

My Notes....

NATIONAL

MISSION SHAKTI SUCCESSFUL

On March 27, 2019, India conducted Mission Shakti, an anti-satellite missile test, from the Dr A P J Abdul Kalam Island launch complex. This was a technological mission carried out by DRDO. The satellite used in **the mission was one of India's existing** satellites operating in lower orbit. The test was fully successful and achieved all parameters as per plans. The significance of the test is that India has tested and successfully demonstrated its capability to interdict and intercept a satellite in outer space based on complete indigenous technology. With this test, India joins an exclusive group of space-faring nations consisting of USA, Russia and China. The satellite used was an Indian satellite.

What

1. The **DRDO's Ballistic Missile Defence interceptor was used**, which is part of the ongoing ballistic missile defence programme.
2. This is a technology where India has developed the capability. Space technologies are constantly evolving. India has used the technology that is appropriate to achieve the objectives set out in this mission.
3. The test was done in the lower atmosphere to ensure that there is no space debris. Whatever debris that is generated will decay and fall back onto the earth within weeks.
4. India has undertaken 102 spacecraft missions consisting of communication satellites, earth observation satellites, experimental satellites, navigation satellites, apart from satellites meant for scientific research and exploration, academic studies and other small satellites.
5. **India's space programme is a critical backbone of India's security, economic and social infrastructure.**
6. The test was done to verify that India has the capability to safeguard our space assets. **It is the Government of India's responsibility to defend the country's interests in outer space.**
7. The tests were done after India acquired the required degree of confidence to ensure its **success, and reflects the intention of the government to enhance India's national security.** India has seen an accelerated space development programme since 2014.

Mission Shakti

WHAT
Obsolete satellite destroyed by DRDO-developed ballistic missile interceptor missile

Satellite was at height of 300 km, was tracked with sensors that confirmed the kill

DRDO had capability to develop system in 2012; made presentations, but was not given go-ahead

WHERE
Ground-based interceptor missile units based in Balasore testing range

WHEN
Preparations started in 2016, tests carried out in 2017 and in February this year




Is India entering into an arms race in outer space?

1. India has no intention of entering into an arms race in outer space. India has always maintained that space must be used only for peaceful purposes. India is against the weaponization of Outer Space and support international efforts to reinforce the safety and security of space based assets.
2. India believes that Outer space is the common heritage of humankind and it is the responsibility of all space-faring nations to preserve and promote the benefits flowing from advances made in space technology and its applications for all.

3. India is a party to all the major international treaties relating to Outer Space. India already implements a number of Transparency and Confidence Building Measures (TCBMs) – including registering space objects with the UN register, pre-launch notifications, measures in harmony with the UN Space Mitigation Guidelines, participation in Inter Agency Space Debris Coordination (IADC) activities with regard to space debris management, undertaking SOPA (Space Object Proximity Awareness and COLA (Collision Avoidance) Analysis and numerous international cooperation activities, including hosting the UN affiliated Centre for Space and Science Technology Education in Asia and Pacific. India has been participating in all sessions of the UN Committee on the Peaceful Uses of Outer Space.
4. India supported UNGA resolution 69/32 on No First Placement of Weapons on Outer Space. **India's sees the No First Placement of weapons in outer space as only an interim step and not a substitute for concluding substantive legal measures to ensure the prevention of an arms race in outer space, which should continue to be a priority for the international community.**
5. India supports the substantive consideration of the issue of Prevention of an Arms Race in Outer Space (PAROS) in the Conference on Disarmament where it has been on the agenda since 1982.

What is the international law on weapons in outer space?

1. The principal international Treaty on space is the 1967 Outer Space Treaty. India is a signatory to this treaty, and ratified it in 1982. The Outer Space Treaty prohibits only weapons of mass destruction in outer space, not ordinary weapons.
2. India expects to play a role in the future in the drafting of international law on prevention of an arms race in outer space including inter alia on the prevention of the placement of weapons in outer space in its capacity as a major space faring nation with proven space technology.
3. India is not in violation of any international law or Treaty to which it is a Party or any national obligation.

GLOBAL ENERGY TRANSITION INDEX

India has moved up two places to rank 76th on a global energy transition index, which has ranked 115 economies on how well they are able to balance energy security and access with environmental sustainability and affordability. Sweden remains on the top on this annual list compiled by Geneva-based World Economic Forum (WEF) and is followed by Switzerland and Norway in the top three, as per its latest report released on 25 March 2019.

What

1. The WEF said energy systems have globally become less affordable and less environmentally sustainable than they were five years ago, though access to energy has improved with less than 1 billion now living without access to electricity.
2. It said India is amongst the countries with high pollution levels and has a relatively high CO2 intensity in its energy system.
3. Despite this, India has made significant strides to improve energy access in recent years, and currently scores well in the area of regulation and political commitment towards energy transition, the WEF said.
4. It suggested there was a ground for optimism regarding India despite the current outdated energy system not being ready for transition, because an enabling environment is being built to support future transition.
5. India has scored low in terms of system performance (ranking 97 and 86, respectively), it ranks considerably higher when it comes to readiness (45 and 61, respectively).

6. Overall, India has moved up two places from 78th last year. China is ranked even lower than India at 82nd position, though it ranks very high at seventh place in the world for regulation and political commitment.
7. Despite its low ranking, India is the second best in the BRICS block of emerging economies, with Brazil being the best at 46th place globally. However, India is the only amongst the five economies to improve its rank since last year.
8. Among major economies, the UK is ranked 7th, Singapore 13th, Germany 17th, Japan 18th and the US 27th.
9. Within Asia, Malaysia is ranked highest at 31st, Sri Lanka is 60th, Bangladesh 90th and Nepal 93rd. The WEF said its index considers both the current state of the **countries' energy system and** their structural readiness to adapt to future energy needs.
10. Small economies have achieved higher scores on readiness, with the UK being the only G7 economy in the top 10.
11. The biggest challenge facing attempts to future proof global energy is the lack of **readiness among the world's largest emitters.**
12. The 10 countries that score the highest in terms of readiness account for a mere 2.6 per cent of global annual emissions. **The world's transition to secure, affordable and sustainable energy has stagnated, with little or no progress achieved in the past five years.**
13. Across 115 economies, more people than ever before now have access to energy. However, this is offset by reduced affordability and almost no progress in making energy systems environmentally sustainable, while calling for urgent action on the part of policy makers and business to safeguard energy development for future generations.
14. It said continued use of coal for power generation in Asia, increasing commodity prices and slower-than-needed improvements in energy intensity have contributed to this **year's stagnation in performance.**

Flashpoint

1. The **'transition readiness' component of the** index has taken into account six individual indicators: capital and investment, regulation and political commitment, institutions and governance, institutions and innovative business environment, human capital and consumer participation, and energy system structure.
2. **The WEF said fossil fuels' share of total primary energy supply at 81 per cent has been constant over the past three decades. Also, the global CO2 emissions are expected to have increased by more than 2 per cent in 2018, the highest since 2014. Consumption of coal increased in 2018, after declining for three consecutive years.**
3. While the US has made progress in reducing the use of coal in power generation, it slipped in the rankings by four places reflecting concerns about the affordability of energy to households, and regulatory uncertainty on environmental sustainability.

INDIA'S FIRST LOKPAL

Retired Supreme Court judge Pinaki Chandra Ghose becomes **India's** first Lokpal, an anti-corruption ombudsman. The Selection Committee for Lokpal, comprising Prime Minister Narendra Modi, Chief Justice of India Ranjan Gogoi, Lok Sabha Speaker Sumitra Mahajan and eminent jurist Mukul Rohatgi reportedly finalised the name during a meeting.

What

1. Justice Ghose retired from the Supreme Court in May 2017 and has been serving as a member of the National Human Rights Commission (NHRC) since then.

2. The apex court had directed the Attorney General to hold a meeting for finalisation of the names for the constitution of the Lokpal.
3. At this stage, the order which we consider appropriate to pass is to request the learned Attorney General to inform the Court within 10 days from today about the possible date of convening a meeting of the Selection Committee for finalisation of the names for constitution of the Lokpal.
4. The Lokpal Act, which envisages establishment of anti-graft body Lokpal at the Centre and Lokayuktas in states to look into cases of corruption against certain categories of public servants, was passed in 2013.

Flashback

1. The Lokpal and Lokayuktas Act, 2013, commonly known as The Lokpal Act, is an anti-corruption Act of India which "seeks to provide for the establishment of the institution of Lokpal to inquire into allegations of corruption against certain public functionaries including Prime Minister, ministers, MP, Group A officials of the Central Government and for matters connecting them".
2. The term Lokpal was coined in 1963 by Laxmi Mall Singhvi, a member of parliament during a parliamentary debate about grievance mechanisms.
3. The Administrative Reforms Commission (ARC) headed by Morarji Desai submitted an interim report on "Problems of Redressal of Citizen's Grievances" in 1966.
4. In this report, ARC recommended the creation of two special authorities designated as 'Lokpal' and 'Lokayukta' for redress of citizens' grievances. The word was derived from the Sanskrit words "Lok" (people) and "Pala" (protector/caretaker), meaning 'Caretaker of People'.
5. Maharashtra was the first state to introduce Lokayukta through The Maharashtra Lokayukta and Upa-Lokayuktas Act in 1971.

SARY-ARKA-ANTI TERROR 2019

India, Pakistan and the other members states of the Shanghai Cooperation Organisation (SCO) will take part in a joint anti-terrorism exercise to be held this year by the grouping. The decision to hold the joint **exercise 'Sary-Arka-Antiterror 2019'** was announced during the **34th meeting of the SCO's** Regional Anti-Terrorist Structure (RATS) council held in Tashkent, Uzbekistan.

What

1. The SCO, in which China plays an influential role, is also comprised of Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Uzbekistan, India and Pakistan. India and Pakistan were admitted into the bloc in 2017.
2. Delegations of the competent authorities of India, Kazakhstan, China, the Kyrgyz Republic,

Flashback

1. The Shanghai Cooperation Organization (SCO) is a Eurasian political, economic, and security alliance, the creation of which was announced on 15 June 2001 in Shanghai, China by the leaders of China, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, and Uzbekistan.
2. The Shanghai Cooperation Organisation Charter, formally establishing the organisation, was signed in June 2002 and entered into force on 19 September 2003.
3. The original five nations, with the exclusion of Uzbekistan, were previously members of the Shanghai Five group, founded on 26 April 1996.
4. Since then, the organisation has expanded its membership to eight countries when India and Pakistan joined SCO as full members on 9 June 2017 at a summit in Astana, Kazakhstan.

- Pakistan, Russia, Tajikistan, Uzbekistan and the RATS Executive Committee attended the meeting.
3. Chaired by Russia, the meeting also declared plans to hold the first stage of the joint **border operation "Solidarity 2019-2021," the 7th meeting of the heads of the border services**, and training workshops on identifying and preventing the use of the Internet for terrorist, separatist and extremist purposes.
 4. RATS is a permanent organ of the SCO which serves to promote cooperation of member states against the three evils of terrorism, separatism and extremism.
 5. It is headquartered in Tashkent. The next meeting of the Council of the RATS SCO is scheduled to be held in Russia in September 2019.

OPERATIONAL READINESS EXERCISE

The Chief of Naval Staff (CNS), Admiral Sunil Lanba, PVSM, AVSM, ADC, arrived Kochi on 18 March 19 for debrief of the recently concluded annual Theatre Level Readiness and Operational Exercise (TROPEX). Commanders-in-Chief of all the three naval Commands, along with a number of senior operational commanders and representatives from Indian Army, Air Force and Indian Coast Guard attended and participated in the discussions held at the Naval Base, Kochi.

What

1. The day long review of TROPEX 2019 was undertaken to examine the conduct of exercise and to assess operational readiness of the Indian Navy. **A realistic audit of the Indian Navy's deployment philosophy and fighting capability was undertaken during the review.**
2. Lessons learnt from the exercise will provide the Indian Navy accurate assessments to fine tune combat deployments, force structuring requirements, operational logistics as also material and training imperatives.
3. The Annual Integrated Theatre Level Operational Readiness Exercise - in short TROPEX - the largest maritime exercise of the Indian Navy was conducted in the month of February in the Arabian Sea and North Indian Ocean.
4. TROPEX 2019 was thus far the largest in terms of geographical extent covering the IOR, and also with regard to number of units participating.
5. The exercise was conducted from 07 Jan 19 and graduated smoothly into providing the IN a high operational readiness posture post the Pulwama attack on 14 Feb 19.
6. About 60 ships of Indian Navy, 12 ships of Indian Coast Guard and 60 aircraft participated in TROPEX 19. The exercise also included a Tri-services Amphibious Exercise that saw the participation of Army and Air Force personnel and assets.
7. As a prelude to TROPEX, the largest coastal defence exercise over **codenamed 'Sea Vigil', was conducted on 22 and 23 Jan 19 with participation of all coastal states and union territories** along with all maritime stake holders.
8. **Overall, the exercise validated the Navy's readiness and capability to meet various mandated roles, in support of national objectives.**

'MITRA SHAKTI' COMMENCES

14 day long joint exercise between the armies of India and Sri Lanka "Mitra Shakti" commenced on 27 March 2019 with an impressive opening ceremony at Diyatalawa in Badulla district of Sri Lanka. The opening ceremony witnessed a joint ceremonial parade of the two contingents that was commanded by the Company Commander of the Indian Army contingent and was reviewed by Brig HPNK Jayapathirana of Sri Lankan Army.

What

1. The exercise that is being conducted from March 26 to April 8 has an Indian Army contingent that comprises of a company group from 1st Battalion the BIHAR Regiment (BATALIK) and a similar strength from the 1st Gemunu Watch Battalion of the Sri Lankan Army.
2. The primary focus of the exercise will be to train and equip the contingents to undertake joint counter insurgency and counter terrorist operations in urban/rural environment and Humanitarian Assistance and Disaster Relief Operations.
3. The exercise provides an ideal platform for both contingents to share their operational experience and expertise while also being instrumental in broadening the interoperability and cooperation between the armies of India and Sri Lanka.
4. Towards the end of the training, a validation phase of the exercise will be held that will be witnessed by senior military observers and dignitaries of Sri Lankan Army.
5. Started in 2013, Exercise Mitra Shakti is in continuation of a series of joint exercises that is conducted annually as part of military diplomacy and interaction between the armies of India & Sri Lanka.

INDIA KICKS OFF AFINDEX-19

In the first such military outreach to Africa, where China has made deep strategic inroads, India on 18 March 2019 kicked off an exercise with 17 nations from the continent at the Aundh military station at Pune. China, with its multi-billion-dollar Belt and Road Initiative, has fast expanded its **footprint in Africa as the “New Great Game” plays out in the world’s second-largest continent** known for its minerals and other raw commodities. **India may not have China’s economic wherewithal but is trying to leverage its long-standing ties and military expertise with African nations.**

What

1. Towards this end, the inaugural Africa-India field training exercise-2019 (AFINDEX-19)”, **being held from March 18 to 27, is aimed at training the participating nations in “humanitarian mine action” (de-mining and other protocols to handle landmines and explosives) and UN peace-keeping operations** in which India has decades of experience.
2. Major General Sanjeev Sharma, general officer commanding of the Golden Katar Division, was the chief guest at the opening ceremony of AFINDEX-19, which included a **fly-past by the Army’s Dhruv advanced light helicopters and Cheetah choppers.**
3. The 17 African nations participating in the exercise are Benin, Botswana, Egypt, Ghana, Kenya, Mauritius, Mozambique, Namibia, Niger, Nigeria, Senegal, South Africa, Sudan, Tanzania, Uganda, Zambia and Zimbabwe.
4. India has also been holding defence cooperation talks with countries like Botswana, Egypt, Kenya, Lesotho, Mozambique, Morocco, Namibia, Nigeria, Rwanda, Tanzania, Uganda and Zambia.
5. The defence engagement with South Africa is at a much higher level, with warships and aircraft from the two nations along with Brazil regularly holding the IBSAMAR naval exercise.
6. A fly past by a set of Advanced Light Helicopters and Cheetah Helicopter of the Indian Army carrying the flags of United Nations, India and the AFINDEX was the highlight of the opening ceremony.
7. The aim of the exercise is to practice the participating nations in planning and conduct of Humanitarian Mine Assistance and Peace Keeping Operations under Chapter VII of United Nations Peace Keeping Operations.
8. The exercise will focus on exchange of best practices between the participating nations, team building and tactical level operations in conduct of United Nations

mandated tasks to include establishment of a new mission, siting of a United Nations Headquarters for Peace Keeping operations, siting of Military Observer sites during the peace keeping missions, protection of civilians, nuances of standing combat deployment, convoy protection, patrolling aspects and aspects related to Humanitarian Mine Assistance.

NEXT CENSUS OF INDIA IN 2021

The next census of India will be carried out in 2021 with March 1 of that year as the reference date, the Home Ministry announced. In a notification, the ministry said the decision has been taken by the central government under the powers conferred by section 3 of the Census Act, 1948 (37 of 1948).

What

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| <ol style="list-style-type: none"> The central government hereby declares that a census of the population of India shall be taken during the year 2021. The reference date for the census shall, except for the state of Jammu and Kashmir and snow bound non-synchronous areas of states of Himachal Pradesh and Uttarakhand, be 00.00 hours of the first day of March, 2021. For Jammu and Kashmir and snow bound non-synchronous areas of Himachal Pradesh and Uttarakhand, the reference date shall be the first day of October, 2020, the notification said. India's last census was carried out in 2011 when the country's population stood at 121 crore. | <p style="text-align: center;">Census Act of India 1948</p> <ol style="list-style-type: none"> The Census Act of India 1948 empowers Central Government to notify the date for the census and to appoint a Census Commissioner and Superintendents of Census Operations in States. The Act enjoins upon every citizen to assist in the taking of census. The Act lays down that services of any citizen can be requisitioned for census work and takes obligatory on every person occupying a house, enclosure etc. to allow access to census officers, and to allow them to paint on or affix to the place such letters, marks or numbers as may be necessary for census purposes. |
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FIVE COFFEE VARIETIES GET GI TAG

The government on 29 March 2019 said it has awarded Geographical Indication (GI) tag to five varieties of Indian coffee including Coorg Arabica. The move is expected to help the growers get maximum price for their premium produce. The Department for Promotion of Industry and Internal Trade, under the Ministry of Commerce and Industry, has recently awarded this tag to — Coorg Arabica coffee from Karnataka, Wayanad Robusta coffee from Kerala, Chikmagalur Arabica from Karnataka, Araku Valley Arabica from Andhra Pradesh, and Bababudangiris Arabica coffee from Karnataka.

What

- The Araku coffee is produced by the tribals, who follow an organic approach in which they emphasise management practices involving substantial use of organic manures, green manuring and organic pest management practices.
- Similarly, Bababudangiris Arabica coffee is selectively hand-picked and processed by natural fermentation.
- In India, coffee is cultivated in about 4.54 lakh hectare by 3.66 lakh coffee farmers of which 98 per cent are small farmers.
- Coffee cultivation is mainly done in the southern states of India including Karnataka, which accounts for 54 per cent of the total production. It is followed by Kerala (19 per cent), Tamil Nadu (eight per cent).

5. It is also grown in non-traditional areas such as Andhra Pradesh and Odisha (17.2 per cent) and North East states (1.8 per cent).
6. India is the only country in the world where the entire coffee cultivation is grown under shade, hand-picked and sun dried, the country produces some of the best coffee in the world, grown by tribal farmers in the Western and Eastern Ghats, which are the two major bio-diversity hotspots in the world. Indian coffee is highly valued in the world market and sold as premium coffee in Europe.
7. The recognition and protection that comes with GI certification will allow the coffee producers of India to invest in maintaining the specific qualities of the coffee grown in that particular region. It will also enhance the visibility of Indian coffee in the world and allow growers to get maximum price for their premium coffee.

Flashback

1. A Geographical Indication (GI) is primarily an agricultural, natural or a manufactured product (handicrafts and industrial goods) originating from a definite geographical territory.
2. Typically, such a name conveys an assurance of quality and distinctiveness, which is essentially attributable to the place of its origin.
3. Darjeeling Tea, Tirupathi Laddu, Kangra Paintings, Nagpur Orange and Kashmir Pashmina are among the registered GIs in India.
4. The award of GI tag gives protection to the producer of those genuine products, which commands premium pricing in the markets both domestic and international.
5. Once the GI protection is granted, no other producer can misuse the name to market similar products. It also provides comfort to customers about the authenticity of that product. Such products also get premium pricing in the markets.

33RD EDITION OF IND-INDO CORPAT

Indonesian Naval Ship KRI Sultan Thaha Syaifuddin and Maritime Patrol Aircraft CN-235 led by Cmde Dafit Santoso arrived at Port Blair, Andaman & Nicobar Islands, India for the Opening Ceremony of the 33rd edition of the India-Indonesia Coordinated Patrol (IND-INDO CORPAT) to be held from 19 Mar to 04 Apr 2019. His Excellency Ambassador of Indonesia to India, Mr. Shidharto Raza Suryodipuro is also visiting Port Blair to attend the Opening Ceremony to be held at Port Blair from 20 - 21 Mar 19.

What

1. The Indian delegation is led by the senior officer from the Indian Navy, Commodore Ashutosh Ridhorkar, VSM Naval Component Commander, Andaman and Nicobar Command.
2. The ship and aircraft from both the countries would undertake patrolling on the respective sides of 236 nautical miles long International Maritime Boundary line.
3. The patrolling would be conducted in three phases from 22-31 March 2019. This will be followed by a Closing Ceremony at Belawan, Indonesia, which is scheduled from 01-04 April 2019.
4. The IND-INDO CORPAT Series of bilaterals **seek to underscore India's peaceful** presence and solidarity with friendly Maritime neighbours countries to ensure good order in the maritime domain, consolidate interoperability and strengthen existing bonds of friendship between India and Indonesia.
5. During the stay in Port Blair harbour, various activities such as official calls, formal reception onboard ship, sporting fixtures between both navies, ship open to visitors and professional interactions have been planned.

6. Indian Naval assets have been increasingly deployed in the recent times to address the maritime concerns on the region.
7. **In addition, as part of the Indian Government's vision of SAGAR (Security and Growth for All in the Region), the Indian Navy has also been involved in assisting countries in the Indian Ocean Region with EEZ Surveillance, Search and Rescue, and other capacity-building and capability-enhancement activities.**
8. The 33rd IND-INDO CORPAT, also coinciding with 70 years of India-Indonesia **diplomatic ties, will contribute towards the Indian Navy's efforts to consolidate interoperability and forge strong bonds of friendship across the seas.**

INTERNATIONAL

FIRST GLOBAL COMMITMENT TO CURB SINGLE-USE PLASTICS

United Nations **member states agreed to** “significantly reduce” single-use plastics over the next decade. The pledge came after marathon talks with nearly 200 ministers at the United Nations Environmental Assembly (UNEA) in Nairobi, Kenya. **Nations pledged to** “address the damage to our ecosystems including by significantly reducing single-use **plastic products by 2030, according to the summit's final statement.** The move will seek to curb the use of single-use plastic products such as bags, cups, cutlery and drinking straws.

What

1. The assembly of the UN Environment Programme (UNEP) opens in Nairobi with a minute of silence, after the plane crash that killed 157 people, including 22 United Nations staff, many heading for the annual event.
2. The final statement was issued that saw thousands of students taking part in protests to urge world leaders to take action to combat climate change.
3. Although agreement marks the first global commitment to curb plastics, environmentalist groups said the pledges do not go far enough to urgently address the growing pollution crisis that is threatening the world. The final text of the document was also significantly weakened by the United States, according to negotiators.
4. Most nations, including the European Union members, backed a proposal by India that would have seen governments commit to “phasing out most problematic single-use plastics by 2025.”
5. The United States led a few countries, including Saudi Arabia and Cuba, in a push to water down the text — **resulting in the final declaration to “significantly reduce” plastics by 2030, negotiators and environmentalist campaigners said.**
6. Some 500 billion disposable plastic bags are used worldwide each year, while one million plastic drink bottles are purchased every minute, the UN said.
7. Some 8 million tons (8.8 million US tons) of plastic leak into the ocean every year, threatening marine life and smothering reefs.

UNEA-4 address:

1. Environmental challenges related to poverty and natural resources management, including sustainable food systems, food security and halting biodiversity loss;
2. Life-cycle approaches to resource efficiency, energy, chemicals and waste management
3. Innovative sustainable business development at a time of rapid technological change.

Flashback

1. The fourth session of the UN Environment Assembly (UNEA-4) was held from 11-15 March 2019 in Nairobi, Kenya, as agreed during UNEA-3 in December 2017 (UNEP/EA.3/L.2).
2. By the same text, the Assembly decided that following the 2019 session, UNEA will convene during the last week each February, unless otherwise decided by UNEA.
3. The President of UNEA-4 was Estonia. **Under the overall theme**, 'Innovative Solutions for Environmental Challenges and Sustainable Consumption and Production'.

PACT FOR 3RD COUNTRY PROJECTS

India and the United States on 29 March 2019 signed the First Amendment to the Statement of Guiding Principles (SGP) on Triangular Cooperation for Global Development in Asia and Africa as part of their Indo-Pacific partnership. The Amendment was signed by Devyani Khobragade, Joint Secretary, Development Partnership Administration -II Division, Ministry of External Affairs and Mark Anthony White, Mission Director for the United States Agency for International Development (USAID) in India.

What

1. The SGP Agreement, signed in November 2014, underscores the contribution of India-U.S. partnership to global stability and prosperity.
2. It provides a framework for promoting cooperation between the two countries to meet the developmental aspirations of partner countries, particularly in Asia and Africa.
3. The First Amendment to the SGP Agreement, signed, extends the validity of the SGP Agreement up-to 2021.
4. It expands the scope of capacity building activities undertaken jointly by India and the United States under this framework and also provides a consultative mechanism for joint biannual monitoring and review of activities undertaken under the SGP.
5. Under the Agreement, India and U.S. will continue to offer capacity building assistance to partner countries in multiple sectors, focusing primarily on agriculture, regional connectivity, trade and investments, nutrition, health, clean and renewable energy, women empowerment, disaster preparedness, water, sanitation, education and institution building.
6. The Agreement helps fulfil the joint commitment of both nations to work together and leverage their combined capacities to provide demand-driven development partnership.

69TH LINDAU NOBEL LAUREATE MEETING

A research scholar from Indian Institute of Technology (IIT) Delhi, Mohammad Adnan, has been selected for the 69th Lindau Nobel Laureate Meeting taking place in Lindau, Germany this year. Adnan is currently a doctoral student under the supervision of professor G Vijaya Prakash, Nanophotonics Labs, Department of Physics, IIT Delhi. Adnan **is among 42 other researchers selected for this year's Lindau Nobel Laureate** meeting who would interact with 600 most qualified young scientists from around the globe. This is an excellent opportunity where 600 most young talented research students from 88 countries around the world are selected to interact with the Nobel laureates from the world, Adnan.

What

1. Adnan is currently working on high intensity ultra-fast light matter interaction of special kind of metal organic framework which is very useful for advance optoelectronic devices.

2. These materials are very cost effective with very high quantum efficiency. These lasers can also be used for medical treatment and manufacturing.
3. Each year since 1951, Nobel Prize winners in Chemistry, Physics, Physiology or Medicine have been meeting in Lindau, Germany, to discuss major issues of importance to their fields with students from around the world.
4. The meetings include lectures, panel/ round-table discussions on interdisciplinary topics and informal small- group meetings with the Nobel Prize winners.
5. The Department of Science & Technology (DST) has been sending a group of students /young researchers to these meetings, since 2001. This time, the 69th Noble Laureate Meeting is dedicated to Physics.

ITALY ENDORSE BELT AND ROAD ACCORD

Italy on 23 March 2019 became the first member of the Group of Seven industrialised powers to endorse China's "Belt and Road" infrastructure project, with Rome brushing off the worries of Western allies as it looks to revive its flagging economy.

What

1. The signing ceremony was the highlight of a three-day trip to Italy by Chinese President Xi Jinping, which was designed to boost ties between the two nations at a time when the United States is locked in a trade war with China.
2. Chinese and Italian firms additionally signed some 10 deals, including in the energy, steel and gas pipeline sectors.
3. Full details of the contract was not immediately revealed, but a government source said they could potentially be worth up to 20 billion euros (\$22.62 billion). Italian media put the value at around 5 billion euros.

Flashback

1. In 2013, Chinese President Xi Jinping announced the launch of both the Silk Road Economic Belt and the 21st Century Maritime Silk Road, infrastructure development and investment initiatives that would stretch from East Asia to Europe.
2. The project, eventually termed the Belt and Road Initiative (BRI) but sometimes known as the New Silk Road, is one of the most ambitious infrastructure projects ever conceived.
3. It harkens back to the original Silk Road, which connected Europe to Asia centuries ago, enriching traders from the Atlantic to the Pacific.

3RD INDO-JAPAN WORKSHOP ON DRR

The 3rd Indo-Japan Workshop on Disaster Risk Reduction was held in New Delhi on 19 March 2019. The workshop was attended by about 140 delegates from Japan and India including experts from both the governments, top premium research institutes, city administrators, specialized Disaster Management agencies and private sector. The Government of India and the Government of Japan had signed a Memorandum of Cooperation (MoC) in the field of Disaster Risk Reduction (DRR) in September 2017.

What

1. The 3rd Indo-Japan workshop is the follow-up of the deliberations held during the 1st Indo-Japan Workshop on DRR held on March 18-19, 2018 in New Delhi as well as during the 2nd Indo-Japan workshop on DRR held on October 13-15, 2018 in Tokyo, Japan.

2. The 3rd workshop was organized with an objective of enhancing collaboration between research institutes, cities and the private sector in the field of Disaster Risk Reduction.
3. Inaugurating the workshop, Dr. P. K. Mishra, Additional Principal Secretary to the Prime Minister, said that both India and Japan have world class research institutions and collaboration among them can lead to capacity building at all levels.
4. He added that the collaboration between cities, research institutions and private sector will also result in mutual benefit and long-term Disaster Risk Reduction.
5. Our world is changing very fast and evolving targets of Sendai Framework for Disaster Risk Reduction (SFDRR) need to be supported by solid research.
6. He emphasised that the collaboration between India and Japan should be strengthened in the areas of Early Warning Systems, build-back-better, capacity development, Science & Technology application and institution strengthening.

Flashback

1. The Sendai Framework for Disaster Risk Reduction 2015-2030 (Sendai Framework) is the first major agreement of the post-2015 development agenda, with seven targets and four priorities for action.
2. It was endorsed by the UN General Assembly following the 2015 Third UN World Conference on Disaster Risk Reduction (WCDRR).
3. The Sendai Framework is the successor instrument to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters.
4. The Sendai Framework for Disaster Risk Reduction 2015-2030 outlines seven clear targets and four priorities for action to prevent new and reduce existing disaster risks: (i) Understanding disaster risk; (ii) Strengthening disaster risk governance to manage disaster risk; (iii) Investing in disaster reduction for resilience and; (iv) Enhancing disaster preparedness for effective response, and to "Build Back Better" in recovery, rehabilitation and reconstruction.

INDIA, CROATIA INK FOUR PACTS

President Ram Nath Kovind held "productive" talks with his Croatian counterpart Kolinda Grabar-Kitarovic on all aspects of bilateral relations as the two countries signed four MoUs in the fields of culture, tourism and sports. Kovind, who was conferred with Croatia's highest civilian award - the Grand Order of the King of Tomislav said.

What

1. Croatia attracted nearly 19 million tourists last year ... tourist flow from India to Croatia has been increasing sharply every year.
2. The agreement on cooperation in the field of tourism that we signed today will help deepen our links in this important sector, the President said.
3. A MoU was signed between the Sports Authority of India (SAI) and the Department of Kinesiology of the University of Zagreb for capacity building in sports.
4. Two agreements were signed to establish Indian Council for Cultural Relations (ICCR) Chair for Sanskrit and Hindi language at the University of Zagreb.
5. The two leaders also agreed to work together to develop a strong global response to defeat terrorism in all its forms and manifestations.
6. They also discussed possibilities of deepening cooperation in research and development projects.

7. Earlier in the day, to mark the 150th birth anniversary of Mahatma Gandhi, Kovind offered a bust of the global icon of peace and non-violence to the Croatian government for public display.
8. The President is in the European country as part of his eight-day three-nation visit to Croatia, Bolivia and Chile to further strengthen bilateral ties between India and the three countries.
9. Kovind, who is the first-ever Indian head of state to visit Croatia, is in the country from March 25 to March 28.

UN PEACEKEEPING FORCE ON THE GOLAN HEIGHTS

The United States said the UN peacekeeping force on the Golan Heights **has “a vital role to play in preserving stability between Israel and Syria,” an assurance that the Trump administration’s recognition of Israeli sovereignty over the strategic plateau won’t affect its operation.** Acting US Ambassador Jonathan Cohen told an emergency meeting of the Security Council **the force’s mandate to ensure that the area of separation between Syria and Israel “is a buffer zone free from any military presence or activities” is of “critical strategic and security importance” to Israel, and “can contribute to the stability of the entire Middle East.”**

What

1. Israel captured the Golan Heights from Syria in the 1967 Mideast war and annexed the strategic plateau in 1981.
2. **President Donald Trump’s** proclamation that the US recognizes that the Golan Heights are part of Israel raised questions about the future of the peacekeeping force, known as UNDOF, after its mandate expires on June 30.
3. Mr. Cohen told an emergency meeting of the Security Council late 27 March 2019 that US recognition that the Golan Heights are part of Israel **doesn’t affect the 1974 cease-fire agreement between Israel and Syria officially ending the 1973 Mideast war, “nor do we believe that it undermines UNDOF’s mandate in any way.”**
4. The open meeting was held at **Syria’s request, and speaker after speaker opposed Mr. Trump’s recognition and 1981 annexation of the Golan Heights. Many cited a December 1981 Security Council resolution that called Israel’s annexation “null and void and without international legal effect.”**
5. **The United States calls on Russia, Syria’s close ally, to use its influence with President Bashar Assad “to compel the Syrian forces to uphold their commitment” to the cease-fire agreement “and immediately withdraw from the area of separation.**

Flashback

1. The Golan Heights is a region in the Levant, spanning about 1,800 square kilometres (690 sq mi). The region defined as the Golan Heights differs between disciplines: as a geological and biogeographical region.
2. The Golan Heights is a basaltic plateau bordered by the Yarmouk River in the south, the Sea of Galilee and Hula Valley in the west, the Anti-Lebanon with Mount Hermon in the north and Wadi Raqqad in the east; and as a geopolitical region.
3. The Golan Heights is the area captured from Syria and occupied by Israel during the Six-Day War, territory which Israel effectively annexed in 1981.
4. This region includes the western two-thirds of the geological Golan Heights and the Israeli-occupied part of Mount Hermon.

SLOVAKIA ELECTS ITS FIRST FEMALE PRESIDENT

Zuzana Caputova — a 45-year-old lawyer, activist and political newcomer — was elected on 30 March 2019 as the **nation’s first female president.** Her sweeping victory in a runoff election gave hope to opposition parties across the region that the tide may be turning

against the ethnic nationalist and populist movements that have swept to power in recent years.

What

1. She joined the tens of thousands of Slovaks who took part in street demonstrations in the weeks after the killings, the largest protests since the Velvet Revolution three decades ago helped Czechoslovakia, now the Czech Republic and Slovakia, break free from Communist rule.
2. For many who protested last year, the populism of the governing party — with its unrelenting attacks on migrants and the European Union — had become little more than cover for corruption.
3. The organizers of the movement, however, deliberately excluded opposition politicians, wary of being tied to any political party.
4. Caputova decided to join Progressive Slovakia, a new liberal party with no representation in parliament, and champion a few simple ideas: civility in public life and transparency in government.
5. In 1999, Caputova joined the fight to hold those responsible for polluting the town to account. For the next 14 years, she waged a war that she eventually won.

Flashback

1. Slovakia, officially the Slovak Republic is a landlocked country in Central Europe.
2. It is bordered by Poland to the north, Ukraine to the east, Hungary to the south, Austria to the west, and the Czech Republic to the northwest.
3. Slovakia's territory spans about 49,000 square kilometres (19,000 sq mi) and is mostly mountainous.
4. The capital and largest city is Bratislava, and the second largest city is Košice. The official language is Slovak.

ECONOMY

RBI AGAIN DEFERS IND AS

The Reserve Bank again deferred the implementation of the Indian Accounting Standards (Ind AS) by banks as the requisite legislative amendments are still under consideration. Earlier in April 2018, the central bank had postponed the implementation of the Indian Accounting Standards (Ind AS) by the banks by one year.

What

1. The legislative amendments recommended by the Reserve Bank are under consideration of the government of India. Accordingly, it has been decided to defer the implementation of Ind AS till further notice, the RBI said in a notification.
2. The RBI in February 2016 had proposed implementation of new accounting standards for banks for both standalone financial statements and consolidated financial statements with effect from April 1, 2018.

Flashback

1. Indian Accounting Standard (Ind-AS) is the Accounting standard adopted by companies in India and issued under the supervision of Accounting Standards Board (ASB) which was constituted as a body in the year 1977.
2. ASB is a committee under Institute of Chartered Accountants of India (ICAI) which consists of representatives from government department, academicians, other professional bodies viz. ICAI, representatives from ASSOCHAM, CII, FICCI, etc.
3. The Ind AS are named and numbered in the same way as the International Financial Reporting Standards (IFRS).
4. National Advisory Committee on Accounting Standards (NACAS) recommend these standards to the Ministry of Corporate Affairs (MCA).

IBBI, SEBI SIGN MOU FOR IBC

The Insolvency and Bankruptcy Board of India (IBBI) signed a Memorandum of Understanding (MoU) on 19 March 2019 with the Securities and Exchange Board of India (SEBI). The IBBI and the SEBI seek effective implementation of the Insolvency and Bankruptcy Code, 2016 (Code) and its allied rules and regulations, which have redefined the debt-equity relationship and aims to promote entrepreneurship and debt market. They have agreed under the MoU to assist and co-operate with each other for the effective implementation of the Code, subject to limitations imposed by the applicable laws.

The MoU provides for:

1. Sharing of information between the two parties, subject to the limitations imposed by the applicable laws;
2. Sharing of resources available with each other to the extent feasible and legally permissible;
3. Periodic meetings to discuss matters of mutual interest, including regulatory requirements that impact each party's responsibilities, enforcement cases, research and data analysis, information technology and data sharing, or any other matter that the parties believe would be of interest to each other in fulfilling their respective statutory obligations;
4. Cross-training of staff in order to enhance each party's understanding of the other's mission for effective utilisation of collective resources;
5. Capacity building of insolvency professionals and financial creditors;
6. Joint efforts towards enhancing the level of awareness among financial creditors about the importance and necessity of swift insolvency resolution process of various types of borrowers in distress under the provisions of the Code, etc.

REPORT ON COSMOS BANK CYBER ATTACK

A panel of experts appointed by the UN Security Council (UNSC) has stated that the cyber attacks on Pune-based Cosmos Cooperative Bank, from which hackers allegedly withdrew Rs 94 crore from ATMs in 28 countries, was **“motivated” by North Korea**. The panel was set up to study various UN sanctions breached by North Korea. Its report comes nearly seven months after the malware attack on the bank.

What

1. The panel notes a trend in the **Democratic People's Republic of Korea's evasion of** financial sanctions of using cyber attacks to illegally force the transfer of funds from financial institutions and cryptocurrency exchanges, the report said.
2. The Pune Police and the Maharashtra Cyber Cell probing the case are yet to trace the mastermind in the case. So far, 12 people have been arrested by a special investigation team of the Pune Police. Sources said the local module busted by the police could be “money mules” — people who serve as intermediaries for criminals and criminal organisations — acting on behalf of operators abroad.
3. The UNSC report would aid in the probe but most of the information it has quoted is through open sources.
4. In the past, both the Maharashtra Police and cyber experts had expressed their apprehension of the involvement of Lazarus Group, a hacker group comprising unknown people linked to North Korea.
5. In its 378-page report published earlier this month, the committee elaborated on how the Cosmos Bank systems were hacked into.

INDIA-US SIGN PACT FOR EXCHANGE OF CBC REPORTS

India and the US on 27 March 2019 signed an Inter-Governmental Agreement for exchange of Country-by-Country (CbC) reports of multinational companies regarding income allocation and taxes paid to help check cross-border tax evasion. This agreement for exchange of CbC reports, along with the Bilateral Competent Authority Arrangement, will enable both the countries to automatically exchange CbC reports filed by the ultimate parent entities of multinational enterprises (MNEs) in the respective jurisdictions, pertaining to the years commencing on or after January 1, 2016, a Finance Ministry statement said.

What

1. It would also obviate the need for Indian subsidiary companies of US multinationals to do local filing of the CbC reports, thereby reducing the compliance burden.
2. The agreement was signed by Central Board of Direct Taxes Chairman P C Mody and US' ambassador to India Kenneth Juster.
3. India has already signed the Multilateral Competent Authority Agreement (MCAA) for exchange of CbC reports, which has enabled exchange with 62 jurisdictions.
4. Filing of CbC reports by the parent entity of an MNC group to the prescribed authority in the jurisdiction in which it is a resident and exchange of such reports between countries are the minimum standards required under the Action 13 Report of OECD/G20 BEPS (Base Erosion and Profit Shifting) project.
5. A CbC report aggregates country-by-country information relating to the global allocation of income, taxes paid, and certain other indicators of an MNC. It also contains a list of all the group companies operating in a particular jurisdiction and the nature of the main business activity of each such constituent entity.
6. MNEs having global consolidated revenue of 750 million Euros or more (or a local currency equivalent) in a year are required to file CbC reports in their parent entity's jurisdiction. The Indian rupee equivalent of 750 million Euros has been prescribed as Rs 5,500 crore in Indian rules.

FIU REPORT

The 2016 demonetisation of two high-value currencies has led to an all-time high generation of over 14 lakh suspicious transaction reports (STRs), a record 1,400 per cent jump over the past, by banks and other financial institutions in the country, a latest FIU report has found. The elite financial snooping unit of the country has compiled comprehensive data of such instances, including fake currency deposits, for the year 2017-18. This is the highest-ever figure of STRs since the FIU first started the regime over a decade ago.

What

1. The FIU is the central agency under the Union finance ministry that analyses suspicious financial transactions pertaining to money laundering, terror financing and serious instances of tax frauds and crimes.
2. During the year (2017-18), reporting entities (banks and other financial institutions) continued to examine transactions during demonetisation and as a consequence over 14 lakh STRs were received by FIU-IND.
3. This increase is almost 3 times than the STRs received in the last year (2016-17) and 14 times than the STRs received prior to demonetisation.
4. **The report, submitted to the government, said there was a "remarkable" increase in the number of STRs received in 2017-18 which is more than 3-times over the previous year at 4,73,006 such reports.**

5. The demonetisation of two high-value currency notes of Rs 1000 and Rs 500 was declared by Prime Minister Narendra Modi on the night of November 8, 2016. Huge cash was deposited in banks and multiple inter-bank transactions ensued post this announcement.
6. The Financial Intelligence Unit (FIU) is the only empowered agency under the Prevention of Money Laundering Act (PMLA) that can seek these reports and banks and other financial bodies are required to furnish high-value cash transactions, **counterfeit currency deposits and STRs to it every month as part of India's combat mechanism against terrorist financing and money laundering through its shores.**
7. STRs are generated when a transaction either indicates that it has been made in circumstances of unusual or unjustified complexity or appears to have no economic rationale or bona fide purpose and also those transactions that give rise to a reasonable ground of suspicion that it may involve financing of the activities relating to terrorism.
8. The report added that comparative figures for STRs in the three previous years, prior to notes ban, stood at 61,953 reports in 2013-14, 58,646 in 2014-15 and 1,05,973 in 2015-16.
9. It said apart from the exercise of demonetisation, a major outreach initiative was adopted by the FIU asking reporting entities like banks to comply with the reporting provisions under the anti-money laundering law, and that can also be attributed for the rise in generation of record high STRs during 2017-18 apart from the notes ban.
10. The agency, as per its mandate, processes and disseminates these STRs to various law enforcement agencies in the country like the Income-Tax Department, the Enforcement Directorate, CBI, Intelligence Bureau, Directorate of Revenue Intelligence (DRI), Customs department, the National Investigation Agency and others.
11. The quantum jump in the number of STRs placed additional responsibility on FIU, which has managed the responsibility of processing STRs despite severe manpower constraints.
12. The report said out of the over 14 lakh STRs received, 82,595 were processed and 65,022 were shared with various LEAs during 2017-18 while the rest continued to be disseminated in the subsequent time period.
13. Acting on these STRs, the report said, the I-T Department detected black money to the tune of 19627.99 crore while the ED seized unaccounted assets worth Rs 984.98 crore during the same post demonetisation period.
14. The report also talked about counterfeit currency reports (CCRs) that went drastically down from 7,33,508 in 2016-17 (the year of the notes ban) to 3,53,795 in 2017-18.
15. No particular reason was attributed to this downfall even as demonetisation was cited as the reason when CCRs increased in 2016-17 from more than 4.10 lakh in 2015-16.
16. **It said private Indian banks contributed "majority" of CCRs with the FIU expressing its concern that the compliance levels of public sector banks in this domain "continue to be low" despite the matter being taken up with the RBI.**

SCIENCE AND TECHNOLOGY

NBCTF FOR LAUNCHED

The Indian Navy's Nuclear, Biological and Chemical Training Facility (NBCTF) was inaugurated at INS Shivaji in Lonavala by Chief of Naval Staff Admiral Sunil Lanba.

The NBCTF, christened "Abhedya", Sanskrit for impenetrable, will help train personnel of naval ships fitted with nuclear, biological and chemical detection and protection systems.

What

1. It will provide realistic training to naval personnel in detection, protection against and decontamination of nuclear, biological and chemical agents, the Navy said.
2. During the event, Admiral Lanba launched the INS Shivaji's website on the Indian Navy portal and also released the platinum jubilee logo, with the theme "Propelling the Indian Navy since 1945", for the premier technical training establishment.
3. INS Shivaji is celebrating its platinum jubilee year in 2019-20 and Admiral Lanba.

Flashback

1. INS Shivaji is an Indian Naval station located in Lonavala, Maharashtra, India.
2. It houses the Naval College of Engineering which trains officers of the Indian Navy and the Indian Coast Guard.
3. It was commissioned on 15 February 1945 as HMIS Shivaji. It is located close to the Bhushi Dam. It is located on 876 acres (355 hectares) of land.
4. INS Shivaji had its humble **origin as replacement for the 'Stokers' Training School'** at HMIS Dalhousie, in Naval Dockyard, Bombay (now Mumbai).
5. Commissioned by the then Governor of Bombay, Sir John Colville, as HMIS Shivaji on 15 February 1945, it became INS Shivaji on 26 January 1950.

IEA'S REPORT ON GLOBAL ENERGY

China, the US and India together accounted for nearly 70 per cent of the rise in energy demand, even as such demand worldwide grew by 2.3 per cent last year, at its fastest pace this decade, the International Energy Agency (IEA) said on 26 March 2019. This exceptional rise in energy demand was driven by a robust global economy and stronger heating and cooling needs in some regions, according to the IEA report. "The Global Energy & CO2 Status Report" also said that China remains the global leader in renewables -- both for wind and solar.

What

1. Natural gas emerged as the fuel of choice, posting the biggest gains and accounting for 45 per cent of the rise in energy consumption. Gas demand growth was especially strong in the US and China.
2. These findings are part of the IEA's latest assessment of global energy consumption and energy-related carbon dioxide (CO2) emissions for 2018.
3. The report provides a high-level and up-to-date view of energy markets, including latest available data for oil, natural gas, coal, wind, solar, nuclear power, electricity and energy efficiency.
4. Demand for all fuels increased, with fossil fuels meeting nearly 70 per cent of the growth for the second year running.
5. Solar and wind generation grew at double-digit pace, with solar alone increasing by 31 per cent. Still, that was not fast enough to meet higher electricity demand around the world that also drove up coal use.

6. As a result, global energy-related carbon dioxide emissions rose by 1.7 per cent to 33 gigatonnes (Gt) in 2018.
7. Coal use in power generation alone surpassed 10 Gt, accounting for a third of the total increase. Most of that came from a young fleet of coal power plants in developing Asia.
8. The majority of coal-fired generation capacity today is found in Asia, with 12-year-old plants on average, decades short of average lifetimes of around 50 years.
9. Electricity continues to position itself as a fuel of the future, with global electricity demand growing by four per cent in 2018 to more than 23,000 terawatt hours.
10. This rapid growth is pushing electricity towards a 20 per cent share in total final consumption of energy. Increasing power generation was responsible for half of the growth in primary energy demand.
11. Renewables were a major contributor to this power generation expansion, accounting for nearly half of electricity demand growth. China remains the leader in renewables, both for wind and solar, followed by Europe and the US.
12. Energy intensity improved by 1.3 per cent last year, just half the rate of the period between 2014 and 2016. This third consecutive year of slowdown was the result of weaker energy efficiency policy implementation and strong demand growth in more energy intensive economies, the report said.
13. Almost a fifth of the increase in global energy demand came from higher demand for heating and cooling as average winter and summer temperatures in some regions approached or exceeded historical records.
14. Cold snaps drove demand for heating and, more significantly, hotter summer temperatures pushed up demand for cooling.
15. The US saw the largest increase in oil and gas demand worldwide. Its gas consumption jumped 10 per cent from the previous year, the fastest increase since the beginning of IEA records in 1971.
16. Global gas demand expanded at its fastest rate since 2010, with year-on-year growth of 4.6 per cent, the second consecutive year of strong growth, driven by higher demand and substitution from coal.

IWDRI 2019 CONCLUDES

The two-day International Workshop on Disaster Resilient Infrastructure (IWDRI) successfully concluded in Delhi on 20 March 2019. Experts from 33 countries representing a wide variety of development and disaster risk contexts, multilateral development banks, the United Nations, the private sector, academia, policy think tanks and other stakeholders participated in the workshop. In his special address, the Chairman of the 15th Finance Commission of India, Shri N. K. Singh called for collective action on resilient infrastructure so that people-centric solutions are found.

What

1. The Workshop identified good practices of disaster risk management in key infrastructure sectors such as Transport, Energy, Telecom and Water.
2. It also discussed emerging technologies and nature-based innovation in the context of climate change and its impact on creation, operation and maintenance of infrastructure. The need and practical issues concerning finance and insurance for infrastructure were also discussed during the workshop. It set the stage for taking the dialogue on the proposed Coalition for DRI (CDRI) forward at the global level.

3. The CDRI is envisaged as a knowledge exchange and capacity development partnership. India had announced the creation of a CDRI soon after the Asian Ministerial Conference on Disaster Risk Reduction, which was held in New Delhi in 2016.
4. The Second IWDRR was organised by the National Disaster Management Authority (NDMA) jointly with United Nations Office for Disaster Risk Reduction (UNISDR), and in partnership with the Global Commission on Adaptation, United Nations Development Programme and the World Bank.
5. Various international agreements have also reiterated the importance and long-term benefits of investing in resilient infrastructure.
6. The Sendai Framework for Disaster Risk Reduction (SFDRR), 2015-2030, which is the first major agreement of the post-2015 development agenda, identifies investing in Disaster Risk Reduction (DRR) for resilience and to build back better in reconstruction as priorities for action towards reducing disaster risk.
7. Similarly, Goal 9 of the Sustainable Development Goals (SDGs) recognizes disaster resilient infrastructure as a crucial driver of economic growth and development.

PULSAR SPEEDING THROUGH SPACE

NASA has discovered a pulsar hurtling through space at nearly four million kilometres an hour — so fast that it could travel the distance between Earth and the Moon in just six minutes. Pulsars are superdense, rapidly spinning neutron stars left behind when a massive star explodes. This one, dubbed PSR J0002+6216 (J0002 for short), sports a radio-emitting tail pointing directly toward the expanding debris of a recent supernova explosion. Thanks to its narrow dart-like tail and a fortuitous viewing angle, we can trace this pulsar straight back to its birthplace, said Frank Schinzel, a scientist at the National Radio Astronomy Observatory (NRAO) in the US. Further study of this object will **help us better understand how these explosions are able to ‘kick’ neutron stars to such high speed.**

What

1. Pulsar J0002 was discovered in 2017 by a citizen-science project called Einstein@Home, which uses time on the computers of volunteers to process Fermi gamma-ray data.
2. Thanks to computer processing time collectively exceeding 10,000 years, the project has identified 23 gamma-ray pulsars to date, NASA said.
3. Located about 6,500 light-years away in the constellation Cassiopeia, J0002 spins 8.7 times a second, producing a pulse of gamma rays with each rotation.
4. The pulsar lies about 53 light-years from the centre of a supernova remnant called CTB 1. Its rapid motion through interstellar gas results in shock waves that produce the tail of magnetic energy and accelerated particles detected at radio wavelengths using the VLA.
5. The tail extends 13 light-years and clearly points back to the centre of CTB 1. The team was able to measure how quickly and in what direction the pulsar is moving across our line of sight.
6. The result supports the idea that the pulsar was kicked into high speed by the supernova responsible for CTB 1, which occurred about 10,000 years ago.
7. J0002 is speeding through space five times faster than the average pulsar, and faster than 99 per cent of those with measured speeds. It will eventually escape our galaxy.
8. At first, the supernova’s **expanding debris would have moved outward faster than J0002, but over thousands of years the shell’s interaction with interstellar gas produced a drag that gradually slowed this motion.**

9. Meanwhile, the pulsar, behaving more like a cannonball, steadily raced through the remnant, escaping it about 5,000 years after the explosion.
10. Exactly how the pulsar was accelerated to such high speed during the supernova explosion remains unclear, and further study of J0002 will help shed light on the process.
11. One possible mechanism involves instabilities in the collapsing star forming a region of dense, slow-moving matter that survives long enough to serve as a “gravitational tugboat,” accelerating the nascent neutron star toward it.

MOU ON ANTARCTIC COOPERATION APPRISED

The Union Cabinet, chaired by the Prime Minister Shri Narendra Modi, was apprised about an MoU signed in February, 2019 between India and Argentine on Antarctic cooperation. The MoU will help scientific cooperation on projects in the fields of Earth sciences, as well as those related to the protection and conservation of the natural environment of Antarctica and the Southern Oceans.

Salient Features

1. Scientific co-operation on projects in the fields of -inter alia- Earth sciences and life sciences, as well as those related to the protection and conservation of the natural environment of Antarctica and the Southern Oceans;
2. The exchange of scientific and bibliographical information related to the study of Antarctica, its environment and dependent and associated ecosystems;
3. Exploring opportunities for exchanges of scientists;
4. Participation of scientists and technical experts of the national Antarctic programme of one country in the national Antarctic programme of the other, if so required;
5. Joint scientific conferences and workshops; hold bilateral meetings on the sidelines of major polar forum meetings, where feasible.
6. Joint scientific publications;
7. Training of scientific personnel;

AI DISCOVERS TWO PLANETS

Scientists have used artificial intelligence (AI) to uncover two more hidden planets in the data collected by the Kepler space telescope. The technique shows promise for identifying many additional planets that traditional methods could not catch. Researchers from The University of Texas at Austin in the US created an algorithm that sifts through the data taken by Kepler to ferret out signals that were missed by traditional planet-hunting methods. The process, described in the The Astronomical Journal, should help astronomers find many more missed planets hiding in Kepler data. K2 data is more challenging to work with because the spacecraft is moving around all the time.

What

1. This change came about after a mechanical failure. While mission planners found a workaround, the spacecraft was left with a wobble that AI had to take into account.
2. The Kepler and K2 missions have already discovered thousands of planets around other stars, with an equal number of candidates awaiting confirmation. The two planets are both very typical of planets found in K2.
3. **They're really close in to their host star, they have short orbital periods, and they're hot.** They are slightly larger than Earth.
4. Of the two planets, one is called K2-293b and orbits a star 1,300 light-years away in the constellation Aquarius. The other, K2-294b, orbits a star 1,230 light-years away, also located in Aquarius.

5. Once the team used their algorithm to find these planets, they followed up by studying the host stars using ground based telescopes to confirm that the planets are real.
6. These observations were done with the 1.5-metre telescope at the Smithsonian Institution's Whipple Observatory in Arizona and the Gillett Telescope at Gemini Observatory in Hawaii.
7. The future of the AI concept for finding planets hidden in data sets looks bright. The current algorithm can be used to probe the entire K2 data set, Dattilo said — approximately 300,000 stars.
8. **The method could also be applied to Kepler's successor planet-hunting mission, TESS, which launched in April 2018. Kepler's mission ended later that year.**

Flashback

1. Kepler space telescope is a retired space telescope launched by NASA to discover Earth-size planets orbiting other stars.
2. Named after astronomer Johannes Kepler, the spacecraft was launched on March 7, 2009, into an Earth-trailing heliocentric orbit.
3. The principal investigator was William J. Borucki. After nine years of operation, the telescope's reaction control system fuel was depleted, and NASA announced its retirement on October 30, 2018.

HUMANS CAN SENSE MAGNETO-RECEPTION

Scientists have long known that turtles, birds, honeybees and even bacteria can **sense the earth's magnetic field** and use them for navigation. But this magneto-reception has hardly been tested in humans and many studies have been inconclusive. Now a team of researchers from California Institute of Technology, U.S. and the University of Tokyo has shown that humans do indeed unconsciously respond to the changes in the **earth's** magnetic fields. But they are yet to decode what our brains may be using this information for. How did they find this?

What

1. They selected 34 volunteers, who sat with their eyes closed in a dark room. The room was wrapped with electrical coils, which helped **simulate the earth's** natural magnetic field.
2. The participants were connected to an EEG set-up and their brain activity was monitored. In the one-hour session, for a few minutes, the magnetic field around the chamber was shifted. They noticed that during this period, the alpha power of the brain began to drop.
3. When a human brain is unengaged, the alpha power is high. When something catches its attention, consciously or unconsciously, its alpha power drops.

What is the Magnetotactic Bacteria

1. Magnetotactic bacteria are a class of bacteria known to use magnetic fields for orientation. These bacteria demonstrate a behavioral phenomenon known as magnetotaxis which is how the bacterium orients itself and migrates in the direction along the Earth's magnetic field lines.
2. The bacteria contain magnetosomes, which are nanometer-sized particles of magnetite or iron sulfide enclosed within the bacterial cells.
3. The magnetosomes are surrounded by a membrane composed of phospholipids and fatty acids and contain at least 20 different proteins.
4. Magnetosomes form in chains where the magnetic moments of each magnetosome align in parallel, causing each bacterium cell to essentially act as a magnetic dipole, giving the bacteria their permanent-magnet characteristics.

4. **The most interesting find was that the participants' brain responded only to changes when the magnetic field pointed toward the floor.**
5. This may be due to the fact that the study participants were people who live in the Northern Hemisphere.
6. In this region, the natural geomagnetic field points downwards to the North. There are many studies needed.
7. First and most important is independent replication. Second, the drop in alpha-wave power is only one expression of the brain's receiving magnetic information.
8. There may be many more magnetic fluctuations that trigger brain response, including variations in the total strength of the field.

MISCELLANEOUS

GOA CHIEF MINISTER PASSES AWAY

Goa Chief Minister and former Defence Minister Manohar Parrikar (63) passed away on 16 March 2019 after a prolonged battle with pancreatic cancer. Parrikar had been ailing for the last one year and has undergone treatment in the US as well as at AIIMS, Delhi, and a private hospital in Mumbai. A condolence meeting for him will be held in the Union Cabinet at 11 am on 18 March 2019. He was shifted to AIIMS in New Delhi on September 15 last year and returned to Goa on October 14. Since then, he had been recuperating at his private residence at Dona Paula.

What

1. He was last seen in public at Atal Booth Karyakarta Sammelan earlier in February when BJP chief Amit Shah came to address the party. Since early this year, he had limited his public interactions and only travelled along with the medical staff of Goa Medical College.
2. Parrikar attended the Budget session of Goa Assembly on January 29 and presented the state budget the next day. On the last day of the session on January 31, he was taken for treatment to AIIMS in Delhi and he returned to Goa on February 5.
3. Born on December 13, 1955, **in Goa's Mapusa, Parrikar completed his schooling from Loyola High School and graduated from IIT-Bombay in metallurgical engineering in 1978.** After getting married to Medha Parrikar, the couple was blessed with two sons. However, in 2000, his wife died of cancer.
4. Parrikar resigned as Defence Minister in 2017 for his third stint as Goa CM after BJP, which failed to cross the half-way mark in the Goa assembly polls, enlisted the support of the Goa Forward Party (GFP), Maharashtra Gomantak Party (MGP) and two Independents, to reach the magic figure of 21 in the 40-member house.

FIRST EVER WOMAN BAGS ABEL PRIZE

The Abel Prize in mathematics was on 19 March 2019 awarded to Karen Uhlenbeck of the U.S. for her work on partial differential equations, the first woman to win the award, the Norwegian Academy of Science and Letters said. Karen Uhlenbeck receives the Abel Prize 2019 for her fundamental work in geometric analysis and gauge theory, which has dramatically changed the mathematical landscape.

What

1. Her theories have revolutionised our understanding of minimal surfaces, such as those formed by soap bubbles and more general minimisation problems in higher dimensions.
2. Dr. Uhlenbeck, 76, is a visiting senior research scholar at Princeton University, as well as visiting associate at the Institute for Advanced Study (IAS), both in the U.S.

3. **The Cleveland native “developed tools and methods in global analysis, which are now in the toolbox of every geometer and analyst.** She is also a role model and a strong advocate for gender equality in science and mathematics. The prize comes with a cheque for \$7, 03,000.
4. The prize is named after the 19th century Norwegian mathematician Niels Henrik Abel.
5. Along with the Fields Medal, which is awarded every four years at the Congress of the International Mathematical Union (IMU), it is one of the world's most prestigious maths prizes.

INDIA IN SPECIAL OLYMPICS GAMES

India returned with 368 medals, including 85 gold, at the Special Olympics World Summer Games which was held at Abu Dhabi, UAE from March 14 to 21. The Indian team of 284 athletes also clinched 154 silver and 129 bronze medals in its highly successful campaign at the prestigious event.

What

1. Indian powerlifters bagged the maximum number of medals — 20 gold, 33 silver and 43 bronze. Roller Skating earned India 49 medals — 13 gold, 20 silver and 16 bronze.
2. In cycling, the Indians won 11 gold, 14 silver and 20 bronze to total 45 medals, while **the country's track and field athletes returned with 39 medals** — 5 gold, 24 silver and 10 bronze.

NEW PACKAGE TO IMPROVE TREATMENT OF TB

The theme of this **year's World TB Day**, which falls on March 24, is **It's time to end TB**. The World Health Organisation (WHO) has issued new guidance to improve treatment of multidrug-resistant TB (MDR-TB) and recommended shifting to fully oral regimens to treat people with MDR-TB. On 22 March 2019, key partners will come together at a World TB Day symposium at WHO in Geneva to develop a collaborative multi-stakeholder and multi-sectoral platform to accelerate actions to end TB. WHO will present the new package at the meeting.

What

1. This new treatment course is more effective and is less likely to provoke adverse side effects, according to a statement issued by WHO.
2. The organisation recommends backing up treatment with active monitoring of drug safety, and providing counselling support to help patients complete their course of treatment.
3. The recommendations are part of a larger package of actions that has been designed to help countries increase the pace of progress to end tuberculosis.
4. **The theme of this year's World TB Day is: It's time to end TB, said**

What is Multi Drug Resistant TB?

1. Multi Drug Resistant TB is often abbreviated to MDR-TB. MDR TB is a particular type of drug resistant TB.
2. It means that the TB bacteria that a person is infected with are resistant to two of the most important TB drugs, isoniazid (INH) and rifampicin (RMP).
3. If bacteria are resistant to certain TB **drugs this means that the drugs don't work.** Other drugs then need to be taken by the person if they are to be cured of TB.

WHO Director-General Dr Tedros Adhanom Ghebreyesus. We are highlighting the urgent need to translate commitments made at the 2018 UN High-Level Meeting on TB into actions that ensure everyone who needs TB care can get it.

5. Since 2000, 54 million lives have been saved, and TB deaths have fallen by one-third. But 10 million people still fall ill with TB each year, with too many missing out on vital care. The WHO package is designed to help countries close gaps in healthcare and ensuring that no one is left behind.

Key elements include

1. An accountability framework to coordinate actions across sectors and to monitor and review progress
2. A dashboard to help countries know more about their own epidemics through real-time monitoring by moving to electronic TB surveillance systems
3. A guide for effective prioritisation of planning and implementation of impactful TB interventions based on analyses of patient pathways in accessing care
4. New WHO guidelines on infection control and preventive treatment for latent TB infection.

TEJAS TO TAKE PART IN MALAYSIA'S LIMA

India's indigenous supersonic fighter jet Tejas will for the first time participate in aerial displays during the five-day Langkawi International Maritime and Aerospace Exhibition (LIMA) in Malaysia. India has been projecting the Tejas aircraft in a big way as it has been manufactured indigenously at the Hindustan Aeronautics Limited (HAL) and designed by the Aeronautical Development Agency (ADA) for the Indian Air Force and the Indian Navy.

What

1. The Indian Air Force will participate in the Maritime Aero Expo for the first time, during which it will showcase its indigenously-developed light combat aircraft Tejas.
2. **The IAFs' team departed** from Air Force Station Kalaikunda for Langkawi on March 22 via Myanmar, Yangon. **"India's indigenous supersonic Light Combat Aircraft(LCA)-Tejas & the world's lightest supersonic fighter** which has already joined IAF, is for the 1st time taking part in aerial displays during 05 day Langkawi International Maritime & Aerospace Exhibition.
3. The Langkawi International Maritime Aero Expo (LIMA-2019) is planned in Langkawi, Malaysia from March 26 to March 30, which will provide an opportunity to the IAF air-warriors to interact with their Royal Malaysian Air Force (RMAF) counterparts and foster close relationship between the two services.
4. This will serve as a foundation for any future interaction with the Malaysian Air Force. It will also provide an opportunity to RMAF to assess the capabilities of LCA.

Flashback

1. The Langkawi International Maritime & Aerospace Exhibition (LIMA) is the largest show of its kind within the Asia Pacific region.
2. Its impressive list of international exhibitors and suppliers is more than matched by the supportive presence of industry elites, which range from senior Government officials, and military and civil delegates, to industry movers and shakers and more.
3. Held biennially since its debut in 1991, LIMA is an ideal platform where industry stakeholders could engage and expand their networks towards forging new partnerships and business agreements.
4. Its insightful round tables and conferences, as well as business forums offer access to invaluable information that enables businesses to stay ahead of the competition and seize new opportunities in the dynamic market of Asia Pacific.

INDIA IMPROVES ITS EASE OF TRAVEL RANKING

India improved its rating in ease of travel by one place ranking at 80th in the Henley Passport Index for 2019. It was ranked 81st last year and 88th in 2015 when the electronic visa or e-visa was introduced for the first time. An Indian passport holder can travel visa-free to 60 destinations. The country though still ranks far below its Asian counterparts. Indicating the growing influence of Asian countries, Japan, Singapore, and South Korea now hold joint top spot on the Henley Passport Index, with a visa-free/visa-on-arrival score of 189. Japan first climbed to the top spot in February last year.

What

1. Germany ranks in second place with a score of 188. Five countries now share third place on the index – which is based on data from the International Air Transport Association (IATA) – with a score of 187: Denmark, Finland, France, Italy, and Sweden.
2. The UK and the US look increasingly unlikely to regain the top spot they jointly held in 2015, with the UK now in fifth place with a visa-free/visa on arrival score of 185, and the US in 6th, with a score of 184.
3. Afghanistan and Iraq remain at the bottom of the ranking with a score of just 30, a position one or both countries **have occupied throughout the index's 14-year history**. China is in the 67th spot, having moved up 12 places since 2009.
4. The current strength of Asian passports is emblematic of this progressive shift, and it seems certain that more and more countries will follow suit in order to benefit from global flows of talent and capital.

BREAKDANCING INCLUDE 2024 PARIS OLYMPICS

Breakdancing was among four sports given a provisional green light for inclusion in the Paris 2024 Games by the International Olympic Committee on 27 March 2019, IOC President Thomas Bach said. The Paris 2024 organising committee in February proposed surfing, skateboarding and sport climbing as well as breakdancing for inclusion in the Games. Surfing, climbing and skateboarding will be part of the Tokyo 2020 Olympics and their performance as new sports there will be key for their final inclusion in Paris.

What

1. There will be a meeting in November 2020 and a board meeting in December where the final decision should be taken. In the meantime there is a monitoring programme to see how they perform, to look at governance, integrity of competitions, refereeing and judging system.
2. The Paris Games organisers have said they want to deliver **a programme that will be “in keeping with the times and inspire new audiences and attract young people ... and which can be played anywhere and anytime in urban and other environments.”**
3. Under new IOC rules first introduced for the Tokyo Games, Olympic host cities can hand-pick sports and

Flashback

1. The International Olympic Committee (IOC) is a non-governmental sports organisation based in Lausanne, Switzerland.
2. Created by Pierre de Coubertin and Demetrios Vikelas in 1894, it is the authority responsible for organising the modern summer and Winter Olympic Games.
3. The IOC is the governing body of the National Olympic Committees (NOCs), which are the national constituents of the worldwide Olympic Movement.
4. As of 2016, there are 206 NOCs officially recognised by the IOC. The current president of the IOC is Thomas Bach of Germany, who succeeded Jacques Rogge of Belgium in September 2013.

propose them for inclusion in those Games if they are popular in that country and add to the Games' appeal.

4. **The IOC is eager to refresh the Games' sports programme** to remain relevant to sponsors, broadcasters and fans.
5. Japanese Olympic Committee President Tsunekazu Takeda looks on while addressing the media after a JOC board of directors meeting in Tokyo, Japan
6. The International Olympic Committee (IOC) is looking to appoint a new member for Japan soon following the departure of Japan Olympic Committee (JOC) chief Tsunekazu Takeda from the global ruling body, IOC President Thomas Bach said.

INDIA SLIPS AGAIN IN AZLAN SHAH CUP TITLE

IPOH (Malaysia): South Korea stunned India 4-2 in the penalty shootout to lift the Sultan Azlan Shah Cup hockey title after the five-time champions conceded an equaliser in the final quarter to end at 1-1 after regulation time in the summit clash in Ipoh (Malaysia). Going into the title clash, world No. 5 India were clear favourites to lift their sixth Azlan Shah title against the 17th-ranked Koreans.

What

1. For India, Mandeep Singh, Sumit Kumar Junior and Sumit missed from the one-on-one shootout situation, while experienced Birendra Lakra and Varun Kumar converted their chances.
2. Defending the goal in the shootout for India was young Kishan B Pathak in place of the experienced PR Sreejesh. Jii Woo Cheon, Lee Jungjun, Jung Manjae and Lee Namyong scored for Korea.
3. Hosts Malaysia finished third after beating Canada 4-2 in the third-fourth place classification match.
4. The Sultan Azlan Shah Cup is an annual international men's field hockey tournament held in Malaysia.
5. It began in 1983 as a biennial contest. The tournament became an annual event after 1998, following its growth and popularity.
6. The tournament is named after the ninth Yang di-Pertuan Agong (King) of Malaysia, Sultan Azlan Shah, an avid fan of field hockey.

NASA'S MARS HELICOPTER COMPLETES FLIGHT TESTS

NASA's Mars Helicopter, designed to fly in thin atmosphere and low gravity, has successfully completed flight tests and is prepared for its journey to the Red Planet scheduled to take off in 2020, the US space agency said. Weighing in at no more than 1.8 kilograms, the helicopter is a technology demonstration project currently going through the rigorous verification process certifying it for Mars. The majority of the testing the flight model is going through had to do with demonstrating how it can operate on Mars, including how it performs at Mars-like temperatures.

What

1. The helicopter has to function in extremely cold temperatures, including nights with temperatures as low as minus 90 degrees Celsius.
2. The helicopter is scheduled to reach the surface of the Red Planet in February 2021, when the firmly nestled under the belly of the Mars 2020 rover.
3. A few months later, it will be deployed and test flights will begin — the first from the surface of another world. Gearing up for that first flight on Mars, we have logged over 75 minutes of flying time with an engineering model, which was a close approximation

- of our helicopter, said MiMi Aung, project manager for the Mars Helicopter at NASA's Jet Propulsion Laboratory in the US.
4. While flying helicopters is commonplace here on Earth, flying hundreds of millions of kilometres away in the thin Martian atmosphere is something else entirely.
 5. Creating the right conditions for testing here on Earth presents its own set of challenges. The Martian atmosphere is only about one per cent the density of **Earth's**. The test flights could have similar atmospheric density here on Earth — if you put your airfield 30,480 meters up.
 6. The team created a vacuum that sucks out all the nitrogen, oxygen and other gases from the air inside the mammoth cylinder. In their place, the team injected carbon dioxide, **the chief ingredient of Mars' atmosphere**.
 7. The team accomplished this with a gravity offload system — a motorised lanyard attached to the top of the helicopter to provide an uninterrupted tug equivalent to **two-thirds of Earth's gravity**.
 8. **The Mars Helicopter's first flight was followed up by a second in the vacuum chamber** the following day. Logging a total of one minute of flight time at an altitude of five centimetres, more than 1,500 individual pieces of carbon fibre, flight-grade aluminium, silicon, copper, foil and foam have proven that they can work together as a cohesive unit. The Mars Helicopter will launch as a technology demonstrator with the Mars 2020 rover on a United Launch Alliance Atlas V rocket in July 2020 from Space Launch Complex 41 at Cape Canaveral Air Force Station, Florida. It is expected to reach Mars in February 2021.