

Dansh Chima, Nobel Laureate,

at 103rd Indian Science Congress, Organised by University of Mysore, Mysuru

Quasi- Periodic Materials: A Paradigm Shift in Crystallography

-Shrithi Joyappa K

Quasi Crystallography are not rare there are hundreds of them. Many of the QCs are not stable and transform to periodic structures at high temperatures, but QCs can be thermodynamically stable. QCs can be made by many manufacturing technologies like Casting, Rapid Solidification, Single crystal growth, electrodeposition, CVD and PVD said Prof. Dan Shechtman, Nobel Laureate, Israel, while addresing the special session of the 103rd Indian Science Congress on the topic "Quasi- Periodic Materials: a paradigm shift in Crystallography" at University of Mysore, Mysore.

He spoke about the surprising discoveries of matter and its properties in the mid- 1980s. He dwelt upon Order,

Periodicity and Rational Symmetry, Atoms in diamond-periodic order, characteristics of diffraction pattern from a periodic crystal, Icosahedral Phase, 10 fold electron diffraction pattern, TEM diffraction from the Icosahedral Phase, Icosahedral symmetry, the main rotational symmetries of the Icosahedron, Quasi-Periodicity in one, two and three dimension. He explained the definition of the term 'Crystallography' till 1991 and then the new definition of Crystal as "By crystal we mean any solid having an essentially discrete diffraction diagram, and by aperiodic crystal we mean any crystal in which three dimensional lattice periodicity can be considered to be absent", which is his own.

(Continued in p.6...)

STI Policy With a Vision is Bound to do Wonders for India

-Shivendra G Urs

Challenges are more, policy making should be strategic, India is more complex compared to other countries and how you think about the policy system is important for the country said Dr.M.K Bhan, former DBT secretary, New Delhi who chaired panel discussion on "STI policy" of the 103rd Indian Science Congress at University of Mysore, Mysore.

Dr. Neeraj Sharma the panelist said that the focus of the policy should be to prioritize health and agriculture. Further he added that we need to build up the innovation system. Prof. Prabhat Ranjan the executive director of TIFAC said, the vision statement of the STI policy has been translated into 22 languages and TIFAC has identified 10 challenges related to Science, Technology and Innovation. Women play a pivotal role in the development of the country and they have to be encouraged to become professionals.

Dr. Baldev Raj, Director of NIAS, Bangalore was of the opinion that the teachers need to know how to



Prof. Prabhat Ranjan, Executive Director of TIFAC addresses the gathering on the first day of the 103rd Indian Science Congress at Mysore University

Photo-Shivendra G Urs

prepare students to be prospective scientists and innovators. For which he said that good education system is a necessity. "We have to come up with a teacher's academy" he opined. Talking about technicians, he said that they are not receiving recognition. Tapping brilliance is extremely important and in India only 10-20% of brilliance is tapped unlike foreign countries who tap brilliance to the maximum extent, however we criticize the country but whatever we are today is because of the policies of the

nation" he added. Prof Ambuj Sagar from IIT Delhi stressed on the importance of innovation and said innovation is the reason behind Korea's economic growth and India should emulate other countries which give importance to innovation and innovators. Prof R.C Sobti the Vice chancellor of Babasaheb Bhimrao Ambedkar University said the nation needs to follow the five E's - Environment, Energy, Empathy, Equity, Economy which Prime Minister Modi spoke of in his speech at the inauguration of the 103rd Indian Science Congress.

Prof. Rupendra Tewari from Punjab University stressed on the improvement of Indian universities on the lines of IIT Delhi and mooted the idea of centralising universities all over India.

'Discover in India and then make in India'

-David J Gross, Nobel Laureate

at 103rd Indian Science Congress, Organised by University of Mysore, Mysuru

Democracy and Innovation go Hand in Hand: Dan Shechtman

-Shreeharsha C M

Democracy and innovation go together hand in hand. India, having a thriving democracy, has a great future ahead"said Nobel laureate Scientist, Dan Shechtman inaugurating the 9th Science Communicators' meet at University of Mysore, Mysuru. He added that, it is not the oil, money, or any minerals that make a country rich, but the innovative brains. As India is predominantly rural, education should be made available to all and priority should be given to higher education.

Dr. Shechtman opined that though, India and Israel became independent at the same time Israel transformed itself from an agrarian society to a hi tech country and India can do it several times greater than Israel, and for that, education is a key. And for communication, India should choose one language and everyone should know that common language. The youth are the real future of India and they can make India proud.

All the scientists are experts in their fields and have enormous knowledge but thay have fail to communicate this to the common man said Prof. K S Rangappa , Vice Chancellor of the University of Mysore, and stressed the importance of making people understand the science and technology.

"Communication has become much more easy and accessible with the advanced technology. But India and other multilingual countries find it still difficult to communicate with the people" said Dr.Prabhat Ranjan. He pitched for translating Science texts to native Indian languages for better understanding.

General president of ISCA, Ashok Kumar Saxena, Prof RavishankarRai, Prof Arun Kumar, Dr N B Basu were present on the occasion. Book of abstracts of the $103^{\rm rd}$ ISC Science Communicators' meet was released during the occasion.

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antibodies to fight

this is the greatest

contribution of

Technology. Cars

today can be driven

without drivers, and

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can be cultured to

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parts of the body,

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Science

Science and Technology has Changed the Lives: Prof John B Gurdon

-Akshatha J

Communication today is almost instantaneous, and this contribution of Science and Technology to the world said Noble Laureate, Prof John. B. Gurdon during the inauguration of 23rd Children's Science Congress as part of the 103rd Indian Science Congress



ce Dignitaries inaugurating the Children Science Congress by lighting the lamp. From R:Dr Achyuta Samanta,Dr Ashok Kumar Saxena, Prof John B Gurdon, Vice Chencellor K S at Ranagappa, Dr BN Basu, Prof Arun Kuamr and others can be seen

Photo-Madhu

University of Mysore, Mysuru.

Lauding the advancement in the Science he said that,
there was a time when we used to communicate through past

Philanthropy should also be the

there was a time when we used to communicate through post, but today communication has become spontaneous and almost instantaneous. Right from Television to genetically modified crops one can see enormous development in the field of Science. Science and Technology has completely changed the lives of people and these innovations are the best example he opined.

happened in past 50 years that one can even enjoy thinking about the innovations that can happen in next 50 years. Philanthropy should also be the concern, as different universities can provide education to the young and needy he felt. In his keynote address, Vice Chancellor Prof. K S Rangappa, UoM said that young scientist are cutting all barriers like caste, creed and color and are coming up with innovations. Children science

(Continued in p.8...)

So

ISRO Plans to Launch 8 Satellites in One PSLV: Dr. M. Annadurai

-Shrithi Joyappa K

ISRO is planning to launch 8 micro satellites which will be accommodated in a single PSLV, said Dr.M. Annadurai, Director, ISRO addressing the the plenary session "Future Satellite Programme" of 103rd Indian Science Congress hosted by the University of Mysore, Mysuru.

In this new global era where everything is becoming smaller in size and smarter in application we are also trying to reduce the size of satellites to the extent possible. The vehicle configuration will be PSLV-Core alone with vehicle capability for 400km SSO is 1200kg,

number of micro satellites feasible to carry in single mission is 8, mass of these 8 micro satellites is 960kg (8 x120kg) and mass of DLA and adapter structure 260kg, he added. He pointed out that, present domestic satellite communication is dominated



Dr. M Annadurai, Director, ISRO addressing on the topic "Future satellite program" at B M Shree hall.

Photo-Nalini B

by Fixed Satellite Services and DTH Services and the future service growth areas will of communication satellites are internet, multi-media and personal communication services, DTH HD TV services. Apart from that, Thematic missions such as Tele-medicine and Tele-education, bandwidth on demand services, E-Governance, secured communications and satellite aided navigation are expected to grow he added.

He stressed on Productionalisation of Space Systems to meet the huge demand for satellites and to strengthen basic Research and Development. This will boost the increased

participation of Indian industries in Space Programme in the areas of electronic systems, mechanical systems, assembly, integration and testing of satellites. Focusing on "Make in India"

(Continued in p.8...)

Science and Technology ...

Continued from p.3...

congress is open for all norms of education, and this helps children to come up with various experiments, filed works, research and innovations he said. On this occation, a monthly newsletter Billion Beats was released in the memory of former President late APJ Abdul Kalam. Billion Beats publishes articles written by children across the country.

Infosys ISCATravel Awards were given to students who excelled in essay competition conducted by NCSTC, Jahawar Navodaya and NCERT. Five students from Karnataka and Five students from other parts of the country were given awards.

Dr Ashok Kumar Saxena General President ISCA, Dr B.N.Basu, General Secretary, ISCA, Dr. Achytha Samantha, Secretary, DST,New Delhi, Dr. Amith Krishna De, Executive Secretary, ISCA, Dr Ujjwala T. Tirkey, Coordinator, National Children Science Congress were present during the programme.

Smriti Irani Pitches for ...

Continued from p.2....

Secretary, Prof. Arun Kumar remarked that, it is in our hands to take women on the right stride. Prof. Rangappa, Vice Chacellor, University of Mysore in his welcome address requested the HRD minister to accord the status of National University to the University of the Mysore. On this occasion 'Sreethatvanidhi' a Sanskrit classic literature written by Mummadi Krishnaraja Wodeyar, Was presented to HRD Minister by University Oriental Research Institute.

ISCA President Ashok Kumar Saxena recalled the contributions of women in all walks of life but remarked that we hardly see any women occupying high positions and voiced for women parity in all spheres. The others present during the occasion were, Dr. Vijaya Laxmi Saxena, Exutive Member, ISCA, Prof. Geetha Bali, Former President, ISCA, Smt. Shobana Bhaskaran, Scientist SEED, Dr. Soumya Swaminathan, Secretary DHR, DG – ICMR, New Delhi, Prof. Asna Urooj, Convener, Women Science Congress and Prof. Shobha Jagannath, Co – Convener of Women Science Congress.

ISRO Plans to Launch ...

Continued from p.3...

concept for end-to-end production of satellite from industries, he remarked that with this we can achieve self reliance.

The other resource persons of the plenary session Dr. Vinay K Dadhwal spoke on the dimensions of Indian Space Programme and outline of Earth Observatory, Dr. S. K. Shivakumar spoke on topic "Mars Orbiter Mission-overview", Dr. V. Koteswara Rao dwelt on "ASTROSAT-Amulti wavelength Space Observatory" and Dr. S Somanath on the topic "ISROs Launch Vehicles- Growth of Capability". Prof. D N Rao, Chennai, chaired the programme. Delegates, students and participants from India and other parts of the wold were present.

Quasi-Periodic Materials

Continued from p.3....

Simplifying the theories for easy understanding Prof. Shechtman called upon young scientists to write down the experiment process for better recall.

Prof. Dan Shechtman recalled Roger Penrose and Alan Mackay; Ilan Blech, Denis Gratias and John Cahn; Dov Levine and Paul Steinhardt who were involved in the seminal contribution.

'Science is not short term agenda, science is long term project. Priority should be given to appoint good teachers. Teach basic and applied science for children.'

Prof. Serge Haroche, **Nobel Laureate**, at 103rd Indian Science Congress, Organised by University of Mysore, Mysuru

'We have amazing talents in science. But they go to engineering. More young people should take up science and try to innovate things. Now so many new institutes of science are coming up. So lots of opportunities are there for youngsters, who take up science in India.'

Manjul Bhargava, Nobel Laureate at 103rd Indian Science Congress, Organised by University of Mysore, Mysuru

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PÁ¥Íqið "ÌPÌEÌzÌPèªÄ»¼Á «eÁŒÀ PÁAUÉE EÀB GZÁÍn¹ ª NÁVÁEÁ rZÀ Cª ÞAÄ, "¥ÄmÆÃ¤AiÄA£ÀVPÀ ¥ÌqPÀÁtĪÆÃÃ , À, Ì, ÌS°ÄZÄ, DZÌQÉ¥ÄQĵÌQÀ°ÌZÀIÄUÌÁÈÄB A A A A AZÁK®Y JAS ÉVÁK EÁÉFAIÆSÉGÁ a NÁVENB G-ÁTIZDA. «EÁEN AINÁ AZÁ ¥ÀEª DOUR NHAÈÀB "ÆÃ¢Ü ĪÅ¢®è Dzhjé zägàzitµi Atávï «eá Eà Péãvàzà è ¥ÀEª BOUR NIMªÉ ¥ÀV¶VÀ « CÁĒÀ 'À 'Ďª ÄVÄÛ ŢÀWWÀ DAIÀÁPÌNĒÀ EÁUWÀÀP è ª Ä»¼ÁiÄgÀ zix a livil lika i E®PASia Libi a inué C P NÁEMÉ EZÉ F avata EAB SZTÁ-Ä JPÄ AilÁªÁzà ÞP°É ÆZÆÚIÁÁ F ÞIÁªÁ±ÍCAZÁ °ÆgìPÆ«ÄïzìgÉCzìEÄBC£Ä;µÁ£ÌPĚVÌgìPÄ ¹zàJAzä °Ã½zàjä.

a ÆzÀPÄ «zÁŻyðUNAPè "ÁgNZA a À>¼Á vÀvàdộÀ a ÄvÄÛ«eÁ®U̼À ŞUĚCja Å a ÄÆr À ÁPÄ. a Ä»¼Á «ZÁŽyðUMÆÄB PÄ į vÄ DZ̵À ªÄÄVĪÀfðªÀ»¹, ª£eÁÕ¤PÀ a Ň£ÆÃ∵Áa ÞÆKBa ŇÆr 'À ÁPŇ. F¤nŒÞ è PÁðgÞA 'gÁ¶ÃAIÀ D«µÁBA C©AIÁÉA PÁA IÄÕ¥ŘŘÍMŘÁVZÉ ŘÁŎj ±Á ÚMAŘĚÀA IÄĪ À ¥ÀW ÚNÀAEÀB UÄQÄW¹ ¥ÆÃ¶ ĪÀ P® À £ÌQÁIĨÃPÄ. «eÁĒPÅŞ¡AIÄ N¢UɰÁUÆ CAPNIMPLIÉ TëÄVPÁULZÃ, ¥IAIÆÃUNIMEÄB

į MB «záżyð UMà ª ÀÁqĪ AVÁV «eÁÉ Þ a ÆÃd£ÄB C£Ä " ÅK "À "ÃPÄ. A ÄÆ® « eÁÆÞ Å Pê ÀP «ZÁgÀ À AQQÀT ª ÄVÄŰ ¥ ÞEZÐÓ É NUM ZËPINÜÉ 1®ÄQPÆYÆŽÃ, ZÉEIA¢EÀ ÀPÄ LÚIZU ÁA¢ ĪÁWgÁ ÁPÄ. EZPÁV 'G£ÁVÁ ÁGÍVI C©ïAiÀÁ£À eÁj AiÀÁVzÉ ¥Àv¶ÖVÀ «eÁÆ À LUMÀ PÀLÀS ° MUMÈÀS ZÌNÀÚ ¥ÌQÉZÄ, C°è aleÁppà ¥j lypalas alver la

a A»¼Á «eÁĒÀ PÁAUÉ;ïEÀ "ÀgÀt À A PÁ I Ä E Ä B 2 ã a Ä W Å B W EgÁ ¤ ©qÄUkqÚÆ½¹zkqÄ. PÁAiÄðPæÄz CzíPÍVÁ IÁLÁB "ÁgÍVÃA IÁ «EÁJEÁ PÁAUÉ; ¡E CziPilgá C±ÆÃPï Pila lági į PEÁ a lip 1 zibil. allî, Negli «±k«z᤮Aili Pli®¥liv ¥keæ P J, I qàuàià LJ, I'J i àire sà E PÁA Í Á ÖZÍF Ö U Í Á ÁZ Á ¥ÉE & CGÄU Í PÁ ª Á Á GÍ °ÁUÆ qÁ J£ï © Ş.Ä, rJZïDqï PÁAIÄÖZPŐ QÁ ˪Äå ÁK«Ä£ÁxÆï, ªÄÁF LJ ï¹J Cz**i**PÉ¥ÆæVÃvÁ "Á°, PÁAiÄðPÁj , ÞZÁ Á gÁ «dAiÄ®Qëä , ÞÆÁ G¥À ÜÁ ZĬĠÄ.

-qÁ. eÉ ÆÃ»vï

±£AªA>1 zArzgeanAzÆtAgÁµQÃA, A° £Rè AgNA-1 J£ï Dgï gÁªï

- ˪ Nå PÉ ©

a MÁEA DAUÉEÃWædEA 3: ±RÃa b> 1 zãrzbjé a NAA¢£À 15 a LIBZP è "ÁgNA dUNÆÀ a AÄAZAEtA gÁµAPÁUPZÉ «eÁEA JAS ¥IZIP IEÄB ° ýZÁUÁVÍAVIÆÁĒÁJAŞÄZÄ CZIDA » AzÁIÁÁ SgÄVIZÉ DZIDÉ ÉÁª A ±ÄZA « EÁÉA ^a ÄvÄÛCZÌgÀPÆQÄUÚJÁÆÄB UËgÌk ¸À ÄPÄ JAZÄ ¨ÁqNÀqNÀ «eÃvÀ«eÁ® ¥Ææ¹ J£ï Dqï gÁaï C©HEÁAAiÄ¥À ÖgÄ. CaÌgÄ "ÁgÌVÀ gÌVÀ ŢŊijIJA «±Ã±ŊŊŇĬŇå Ġ¥ÆÁåŢŇªŇÁ¯ŔĬҰè 'ÁgNÆP'è«eÁŒÀPÄjvĪÀÁvÆÁrzÞjÄ.

Cª Aj PÁ ª ÄVÄÚ aãÁ « eÁÆÀ PÁVÆP è C¥À «ÄVÀ À À±ÆÃZÆÁ ¥ÆAZŮVÀEÄS ¥ŘÌn¹ªÉ DzloÉD zã±lukuɰÆã° 1 zloÉ "Ágnaza è«eÁŒPĚ , ÀSAÇÎ ZÂVÉ °ÉEĂ , À±ÆÃZÊÁ ¥BGAZÎJÎÄ ¥PPÀ ªÁV®èJAZĂ «µÁZÀªPPFÀ 1 ZBÄ. EZBÀ SUÉ PÁ½ZÁUÀ°À®ª ÞÁ 'À±ÆÄZÆÁ ¥ÆAZÌUÁÀ Ca LIPMÉ K x ZÉ JAS ¥LEÁ IÄEÄB PÄYJISOÄZÄ. EZà «NÀIêÁV £Á£Ã aP̪̤ZÁÚÀ ªÆPÉï ¥ÁXQÁÁÁÁÁÁ «EÁÆÁJAZÞÁÉÄ JAS ¥ÆÁÁÁÉÄ PÁVZÍ CZŘÍ Cª ÞÁ PÍ® Àª ÄÄV¹ ¥ŘÍN Ä JAS GVADAPAEÁB ZÁI ÄPÁV ¤ÁrzADÁ.

gÁª ïgÞ ÞgÄ vÞÄä62 ª Juð UÞAA«eÁEA "˱ÆÃZÆÁ PÃVÆÀCEÄ" PER EZñŘÉ ÁKVÁVĚ



103EÁ "ÁGMÁAIN «EÁÉN ÞÍNÁªÁ±ÞZÞ é"ÁGMÁGMÁ Ígi JA «±Á±ÞGAINA G¥ÉÁ3) «±ÁµNªNÁ-ÁIN° é "ÁGMÐMAGÁ. 1 JEI DGI GÁªTªNÁVÆÁGNÓÐNªÞZN Photo-Shreeharsha C M

SAZÀ EÌAVÌQÀ D°ÁQPÁV °ÉTUÁQÄWÎQĪÀ JAZA BZP E ÁGNAAIN «EÁÐUNAN ° ÍZNN ,±18 Ū Å» 1 ZÄrzÍgÄ. "ÁgÍNÃA ÍÄgÄ «EÁÆÀ PÁVZPèŁAKÄ, ACZPEEAZÄ Fa ÄI ÖZA¥AJAV ŢÁ¢ijĀPÄ ŢÁzĀPÁUÄWĠŊP®è DzŊĠzñĀzĀPè «eÁĒÞA ¥ÞÐN °ÁUÆ ÞÁðgA F PÁVÞĚ ¤ÃqÄw¢jĪÀzjEÀ,PÁAiÄzÀ¥jeNÁt PjrªÄ EzÉ F PÄj VÄ £ÆNÉC ÀP ÀÁZÁ£k«ZÉ aãÁ a ĂvĂÚ d¥Á¤AiÄgĂ o ZĂÑ ±Ã Äa À» 1

2 ZÀPÙMAZÀ «ZÁBYÕUMÄ ±ÀPĪÀ»1 zärAiä¢gäªåzèäß Pátäwèñ£é JAzä C À ÀZÁ É À ° Æ GÀ ÁQZÁG Ä. UÁ&ÄÃ t "ÁUÆÀ ^a APN4A «eÁEA ^a AvAÚ vAvAeÁEAzA SUÉ ° ÉZAÑ PÄVÀE° À U̼ÁVZÁÍQÉ Eª ÀQÀ ÈL£Ï¹Ã£Ïª ÄVÄÛ ¥ÁcgÁgÚMZÁÁGÉ DZÁGÉ Cª Á UÉ Cª PÁ±NMÁ PÆgívé Ezé JAzígi.

1 « gÁª ÄÉÏ, gÁª ÀÁÉÄdAgÁAVÁPÁ « CÁÑ UNAÑ ° ÁE ÎN ÎN ±ÁEÑZIEÚNAIEÑS EÌQÉ Ñª ÁUÑ PÁðgà Ailiáa Ázá a ávæl ¤ágliweði ®è , Na±KEÃzPÒdĂ JA¢UNE °NtPÁV aAw NzÃ, «eÁŒÀ PÉà VÀEZÀ° è D , AQ (P A>> 1 PÁAIÄð¤ªÌð» À ÃPÁZÄ Q«ª NÁVÄ °Ã½ZÌdÄ.

, ADÍMÁVÉ ±ÁBUÁUÁ TUÁMP EMAZÁ. EAVÁPÁ ±ÃLLÀUÄtaÈÄSaÃÉPÉï¥ÁSGÁGɰÆA¢ZÄÝ vì Mà C¢ Págá a Atrain e e e á Atrain e e e facilité de la faction de la , Pëzigi Jazi ±ÁX1zigi. Eazi ¥izá¤ ÁgNÁ2030gÁSUɪNÁVÆÁrzÞÁ. F¤nÆPè £Áª®ŒNE ²ÃWÆÁV PÁA¡NÕUNUƼÀ ÃQZÉ Dzň AzàzⱿàC©æã¢¢þP®, æàèèvæÄæÄß vÆqN¹PƼÄPÄvÉPÌqɤÃrzÌqÄ.

A ± Æ Ã Z Æ Á Í Å° è D « µ Á Í g Ř É ° É Ř Í M V ŘÚPÆ r - q Á. » à g Æ ï ± Ř Ř ð

zärAiÄÄVÁÓÉ MSå«eÁĒÀ¥ÁZÁÁ¥PÆÁV PÌÁÉÀ

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ªÆ_ÆgÅ _˱ÆÃZÆÁiİèD«µÁgÞ̰ÆÄѪİNÀ¤ÃgĪÅZÌgÀ eÆvÚť "Na±ÆÃZÆÁiN" èD«µÁlgA¥ÞZÌNAINENB gƦ "À ÑPÁZN gÁ ¤Ãgleï ±PÃð Þ°É ¤ÃrzlgÄ. 103£Ã "ÁglvÃAiÄ ÞÌÁªÃ±ÞÀ «±Ãμλ UÆÃ¶Aiİè«eÁŒÀ VÀVÆÁŒÀªÄVÄÛD«μÁĠÀ(JįïnL) PÁAIÄð¤Ãw PÄj vÄ «µAiÄ aÄAqÆťaÄÁrzÌgÄ.

zPìPAiÄ «eÁĒÀªÄVÄÛVÀVÆÁĒÀ¸À¸ĞAiĪÄÄRå¸ĞAÖÄ °ÁUÆ ¸ìP°ÚÁgÌgÁZÀQÁ. ¤ÃgÌeï ±ìPÄðgìPÌgÄ ªÌÁVÌEÁQÄVÁÑ¥ÌZÁ¤ ªÆÃ¢ PŘEGÁ EAZĂ "KUĚ « CÁĒÁ PŘIVŘEŘ ÉÁD « LÁGNÍKÁ SUĚ G TÁT ŽIVÁÛ ŢұŔĔÃZĬĒÁ PÃVĪZĪP è D«µÁĬġĪP̰ĒZĬŇMVĬŮŪPŔĒĢÌ ĨĀPĬ. 2013gÌJŢÏ n L ¤Ãw d£à Áª ÀÁ£Ìqà ¥ÌqìPÁVzÄÝ, EAZÄ ZñÌzìPèP̶ °ÁUÌÆ DgÆÃUÀ PÃVÞIKUÉ ° ÉBÉÀ DZÀVÉ PÆGÀ ÁPÁZÌÐÁ. ª ÁÁPI EET EARAIÁÁ, Į ŽŽI) "ÁgIV", 11" EARAINÁ AIREÃO EÚNAN Pê Nº JPÁ AV®EZÃ DPÁAPÁAIÁVZÉJAZÄ °Á½ZÌQÄ.

ĮÁªNÁ£N «ZÁNYÐUMENBª EGÁÑPAD«µÁJ UMEÁN ª NÁQѪ Pè 2Pit ¥Ávizi Pijvi G¥iEÁi, i ¤ãrzi "ÁUMikej £i J£ïLJ ïJ£i ¤zÃð±PA qÁ. Ş-ê ïgÁe ïgÞ þà 2PAt ¸A¸ÃA iÄ UÄtª ÄI & EÄB GENVĀPA, JPĀ 2PPADA ¥A JUNIENB "ALI¥JEÉ ª NAGA"ĀPĀ. D ª NÆ®PA 2PPDA B°ÃPDAtªÁUÁÁPĂ JAZĂ °Ã½ZDĂ. ªÄ»¼ÁiÄQÈÄB

a IMP KONDEÁN, IPÄ O ÉJÉN ¥ÉLÄVÁPN ¤ÃQN ÁPÁZŇ a NÁ»W VAVNEÁÉN a NVNO a NAAZÁ-ÆÃZÆA °ÁUÆ a ÀË®æ ÁAÁ¥ÆA ¥Á µÀï£À PÁAIÄð¤ªÁð°PÀ¤ZбPÞÞÁZÀ¥Ææ¥æÁvï ÞÀd£ï Jjinl¥Á°1 PĂŢ VĂ ª ĂÁVÈÁr, "ÁgNÈÀJ " ¡ ¡ nL ¥Á° ¹ A ¡ ÄÄ VÀ VÀ PÁĒÀ ÉÆÃI -2035PĚª NÁUIÓZIPÕAINÁUNVIZÉJAZN °Ñ½ZIGN.

®PÆMĒA`Á`Á`ÁŞÁ°Ā``¡CA`ĀqBji«±AkzÁæ®AiÄzÀPÄ®¥Ìv ¥Ææ Dgï ¹ _ÆÃ©ĠpÞĠÄ ªÄÁvÆÁr, «eÁĒÀ ªÄvÄÚ vÀAvæÁĒÀ S¼À PÆAQĂ °Æ ÀD«µÁQÙMÈÄß°ÃUɪ ÁÁQÀ ÁPĂ JASÄZÌQÀSUĚ w½1PÆELÖJÄ. VÄAVÄEÁĒÄPÅ UÁæÄÄT "ÁUÆA d£ÀUÆ, Ä®"ÄPÁV viPä¥ää à ¤niEiP è ¸ PÁðgà AiÆãd£ÚIAÆäß g榸 à ñáPázä ¸ iP°É ¤ÃrzÌgÄ.

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