

# My Notes....

## NATIONAL

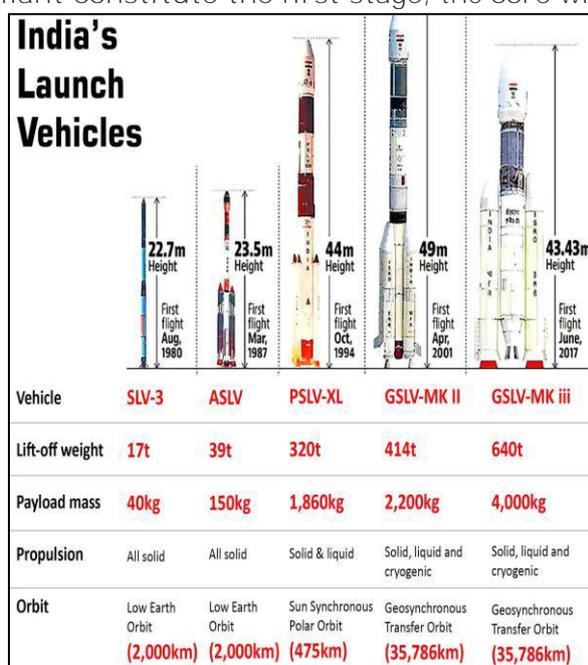
### GSAT-29 SUCCESSFULLY LAUNCHED

**India's GSAT-29** communication satellite was successfully launched by the second developmental flight of Geosynchronous Satellite Launch Vehicle MarkIII (GSLV MkIII-D2) on 14 November 2018 from the Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota. GSLV MkIII-D2 lifted off from the Second Launch Pad of SDSC SHAR at 17:08 hours (IST), carrying the 3423-kg GSAT-29 satellite. About 17 minutes later, the vehicle injected the satellite into the Geosynchronous Transfer Orbit (GTO) as planned. After injection, **ISRO's Master Control Facility at Hassan has assumed the control of the satellite.**

What

1. GSLV Mk III is a three-stage heavy lift launch vehicle developed by the Indian Space Research Organisation (ISRO).
2. Two massive boosters with solid propellant constitute the first stage, the core with liquid propellant form the second stage and the cryogenic engine completes the final stage.
3. GSAT-29 is a multiband, multi-beam communication satellite, intended to serve as test bed for several new and critical technologies.
4. Its Ku-band and Ka-band payloads are configured to cater to the communication requirements of users including those from remote areas especially from Jammu & Kashmir and North-Eastern regions of India.
5. In addition, the Q/V-Band communication payload onboard is intended to demonstrate the future high throughput satellite system technologies.
6. Geo High Resolution Camera will carry out high resolution imaging. Optical Communication Payload will demonstrate data transmission at a very high rate through optical communication link.
7. The success of GSLV MkIII-D2 marks an important milestone in Indian space programme towards achieving self-reliance in launching heavier satellites. The success of this flight also signifies the completion of the experimental phase of GSLV Mark III.
8. The first successful mission of GSLV Mark III was an experimental suborbital flight in 2014. Subsequently, GSLV Mark III-D1 launched GSAT-19, a high throughput communication satellite, with a lift-off mass of 3150 kg, into GTO on June 5, 2017.

**India's Launch Vehicles**



Vehicle	SLV-3	ASLV	PSLV-XL	GSLV-MK II	GSLV-MK III
Height	22.7m	23.5m	44m	49m	43.43m
First Flight	Aug, 1980	Mar, 1987	Oct, 1994	Apr, 2001	June, 2017
Lift-off weight	17t	39t	320t	414t	640t
Payload mass	40kg	150kg	1,860kg	2,200kg	4,000kg
Propulsion	All solid	All solid	Solid & liquid	Solid, liquid and cryogenic	Solid, liquid and cryogenic
Orbit	Low Earth Orbit (2,000km)	Low Earth Orbit (2,000km)	Sun Synchronous Polar Orbit (475km)	Geosynchronous Transfer Orbit (35,786km)	Geosynchronous Transfer Orbit (35,786km)

GSAT-29

1. The rocket launched on 14 November 2018 carries a GSAT-29 which a multibeam, multiband communication satellite is weighing 3423 kgs.
2. The spacecraft will be located at 55 degrees east longitude and designed for a mission life of 10 years.
3. GSAT-29 carries Ka/Ku-band high throughput communication transponders intended to meet the communication requirements of users including those in remote areas.

4. In addition, several new technologies such as Q/V-band payload, data transmission through optical communication link will be demonstrated. This will help in realising future advanced satellites.
5. This is the 33rd communication satellite built by Isro.

#### Salient Features of GSAT-29

1. High Throughput Communication Satellite
2. Connectivity to Remote Areas
3. Q/V-Band Payload
4. High Resolution Imaging from GEO
5. Optical Communication Technology

### HIMALAYAN STATE REGIONAL COUNCIL CONSTITUTED

**NITI Aayog has constituted the 'Himalayan State Regional Council'** to ensure sustainable development of the Indian Himalayan region. The Council has been constituted to review and implement identified action points based on the Reports of five Working Groups, which were established along thematic areas to prepare a roadmap for action. Recognizing the uniqueness of the Himalayas and the challenges for sustainable development, Five Working Groups were constituted by NITI Aayog on June 2, 2017.

#### What

1. The five thematic reports were released by the NITI Aayog in August, 2018 and framed the action points for the Terms of Reference of the Council constituted.
2. The Himalayan State Regional Council will be chaired by the Dr VK Saraswat, Member, NITI Aayog and will consist of the Chief Secretaries of the Himalayan States as well as the Secretaries of key Central Ministries, senior officers of NITI Aayog as well as special invitees.
3. The Himalayan States Regional Council will be the nodal agency for the Sustainable development in the Himalayan Region which consists of the twelve States namely Jammu & Kashmir, Uttarakhand, Himachal Pradesh, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, two districts of Assam namely Dima Hasao and Karbi Anglong and Darjeeling and Kalimpong in West Bengal.
4. The terms of reference of the Council states that it shall monitor the implementation of action points for Central Ministries, Institutions and 12 Himalayan State Governments in Indian Himalayan Region which include river basin development and regional cooperation, spring mapping and revival across Himalayas in phased manner for water security; develop, implement and monitor tourism sector standards as well as bring policy coherence, strengthen skill & entrepreneurship with focus on identified priority sectors, among other action points.

Action across five thematic areas namely,

1. Inventory and Revival of Springs in Himalayas for Water Security,
2. Sustainable Tourism in Indian Himalayan Region,
3. Shifting Cultivation: Towards Transformation Approach,
4. Strengthening Skill & Entrepreneurship (E&S) Landscape in Himalayas, and
5. Data/Information for Informed Decision Making.

### INDIA ELECTED AS A MEMBER OF ITU

India has been elected as a Member of the International Telecommunications Union (ITU) Council for another 4-year term (2019-2022). The elections to the Council were held during the ongoing ITU Plenipotentiary Conference 2018 at Dubai, UAE. By securing 165 votes, India ranked third among the 13 countries elected to the Council from the Asia-Australasia region, and eighth among the 48 countries elected to the Council globally. The ITU has 193 member states that elect representatives to the Council.

What:

1. India has been an active member of the ITU since 1869, earnestly supporting the development and propagation of telecom in the global community of nations.
2. The country has been a regular member of the ITU Council since 1952, and has played an important role in harmonizing the contributions of member States from the region, always respecting the principles of equality and consensus-building.

 <b>ITU: An overview of activities</b>			
<i>Technology</i>	<i>Policy &amp; Regulation</i>	<i>Economics &amp; Finance</i>	<i>ICT applications measurements</i>
Equipment, Services & Network Standards	Regulatory Forums & Toolkits	Cost, Tariffs Accounting (Calculations, Principles, Software)	e-Governance support
CyberSecurity SPAM	Publishing Studies & Best Practices	Publishing Studies & Best Practices	E-health & Telemedicine
Radiocommunication / Wireless Standards	Participation in Internet Governance Forum	Database on financing sources	Disaster Communication
Infrastructure support e.g. MCTs, Disaster Communication	Providing direct assistance to Policy makers and Regulators	Studies on financing infrastructures and lowering the cost of access	ICT / Digital Divide success stories
			ICT Indicators
			Digital Opportunity Index

3. India shares the dream and vision of ITU to realize the world as one nation and knowledge society, the strong partnership with the ITU is also demonstrated in the recent ITU decision to set up the ITU South Asia Area Office and Technology Innovation Centre in New Delhi.

### LADAKH RESTORATION PROJECT WINS UNESCO AWARD

The restoration of an aristocratic house project from partial ruin state in Ladakh undertaken by LAMO (Ladakh Arts and Media Organisation) Center has won 2018 UNESCO Asia-Pacific award for Cultural Heritage conservation in Award of Distinction category. LAMO is public charitable trust established to articulate an alternative vision for the arts and media in Ladakh.

What

1. The restored structure is strategically located at the foot of Leh palace, contributes to continuity of historic townscape of 17th century.
2. Its recovery establishes precedent for conserving non-monumental urban fabric of Leh Old Town.
3. Under restoration project, LAMO had used salvaged and local building materials and indigenous construction techniques and skillfully introduced modern amenities to assure its ongoing use.

Other Category

1. Award of Excellence: It was awarded to restoration project of early 20th-century Shijo-cho Ofune-hoko Float Machiya in Japan.
2. Award of Distinction: LAMO Center, Ladakh, India
3. Award of Merit: 5 Martin Place, Sydney (Australia); Aijing Zhuang, Fujian (China); Commercial Bank of Honjo Warehouse, Saitama (Japan).
4. Honourable Mention: Hengdaohezi Town, Heilongjiang (China), Rajabai Clock Tower & University of Mumbai Library Building, Mumbai (India), Ruttonsee Muljee Jetha Fountain, Mumbai (India).
5. New Design in Heritage Contexts: Kaomai Estate 1955, Chiang Mai (Thailand) and Harts Mill, Port Adelaide, (Australia).

#### About the Award

1. It was established in 2000.
2. It recognizes efforts of private individuals and organizations that have successfully conserved structures and buildings of heritage value in the region.
3. It aims to encourage other property owners to undertake conservation projects within their communities, either independently or by seeking PPP (public-private partnerships).

## INDIA'S N-TRIAD

With nuclear-capable submarine INS Arihant successfully completing its deterrence patrol, India on 5 November 2018 completed its nuclear triad as it achieved nuclear strike capabilities in air, land and sea.

What:

1. The 6,000 tonne Arihant was built under the Advanced Technology Vessel (ATV) project at the Ship Building Centre at Visakhapatnam.
2. Launched on July 26, 2009 by then Prime Minister Manmohan Singh, the submarine was commissioned in August 2016 after a series of extensive sea trials.
3. The name Arihant means "annihilator of enemies".
4. **INS Arihant has undergone a host of surface and "dived" sorties during its trials to prove its sea-worthiness.**

5. INS Arihant is the first of three such SSBNs constructed under the secretive ATV (advanced technology vessel) programme launched decades ago. The construction of the second one, INS Aridhaman, is also almost complete now, with its delivery slated for 2018.

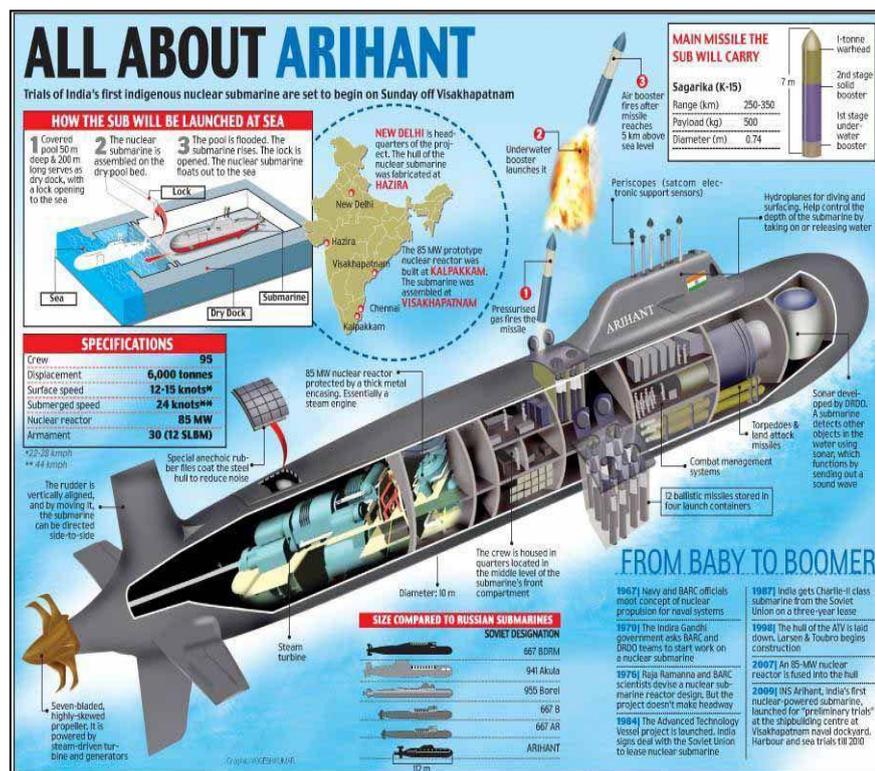
6. The US, with 70+ nuclear submarines, leads the race with Russia at the second spot with approximately 30 nuclear submarines. At the third spot are the European powers, France and the UK, with 10 to 12 nuclear submarines each.

7. Though the missiles on INS Arihant, with a range of 750km and 3,500km, pale in comparison to missiles on Chinese, the US and Russian submarines, which have ranges of well over 5,000 km, yet the nuclear-triad has been a critical addition to India's arsenal.

8. The hunt for a nuclear submarine in India began in the 1970s. However, the actual construction of 3 SSBNs began in the 1990s under secret Advanced Technology Vessel (ATV) project.

9. First 6,000-tonne ATV, named INS Arihant, launched into the water at ship-building centre in Visakhapatnam in 2009.

10. On August 10, 2013, Arihant's 83 MW nuclear reactors got "critical".



## GUIDELINE FOR OPERATION GREENS

Ministry of Food Processing Industries (MoFPI) under Union Minister Smt Harsimrat Kaur Badal has approved the operationalisation strategy for Operation Greens on 5 November 2018. This is a revolutionary scheme which has evolved after sustained dialogue with all stakeholders and we have decided the strategy to stabilize prices of TOP crops and to make sure that TOP crops reach all households in the country around the year. In the budget speech of 2018-19, a new Scheme "Operation Greens" was announced on the line of "Operation Flood", with an outlay of Rs.500 crore to promote

Farmer Producers Organizations, agri-logistics, processing facilities and professional management.

The strategy will comprise of a series of measures as decided by the Ministry which include:

1. Short term Price Stabilisation Measures
  1. NAFED will be the Nodal Agency to implement price stabilisation measures. MoFPI will provide 50% of the subsidy on the following two components:
    2. Transportation of Tomato Onion Potato(TOP) Crops from production to storage;
    3. Hiring of appropriate storage facilities for TOP Crops;
2. Long Term Integrated value chain development projects
  1. Capacity Building of FPOs & their consortium
  2. Quality production
  3. Post-harvest processing facilities
  4. Agri-Logistics
  5. Marketing / Consumption Points
  6. Creation and Management of e-platform for demand and supply management of TOP Crops.

#### Others Measures

1. The pattern of assistance will comprise of grants-in-aid at the rate of 50% of the eligible project cost in all areas, subject to maximum Rs. 50 crores per project.
2. However, in case where PIA is/are FPO(s), the grant-in-aid will be at the rate of 70% of the eligible project cost in all areas, subject to maximum Rs. 50 crores per project.
3. Eligible Organisation would include State Agriculture and other Marketing Federations, Farmer Producer Organizations (FPO), cooperatives, companies, Self-help groups, food processors, logistic operators, service providers, supply chain operators, retail and wholesale chains and central and state governments and their entities/organizations will be eligible to participate in the programme and to avail financial assistance.
4. The applicant fulfilling the eligibility criteria under the scheme is required to submit the online application on SAMPADA portal of the ministry attaching therewith complete documents.

#### Major objectives of “Operation Greens”

1. Enhancing value realisation of TOP farmers by targeted interventions to strengthen TOP production clusters and their FPOs, and linking/connecting them with the market.
2. Price stabilisation for producers and consumers by proper production planning in the TOP clusters and introduction of dual use varieties.
3. Reduction in post-harvest losses by creation of farm gate infrastructure, development of suitable agro-logistics, creation of appropriate storage capacity linking consumption centres.
4. Increase in food processing capacities and value addition in TOP value chain with firm linkages with production clusters.
5. Setting up of a market intelligence network to collect and collate real time data on demand and supply and price of TOP crops.

## INDIA VOTES AGAINST UNGA DRAFT

India has voted against a UN General Assembly draft resolution on the use of death penalty, saying it goes against the statutory law of the country where an **execution is carried out in the “rarest of rare” cases. The draft resolution, taken up in the Third Committee (Social, Humanitarian, cultural) of the General Assembly on 13 November 2018, was approved with a recorded vote of 123 in favour, 36 against and 30 abstentions.**

What

1. India was among the countries that voted against the resolution, which would have the Assembly call on all States to respect international standards on the rights of those facing death penalty and ensure that it is not applied on the basis of discriminatory laws or as a result of discriminatory or arbitrary application of the law.

2. **First Secretary in India's Permanent Mission to the UN Paulomi Tripathi, giving the country's explanation of vote, said the resolution sought to promote a moratorium on executions with the aim of abolishing death penalty.**
3. **In India, the death penalty is exercised in 'rarest of rare' cases, where the crime committed is so heinous that it shocks the conscience of the society.**
4. Indian law provides for all requisite procedural safeguards, including the right to a fair trial by an independent Court, presumption of innocence, the minimum guarantees for defence, and the right to review by a higher court.
5. **The draft resolution's passage followed an intense debate and Singapore introduced an amendment on behalf of 34 countries that reaffirmed the countries' sovereign right to develop their own legal system.**
6. The Committee then approved this amendment by a recorded vote of 96 in favour to 73 against, with 14 abstentions. India voted in favour of this amendment.
7. By its terms, the Assembly would reaffirm the sovereign right of all countries to develop their own legal systems, including determining appropriate legal penalties, in accordance with their international law obligations.
8. Death sentences in India must also be confirmed by a superior court and an accused has the right to appeal to a High Court or the Supreme Court, which has adopted guidelines on clemency and the treatment of death row prisoners.

## LEAP AND ARPIT PROGRAMMES

Union Ministry of Human Resource Development launched two new initiatives viz. Leadership for Academicians Programme (LEAP) and Annual Refresher Programme In Teaching (ARPIT) for higher education faculty. ARPIT is unique initiative of online professional development of 15 lakh higher education faculty. LEAP is three weeks flagship leadership development training programme for second level academic functionaries in higher education institutions.

### About LEAP

1. It is three weeks (2 weeks domestic and 1 week foreign training) flagship leadership development training programme for second level academic functionaries in public funded higher education institutions.
2. Its main objective is to prepare second tier academic heads that are potentially likely to assume leadership roles in the future.
3. It will make Higher Education Institutions (HEIs) perform their roles of developing better students who will be future torch bearers.
4. It will provide senior faculty required leadership and managerial skills including skills of problem-solving, team building work, handling stress, communication, conflict management, understanding complexity and challenges of governance in HEIs and general administration.
5. It will be implemented through 15 National Institute Ranking Framework (NIRF) top ranked Indian Institutions namely, IIT Bombay, IIT Kanpur, IIT Kharagpur, IIT Roorkee, IISER Kolkata, NIT Trichy, JNU; IIT (BHU), Delhi University, TISS Mumbai, University of Hyderabad, NIEPA, Jamia Millia Islamia, BHU and AMU.

### About ARPIT

1. It is a major and unique initiative of online professional development of 15 lakh higher education faculty using Massive Open Online Courses (MOOCs) platform SWAYAM.
2. Under it 75 discipline-specific institutions are identified and notified as National Resource Centres (NRCs) in phase I.
3. These institutions will be tasked to prepare online training material with focus on latest developments in discipline, methodologies for transacting revised curriculum and pedagogical improvements. The courses will cover diverse range of topics.

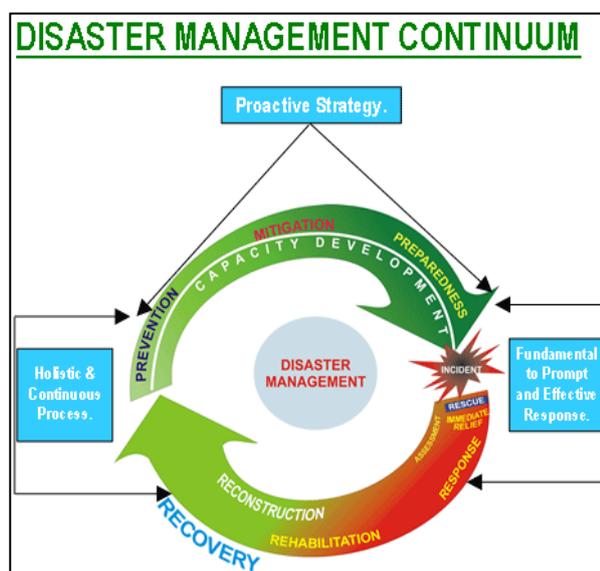
## TRAINING PROGRAMME FOR CBRN

The National Disaster Management Authority (NDMA) is conducting a basic training programme at the Kempegowda International Airport in Bengaluru. The six-day training programme, aimed at enhancing the preparedness of Airport Emergency

Handlers (AEHs) to respond to CBRN emergencies at the airports, started on 12 November 2018. CBRN emergencies pertain to threats emanating due to Chemical, Biological, Radiological and Nuclear material.

What

1. The training programme is being conducted in collaboration with the Airport Authority of India (AAI), Institute of Nuclear Medicine & Allied Sciences (INMAS) and National Disaster Response Force (NDRF).
2. Handling CBRN emergencies need specialised skills and efforts. In fact, even a small CBRN related event can cause panic among people at the airports. This training programme will improve the CBRN safety at our airports by enabling the AEHs to handle any CBRN emergency.
3. The programme consists of lectures as well as field training, including live demonstrations of detection and decontamination including use of Personal Protective Equipment (PPE).
4. Besides equipping the AEHs to handle CBRN emergencies, the training programme will also enable them to provide medical first aid and initial psycho-social support.
5. Experts from stakeholder departments such as Department of Atomic Energy (DAE), INMAS, National Centre for Disease Control (NCDC), National Institute of Mental Health & Neuro Sciences (NIMHANS) and Bhabha Atomic Research Centre (BARC) will train the participants.
6. A total of 50 participants representing various agencies responsible for operation and maintenance of the airport will be trained on various aspects of CBRN emergencies. Another 150 working level staff will be sensitized on the subject in a half day module.
7. This is the tenth in a series of such programmes being conducted at airports across the country to enable AEHs to respond suitably till the arrival of specialised response teams.
8. Nine batches have already been trained - one each in Chennai, Kolkata, Mumbai, Varanasi, Patna, Ahmedabad, Hyderabad, Chandigarh and Raipur.



## SOLAR ALLIANCE TO ALL UN COUNTRIES

The Union Cabinet on 1 November 2018 gave its approval for moving a resolution in the first assembly of the International Solar Alliance (ISA) to amend the framework agreement of the alliance to open up its membership to all UN countries. The decision was taken to put solar energy on the global agenda with the universal appeal for developing and deploying solar energy. The Cabinet also apprised of a Memorandum of Understanding (MoU) and a Memorandum of Cooperation (MoC) with Russia on October 5.

What:

1. The MoUs/ MoCs provide a platform for Indian Railways to interact and share the latest developments and knowledge in the railway sector.
2. They will also facilitate exchange of technical experts, reports and technical documents, training and seminars/ workshops focusing on specific technology areas and other interactions for knowledge sharing.
3. To strengthen cooperation in the field of tourism, the Cabinet approved signing of an MoU between India and Korea. The aim is to expand bilateral cooperation in the tourism sector and to encourage investment in the tourism and hospitality sectors.

## EXERCISE 'SAMUDRA SHAKTI'

INS Rana of the Eastern Fleet based at Visakhapatnam under the Eastern Naval Command is on deployment to the South East Asia and arrived at the port of Surabaya to participate in the inaugural edition of Indian Navy – Indonesian Navy Bilateral Exercise '**Samudra Shakti**' scheduled from 12 to 18 Nov 18. The aim of the exercise is to strengthen bilateral relations, expand maritime co-operation, enhance interoperability and exchange best practices.

What

1. The exercise would start with a Harbour Phase scheduled from 12 to 15 Nov encompassing planning and briefing on various activities, professional interactions, cross deck visits, sports fixtures and social interactions.
2. This would progress to a Sea Phase scheduled from 16 to 18 Nov and would include operations such as Joint Manoeuvres, Helicopter Operations, Surface Warfare exercise, ASW exercise and Anti Piracy exercises.
3. The strategic partnership between the two nations was elevated to '**Comprehensive Strategic Partnership**' during the visit of Honourable Prime Minister of India in May 18 and Defence co-operation has been a significant pillar in this partnership.
4. The visit of the ship seeks to promote **India's solidarity with Indonesia** towards ensuring good order in the maritime domain and to strengthen existing bonds between the navies of the two nations.

## DHARMA GUARDIAN 2018 COMMENCED

Exercise DHARMA GUARDIAN - 2018, a joint military exercise between Indian & Japanese Armies, commenced at Counter Insurgency and Jungle Warfare School, Vairengete, Mizoram, India on 01 November 2018. The Japanese contingent is being represented by 32nd Infantry Battalion, while the Indian side is being represented by 6/1 Gorkha Rifles. Approximately one platoon strength each of both the battalions is participating in this exercise. The opening ceremony was given a patriotic start by contingents of both the countries singing their respective national anthems.

What

1. Being first of its kind, the 14 days long joint exercise is being conducted from 01 Nov 2018 to 14 Nov 2018.
2. The exercise will consist of a balance of indoor classes and outdoor training activities.
3. The objective of this exercise is to build and promote army to army relations in addition to exchanging skills and experiences between both the armies.
4. Due emphasis will be laid on enhancing tactical skills to fight against global terrorism and on increasing interoperability between forces of both countries which is crucial for the success of any joint operation.
5. Both sides will jointly train, plan and execute a series of well developed tactical drills for neutralization of likely threats that may be encountered in urban warfare scenario.
6. The exercise will contribute immensely in developing mutual understanding and respect for each other's military.

## SIMBEX 18

The **25th edition of SIMBEX, an acronym for "Singapore-India Maritime Bilateral Exercise"** is scheduled from 10th to 21st November 2018 off Andaman Sea and Bay of Bengal. Bilateral cooperation between Singapore and India was first formalised when RSN ships began training with the Indian Navy in 1994. What began as a modest endeavour to exchange best practices in the field of Anti-Submarine Warfare (ASW), has in the recent years evolved into a complex high stakes exercise with both nations attaching premium in terms of time, complex advanced exercises and type of platforms involved.

## What

1. **Complementing India's 'Act-East'** policy, there have been a number of agreements and high level visits in the recent past between the two countries.
2. Indo-Singapore bilateral relations have been on an upswing in the recent past. Both countries have a full calendar of more than 20 bilateral mechanisms, dialogues and exercises, many of which take place annually.
3. In November 2015, the robust relationship between the two countries was elevated to 'Strategic Partnership'.
4. The Implementation Agreement since coming in force has facilitated deployment of naval assets from bases of the other through logistics and services support.
5. Both sides agreed to undertake continuous and institutionalised naval engagements in their shared maritime space including establishing maritime exercises with like-minded regional / ASEAN partners.
6. The 2018 edition marks the Silver Jubilee of SIMBEX. To mark the historical occasion, both navies are undertaking exercises over an extended geography.

## Flashpoint

1. SIMBEX 2018 will be the largest edition since 1994 in terms of scale and complexity. The initial harbour phase will be held at Port Blair, the capital of Andaman and Nicobar Islands from 10 to 12 November followed by Sea Phase from 12 to 16 November in the Andaman Sea.
2. The second harbour phase from 16 to 19 November will be held at Visakhapatnam – **'the City of Destiny'**. Silver Jubilee Commemoration Ceremony, various professional and training interactions, 10 Km **'Friendship Run'** during the Annual Vizag-Navy Marathon, social evening and joint cultural programmes would be held during the harbour phases to commemorate the 25th anniversary.
3. The final sea phase would be held in the Bay of Bengal from 19 to 21 November. High level delegations including respective Defence Ministries are also scheduled to observe the exercises including advanced weapon firings marking a new high in the series.
4. The 25th edition will witness a diverse range of exercises at sea ranging from live weapon drills including multiple missile firings, Heavy Weight Torpedo (HWT) and Medium Range Gun/ Anti Submarine Rocket firings; advanced Anti-Submarine Warfare (ASW) exercises, Submarine Rescue demonstrations; integrated Surface and Anti-Air Warfare (AAW); Unmanned Aerial Vehicle (UAV) operations and Cross Deck Helicopter flying among others.

## INTERNATIONAL

## FIRST INDIA-SINGAPORE HACKATHON FELICITATES

Prime Minister Narendra Modi on 15 November 2018 felicitated the winners of the first India-Singapore Hackathon, a platform for the youth of the two countries to harness and showcase their innovations. The Nanyang Technological University (NTU) in Singapore and the All India Council for Technical Education (AICTE) conducted the hackathon that included solving eight problem statements.

## What

1. Twenty teams, each from both the countries comprising university and college students selected on nationwide basis, participated in the event to harness and showcase the innovation potential of the youth. Each of these teams had three students and one mentor.
2. From India, an 83-member delegation comprising 60 students, 20 mentors and three officials of the AICTE visited Singapore for the event a "boost to technology, innovation and youth power".
3. First prize of SGD 10,000, second prize of SGD 6,000 and third prize of SGD 4,000 were announced for each of the three winners from India and Singapore.
4. The eight 'Problems Statements' presented to the participants were in the areas of mapping, synchronised output of diverse social media, shared digital identity verification, effective number estimate, space management and allotment, effective learning and personal security.

5. PM Modi is in Singapore for the two-day visit to the country. He began his visit on 14 November 2018 by delivering his keynote address at the prestigious Fintech Festival.
6. He also held separate bilateral meetings with the premiers of Singapore, Australia and Thailand and discussed ways to further strengthen ties, including in areas of trade, defence and security.

## MOC BETWEEN INDIA AND RUSSIA

The Union Cabinet chaired by the Prime Minister Shri Narendra Modi has been apprised of the following two instruments, namely, a Memorandum of Understanding (MoU) and a Memorandum of Cooperation (MoC), with Russia on 5th October, 2018. The MoU with the Ministry of Transport of the Russian federation for the development of cooperation in transport education for the development of cooperation in transport education and MoC with the Joint Stock Company "Russian Railways" (RZD) on technical cooperation in the field of railways.

What

1. The MoUs/ MoCs provide a platform for Indian Railways to interact and share the latest developments and knowledge in the railway sector.
2. The MoUs/ MoCs facilitate exchange of technical experts, reports and technical documents, training and seminars/ workshops focusing on specific technology areas and other interactions for knowledge sharing.
3. The MoU will envisage cooperation in the priority areas for the development of transport education.
4. This would enable preparation of specific proposals in this area including their implementation within the framework of the Intergovernmental Russian-Indian Commission on Trade-Economic, Scientific-Technical and Cultural cooperation.

The MoC will enable technical cooperation in the following areas

1. Implementation of the project for upgrading the Nagpur-Secunderabad section to raise passenger trains speed up to 200 kmph (Semi High Speed) with possible extension of the section including other directions of Indian Railway (IR) network;
2. Implementation of a Single Traffic Control Center to manage mixed traffic at the regional level, divisional railway and/ or at the upper network level uniting all the IR's zonal railways;
3. Customization, organization of joint manufacture and implementation of a competitive signaling and interlocking system;
4. Supply and localization of turnout switches for Semi High Speed and above;
5. Training and advanced qualification improvement of Indian railway employees with the involvement of Russian railway-related higher education establishments;
6. Best practices in Freight Cargo operations; and
7. Joint development of multi modal terminals in India.

### Background

1. Ministry of Railways has signed MoUs/ MoCs for technical cooperation in the rail sector with various foreign Governments and National Railways.
2. The identified areas of cooperation include high speed rail, speed raising of existing routes, development of world class stations, heavy haul operations and modernization of rail infrastructure etc.
3. The cooperation is achieved through exchange of information on developments in areas of railway technology & operations, knowledge sharing, technical visits, training & seminars and workshops in areas of mutual interest.

## MOU BETWEEN INDIA AND ITALY APPROVED

The Union Cabinet chaired by Prime Minister Shri Narendra Modi has approved the Memorandum of Understanding (MoU) between India and Italy for training and education in the fields of Labour and Employment. The MoU will facilitate expansion of the training and education activities to promote decent work in the world of work, through:

1. conducting joint training programmes on training methodologies and techniques;
2. developing new training modules for different social partners;
3. organizing customized training programmers in different themes on labour and employment;
4. undertaking evaluation of training methodologies;
5. exchanging of good practices in training programmes, particularly in the context of labour administration; assisting each other in the delivery and facilitation of the training modules and organizing study visits; and
6. Exchanging of trainers for sharing of knowledge and information.

#### Major Impact

1. The major impact of the MoU would be up-gradation of technical capacities of both the institutions in responding to the challenges emanating from transformations in the world of work.
2. It will enhance the technical capabilities of developing and organising international training programmes and the evolution of V.V.Giri National Labour Institute (VVG NLI) as a leading training institution in the Asia-Pacific region.
3. The MoU will expand its outreach to wide range of social partners from the entire Asia Pacific Region.

#### Background

1. The V.V Giri National Labour Institute (VVG NLI), NOIDA an autonomous body under the Ministry of Labour and Employment, Government of India and the International Training Centre of the International Labour Organisation (ITC-ILO), Turin signed an MoU in 2012 and have collaborated on several activities with mutual sharing of knowledge and experience.
2. The MoU aim to formalize the collaboration between the institutions for continuing the professional collaboration.
3. International Training Centre (ITC) of the International Labour Organisation (ILO) was established in 1964 in Turin.
4. It has since evolved as the most important focal point for imparting training on different dimensions on labour at the international level.
5. ITC has a vast reservoir of international expertise on employment, labour, human resource development, and capacity building. One of the major objectives of ITC is to forge partnership with premier institutions engaged in training activities in the field of labour and employment.

## JOINT RESEARCH ON WTO REFORMS

India and China on 1 November 2018 agreed to undertake joint research in the areas of WTO reforms, urbanisation and frontier technologies with a view to enhancing economic cooperation between the countries. Both sides also agreed to examine various trade sector related issues, and the need for enhanced policy coordination to facilitate investments.

#### What

1. The statement was issued after the conclusion of the fourth dialogue of NITI Aayog- **Development Research Centre (DRC) of the State Council, Peoples' Republic of China**, held in Mumbai on 1 November 2018.
2. The Chinese delegation was led by President of DRC Li Wei and the Indian delegation was led by Vice Chairman of NITI Aayog Rajiv Kumar.
3. According to statement both sides also affirmed their commitment for a more inclusive and truly global world order with multilateralism as the preferred way forward.
4. The statement further pointed out that emphasis was also laid on innovation and digital economy and it was observed that India and China are poised to become global leaders in digital innovation with rising number of tech startups operating in various sectors.
5. On electric mobility, the statement said with India envisioning to move towards electric vehicles (EVs) by 2030 avenues for collaboration via joint research and development, public and private investment were discussed.

6. The fifth edition of the NITI - DRC Dialogue will be held in Wuhan, China in November, 2019.

## INDIA AND THE REPUBLIC OF KOREA SIGN MOU

The Ministry of Tourism signed a Memorandum of Understanding with the Ministry of Culture, Sports and Tourism, Government for the Republic of Korea for strengthening cooperation in the field of Tourism in New Delhi. The MoU was signed by two parties desiring to strengthen and further develop the established relationship for strengthening cooperation in the field of Tourism. The Republic of Korea is one of the leading tourists generating market for India from East Asia.

The main objectives of the Memorandum of Understanding are:

1. To expand bilateral cooperation in tourism sector
2. To increase Exchange of information and data related to tourism
3. To encourage cooperation between tourism stakeholders including Hotels and Tour Operators
4. To establish exchange programmes for cooperation in Human Resources Development
5. To encourage Investment in the Tourism and Hospitality sectors
6. To exchange visits of Tour Operators / Media / Opinion Makers for promotion of two way tourism
7. To exchange experience in the areas of promotion, marketing destination development and management
8. **To encourage participation in travel fairs/exhibitions in each other's country**
9. To promote safe, honorable and sustainable tourism

## RCEP PACT PUT OFF TILL NEXT YEAR

Trade Ministers from the 16-member countries negotiating the Regional Comprehensive Economic Partnership (RCEP) agreement, including India, China and the ASEAN; have decided to push the year-**end target for a "substantial conclusion" of the talks** by a year due to differences on key issues. Ministers guided the negotiators to deliberate further on e-commerce, competition and investment chapters where consensus could not be reached during this meeting.

What

1. Ministers urged the negotiators to intensify their work with a view of narrowing gaps and finding balanced outcomes in the negotiations with the aim of concluding **negotiations by 2019," according to an official release of the Commerce Ministry.**
2. Commerce & Industry Minister Suresh Prabhu led the Indian delegation at the RCEP Ministerial meeting in Singapore on 12 and 13 November 2018.
3. Trade Ministers will now give their inputs to the heads of State of RCEP countries scheduled to attend the Summit meeting on Wednesday. Prime Minister Narendra Modi will represent India at the meet.
4. The RCEP also includes Japan, South Korea, New Zealand and Australia and together the 16 nations account for 40 per cent of world trade.
5. While most members, including many of the ASEAN countries, were keen to have a part-conclusion of the RCEP pact by the year-end, India, backed by Malaysia, the Philippines and Vietnam, was of the opinion that market access issues needed to be ironed out both in goods and services and there was need for more time.
6. The Ministers acknowledged that good progress had been made in the negotiations with successful conclusion of seven chapters which include economic and technical cooperation, small and medium enterprises, Customs procedures and trade facilitation, government procurement, institutional provisions, standards, technical regulations and conformity assessment procedures and sanitary and phytosanitary (SPS) norms.
7. On the side lines of the RCEP, the Commerce Minister held bilateral meetings with his counterparts from Singapore, China, Japan and New Zealand.
8. He discussed bilateral issues and progress in RCEP negotiations. He also had pull-aside meetings with Trade Ministers of South Korea, Indonesia, Cambodia, Malaysia, Australia and Philippines to discuss matters of mutual interest.

## UN ISSUES SPECIAL DIWALI STAMP

India on 7 November 2018 thanked the UN Postal Administration for issuing special postal stamps to commemorate Diwali, the Indian festival of lights. The United Nations Postal Administration issued a special event sheet on October 19 to commemorate the festival of Diwali. The sheet in the denomination of USD 1.15 contains ten stamps and tabs featuring festive lights and the symbolic lamps known as diyas.

What

1. The background of the sheet features the United Nations Headquarters building **illuminated with the message of “Happy Diwali” to celebrate the spirit of the festival.**
2. Diwali, also known as Deepawali is the joyous and popular festival of lights, which is celebrated in India and by followers of many faiths across the world, the UN agency had said in its description accompanying information about the stamps.
3. During the celebration clay lamps known as diyas are lit to signify the victory of good over evil. The festival also symbolises the start of a New year for many communities.
4. The United States Postal Service (USPS) had in October 2016 launched a commemorative stamp in honour of the festival of Diwali.
5. The USPS Diwali stamp became a reality after seven-year long efforts and advocacy by the Indian-American community and several Congressional resolutions by influential American lawmakers such as Congresswoman Carolyn Maloney.

## US EXEMPT INDIA FROM CHABAHAR PORT

In a relief for India, the United States has exempted New Delhi from the imposition of certain sanctions for the development of the strategically-located Chabahar Port in Iran as well as the construction of the railway line connecting it with Afghanistan. After extensive consideration, the Secretary (of State) has provided for an exception from imposition of certain sanctions under the Iran Freedom and Counter-Proliferation Act of 2012, with respect to the development of Chabahar Port, construction of an associated railway and for shipment of non-sanctionable goods through **the port for Afghanistan’s use, as well as the country’s continued imports of Iranian petroleum products.**

What:

1. The move by the Donald Trump administration is considered as an endorsement by **Washington of India’s major role in the development of the port on the Gulf of Oman, which is of immense strategic importance for the reconstruction of war-torn Afghanistan.**
2. On 5 November 2018, **the US imposed “the toughest ever” sanctions on Tehran aimed at altering the Iranian regime’s “behaviour”.**
3. The **sanctions cover Iran’s banking and energy sectors and reinstate penalties** for countries and companies in Europe, Asia and elsewhere that do not halt Iranian oil imports.
4. India was among the eight countries that were granted temporary waiver for purchase of Iranian oil.
5. In May 2016, India, Iran and Afghanistan inked a pact which entailed establishment of Transit and Transport Corridor among the three countries using Chabahar Port as one of the regional hubs for sea transportation in Iran, besides multi-modal transport of goods and passengers across the three nations.
6. The port in the Sistan-Balochistan province in the energy-**rich nation’s southern coast is easily accessible from India’s western coast and is increasingly seen as a counter to Pakistan’s Gwadar Port,** which is being developed with Chinese investment and is located at distance of around 80 kms from Chabahar.
7. It is also considered a gateway to golden opportunities for trade by India, Iran and Afghanistan with central Asian countries besides ramping up trade among the three countries after Pakistan denied transit access to India.

## CHINA LAUNCHES AVIATION FUEL INDEX

China National Aviation Fuel Group on 10 November 2018 launched the country’s first aviation fuel consumption index aimed at providing a fresh gauge for the

regional and national economic health of the world's second-largest economy. After stellar growth for decades, China, the world's second largest consumer after the United States, is seeing its aviation fuel demand growth slipping in the last few years as the economy expands less rapidly and more people travel by high speed rail.

What

1. The aviation fuel index will become a good reflection of the consumption trend and a precursor of major events like an economic crisis, CNAF, the countries near monopoly distributor of jet fuel said.
2. China is estimated to consume a total of 35 million tonnes of jet fuel this year that's about 7 per cent higher than last year, but down from 9 per cent growth the previous year, said a second company executive who declined to be named as not authorized to speak to media.
3. Passenger travel makes up 97 percent of China's total jet fuel consumption, which makes up some 13 percent of the global market, CNAF said.
4. The new index, based on data CNAF accumulated over the years, covers 30 Chinese provinces and regions and more than 200 civil airports. It will be regularly published via the CNAF's website.
5. Over the next decade, China's aviation fuel demand is forecast to expand 5-7 percent per annum with consumption reaching 57 million to 68.8 million tonnes by 2028.

## INDO-GERMAN PROJECT FOR HUMAN-WILDLIFE CONFLICTS

The Centre is banking on an Indo-German Human-Wildlife conflict mitigation project to prevent a recurrence of the controversial killing of tigress Avni in Maharashtra and deaths of seven elephants by electrocution in Odisha last month. The Indo-German project aims to provide technical support at the national level and in selected states for effective implementation of conflict mitigation measures so that both human and animal lives could be saved by shifting from 'conflict' to 'co-existence' mode.

What

1. We have been doing pilots in three states - Uttarakhand, West Bengal and Karnataka - under the Indo-German project. Three sites have been selected keeping in mind tiger and elephant population in those areas, said S Sathyakumar, scientist at Dehradun-based Wildlife Institute of India (WII).
2. Kodagu forest circle in Karnataka, Terai Arc Landscape in Uttarakhand and Gorumara wildlife division in north Bengal are three areas where the government agencies have been working in technical cooperation with the German government.
3. The idea is to prevent conflict wherever possible through taking enabling measures and creating awareness among people living around the wildlife habitat and their path of movement from one region to other.
4. The success of the pilot project, signed last year, will be replicated at the national level, covering protected areas, national parks and wildlife sanctuaries.
5. An official note says that the project focuses on three output areas - development of action plan to reduce human wildlife conflict, pilot application of a holistic approach and instruments for mitigation of conflicts and facilitating capacity development of key stakeholders.
6. According to WWF-India, tigers tend to avoid people, but can attack in self defence if they are taken by surprise or if they are with their young ones. Such incidences may sometimes lead to humans being mauled or killed by chance.

## ECONOMY

### 12 'BOOSTER SHOTS' FOR MSMEs

Prime Minister Narendra Modi announced **12 'gifts' to the** Micro, Small and Medium Enterprises (MSMEs) on 2 November 2018. These include easy and cheaper credit, relaxation in labour laws, easier compliance with environmental rules and changes in company laws. All these are parts of a Support and Outreach Programme, which will continue for 100 days in 100 districts. The sector contributes over 28 per cent in Gross Domestic Product and over 48 per cent in exports. According to the 73rd round

of the National Sample Survey, the MSME sector comprises 633.88 lakh units and has created 11.10 crore jobs.

What

1. A dedicated portal for sanctioning loans up to 1 crore in 59 minutes will be operationalised. All GST-registered MSMEs will qualify for a 2 per cent interest subvention on fresh or incremental loans.
2. Exporters who receive loans in the pre-shipment and post-shipment period will qualify for a higher interest rebate — from 3 per cent to 5 per cent.
3. **To provide relief from 'inspector raj', factory inspections will be sanctioned only through a computerised random allotment, and inspectors must upload reports on portal within 48 hours.**
4. Inspectors have to account for why they went to a factory. MSMEs need file just one annual return for compliance with eight labour laws and 10 central rules. An Ordinance has been promulgated to simplify levy of penalties for minor offences under the Companies Act.
5. The Prime Minister said the government has taken a number of steps to enable access to markets for entrepreneurs. Public sector companies have been asked to compulsorily procure 25 per cent (up from 20 per cent) of their purchases from MSMEs. 25 per cent, 3 per cent must be reserved for women entrepreneurs.
6. More than 1.5 lakh suppliers have registered with the GeM (Government e Market Place), of which 40,000 are MSMEs. Transactions worth more than 14,000 crore have been made on the platform. All public sector undertakings must now compulsorily be a part of GeM.
7. **Clusters of pharma MSMEs will be formed, given the sector's importance**, with the Centre bearing 70 per cent of the cost of establishing these clusters. Modi also announced a simplification of government procedures to enhance the Ease of Doing Business.
8. As part of establishing a unit, an entrepreneur needs two clearances, namely, environmental clearance and consent to establish. Going forward, a single consent would suffice under air pollution and water pollution laws.
9. Moreover, the return will be accepted through self-certification. The Union Cabinet has approved an Ordinance under which, for minor violations under the Companies Act, the entrepreneur will no longer have to approach the courts, but can correct them through simple procedures.

RBI ACT SECTION 7

Section 7 (1) of The Reserve Bank of India Act, 1934, became a contentious issue after the tension between the central bank and government turned into a public spat over the last few days. **No government has so far invoked this section in the central bank's 83-year history. According to the RBI Act's Section 7 (1), "the central government may from time to time give such directions to the Bank as it may, after consultation with the Governor of the Bank, consider necessary in the public interest".**

What

1. The issue of invoking Section 7 (1) of RBI Act came up during the hearing of Allahabad high court in a case filed by the Independent Power Producers Association of India challenging **RBI's 12 February circular**.
2. The high court, in August, said the government could issue directions to RBI under Section 7 of RBI Act.
3. Against this backdrop, the government issued a letter to the RBI governor seeking his views on exemption for power companies in relation to the 12 February circular.
4. The second instance was when the government on 10 October sought the **governor's views on using RBI's capital** reserves for providing liquidity.
5. The third letter pertained to regulatory issues, including withdrawal of Prompt Corrective Action for public sector banks, easing constraints on banks for loans to small and medium enterprises (SMEs).
6. The government has only initiated consultations with RBI on different issues under Section 7 (1) and not invoked it.
7. According to Volume 1 of the History of the Reserve Bank of India (1935-1951), the clause relating to directions by the central government was drafted by RBI after

combining the provisions of Section 4(1) of the Bank of England Act, 1946, and Section of the Commonwealth Bank of Australia Act, 1945.

8. The Governor considered it desirable to make it clear in the Act itself that when the Government decided to act against the advice of the Governor, they took the responsibility for the action they wished to force on the Bank, although it was hoped that occasions for the exercise of such powers will be few.
9. The clause thus provided for prior consultation with the Governor before issue of directives by the Treasury, but was silent as to the devolvement of responsibility, in the case of difference of opinion between the Treasury and the Bank.
10. The prior consultation with the Governor would ensure that Government got the benefit of the **Governor's views on matters of importance to the country.**
11. Later Section 7(1) of RBI Act was amended at the time of nationalization in 1949, to empower the Centre to issue directions to central bank in public interest, according to Volume II of History Of The Reserve Bank of India.

### INDIA'S FIRST LC PAYMENT VIA BLOCKCHAIN

In a first for India, HSBC Holdings Plc has executed a trade finance transaction using blockchain for an export by Reliance Industries Ltd (RIL) to US-based Tricon Energy. The blockchain-enabled letter of credit (LC) transaction substantially reduced the time taken for such deals. The use of blockchain offers significant potential to reduce the timelines involved in the exchange of export documentation from the extant 7-10 days to less than a day.

What

1. The transaction allowed a digital transfer of the title of goods from the seller to the buyer. The letter of credit was issued by ING Bank for Tricon Energy USA (importer) with HSBC India as the advising and negotiating bank for RIL.
2. **HSBC's head of global banking and markets, Hitendra Dave, said the use of blockchain has a significant impact on trade finance transactions and enables greater transparency and enhanced security in addition to making it simpler and faster.**
3. Explaining the current system, Reliance said that at present, buyers and sellers use paper-based letter of credits to underpin transactions and physical documents are sent to each party in the transaction by post, courier or fax.
4. While the current system provides a high level of certainty, the time and cost involved in processing the documents are deterrents for exporters.

### ORDINANCE APPROVE TO AMEND COMPANIES ACT

The Cabinet on 1 November 2018 approved promulgating an Ordinance to amend the Companies Act. The corporate affairs ministry, which is implementing the Act, has been looking at ways to promote ease of doing business as well as ensure better compliance levels.

What

1. The proposal to promulgate an Ordinance for amending the Companies Act, 2013, was approved by the Cabinet.
2. Details about the proposed amendments could not be immediately ascertained.
3. In August, a government-appointed panel suggested various changes to the Act, including restructuring of corporate offences under the Companies Law and an in-house adjudication mechanism to ensure courts get more time to deal with serious violations.
4. Apart from restructuring of corporate offences to relieve special courts from adjudicating routine offences, **the panel has mooted "re-categorisation of 16 out of the 81 compoundable offences" under the Act.**
5. The committee had also recommended disqualification of directors in case of **directorships beyond permissible limits and capping an independent director's remuneration.**

### RBI ALLOWS BANKS TO PROVIDE PCE

The Reserve Bank of India (RBI) on 2 November 2018 allowed banks to provide partial credit enhancement (PCE) to bonds issued by systemically important non-deposit

taking non-banking financial companies (NBFCs) registered with the RBI and housing finance companies (HFCs) registered with the National Housing Bank. The move is aimed at enhancing the credit rating of the bonds and enabling these NBFCs to access funds from the bond market on better terms.

What

1. PCE, which was introduced in 2015, is expected to help NBFCs and HFCs raise money from insurance and provident or pension funds who invest only in highly-rated instruments.
2. The RBI said the tenure of these bonds shall not be less than three years and that proceeds from them shall only be utilized to refinance existing debt. Banks shall introduce appropriate mechanisms to monitor and ensure that the end-use condition is met.
3. The incentive comes at a time when NBFCs and HFCs have requested the government and regulators to ensure that confidence returns to the market.
4. They have sought **relaxations of the National Housing Bank's credit rating** norms related to refinance, lowering of the criterion on years of existence to one year, providing for 10% of the loan loss by the government and capital infusion in banks.
5. The central bank on 2 November 2018 restricted the exposure of a bank through PCEs to bonds issued by each such NBFC or HFC to 1% of capital funds of the bank within the current single and group borrower exposure limits.
6. Banks are allowed to provide PCE as non-funded subordinated facility in the form of a contingent line of credit to be used in case of shortfall in cash flows for servicing the bonds and thereby improve the credit rating of the bond issue.
7. The regulatory requirement for insurance and provident/pension funds is to invest in bonds of high or relatively high credit rating. However, bonds issued for funding projects by corporate/SPVs do not necessarily get high ratings from the credit rating agencies (CRAs) because of the inherent risk in the initial stages of project implementation, RBI had said in 2015.
8. The Indian corporate bond market is at a nascent stage of development, resulting in excessive pressure on the banking system to fund credit for project development, RBI had said. Due to greater asset-liability mismatch in infrastructure and project financing, banks are exposed to liquidity risk.
9. The insurance and provident/pension funds, whose liabilities are long term, may be better suited to finance such projects, it had said.
10. The liquidity crunch that followed the Infrastructure Leasing & Financial Services crisis saw the RBI giving certain incentives to banks to allow flow of funds to NBFCs.
11. It has allowed banks to use government securities as level 1 high-quality liquid assets **equivalent to the bank's incremental** lending to NBFCs and HFCs after 19 October.
12. The central bank has also allowed banks to lend up to 15% of their capital funds to a single non-infra funding NBFC from the earlier 10%. The measures are available up to 31 December.
13. The RBI has, through a series of open market operations (OMO), injected liquidity into the system.
14. In October, it announced 36,000 crore of OMO purchases and met its target in three tranches throughout the month. It has announced another 40,000 crore through the same route in November.

## SCIENCE AND TECHNOLOGY

### INDIAN, US SATELLITES FIND BLACK HOLE

Scientists using data from **India's first dedicated astronomy satellite, AstroSat**, and **NASA's Chandra X-ray** Observatory have found that a black hole in the binary star system 4U 1630-47 spins close to the maximum possible rate. Relatively smaller black holes are exotic end states of massive stellar cores, said astronomers led by the Tata Institute of Fundamental Research (TIFR) in Mumbai.

What

1. The gravity of such a collapsing core is so strong that its entire mass is crushed into a point, according to the research accepted for publication in The Astrophysical Journal.
2. This point, however, cannot be directly seen, because nothing, not even light, can escape from a region around it, thus justifying the name of the object.
3. Surprisingly, astronomical black holes are the simplest known objects in the universe, because they can be fully characterised by only two properties, mass and spin rate. Therefore, measurements of these two properties are uniquely important to probe some extreme aspects of the universe and the fundamental physics related to them.
4. The scientific measurement of the spin rate of the black hole, an extremely exotic but the simplest object of the universe, comes out to be close to the maximum possible value.
5. This is generally very important to probe some extreme aspects of the universe, and the fundamental physics (for example, the theory of gravitation) related to them, said Bhattacharyya, who is the Principal Investigator of the AstroSat Soft X-ray Telescope (SXT).
6. Such measurements, especially of the spin rate, are very difficult to make, and can be done only by high-quality X-ray observations in the correct state of the binary stellar system, in which the black hole is gobbling matter from its companion star.
7. The SXT and the Large Area X-ray Proportional Counter (LAXPC) aboard the first dedicated Indian astronomy satellite AstroSat played a key role to measure the black hole spin rate, which was consistent with results from our contemporaneous Chandra satellite data.
8. From this first joint AstroSat-Chandra study of a black hole, that may lead to further such cooperations, we have found that the black hole in 4U 1630-47 spins very rapidly, with a rate not much less than the maximum possible rate, which makes it even more exotic.
9. AstroSat was launched in 2015 by the Indian Space Research Organisation (ISRO).
10. It is the first dedicated astronomy satellite of India and the SXT aboard AstroSat is the first Indian X-ray telescope.

## NEUTRINO OBSERVATORY PROJECT STAY

**The country's green court has issued an interim stay** on the Neutrino Observatory project, which was being planned in Theni district, Tamil Nadu. It has cited that this could cause harm to the environment. In March, the project had gotten a nod from the Ministry of Environment and Forests (MoEF). The project involves setting up infrastructure to study atmospheric neutrinos produced by cosmic rays in a 1200 metres deep cave under a mountain.

What

1. It is slated to be set up in Bodi West Hills on Tamil Nadu-Kerala border but environmental activists are vehemently opposed to it because of the damage it will cause to the surroundings. The idea was first floated in 2005 and has since faced multiple hurdles.
2. Apart from environmental clearances, the project was also wanting for the Tamil Nadu Pollution Control Board (TNPCB) and National Board for Wild Life (NBWL) clearances as Mathikettan Shola National Park in Idukki district of Kerala lies close by.
3. It is still unclear if those clearances have come by. Activists allege that clearance from **MoEF was 'illegal.'**
4. While earlier the observatory was to be built in Singara in Nilgiris and MoEF had cleared that plan; it later suggested an alternative site in Bodi West Hills after stiff resistance to the former site by activists as it was near Mudumalai Tiger Reserve and near the elephant corridor.
5. In 2015, the Union Cabinet had sanctioned 1,500 crore for the construction of a lab under the hill in Theni.

6. In 2017, southern bench of the green tribunal cancelled the environmental clearance and ordered for fresh clearance after conducting public hearings and while MoEF issued fresh clearance yet again last year, the central bench of NGT has now issued an interim stay.

## NASA CONDUCTS QUIET SONIC BOOM TESTS

NASA is monitoring how residents living near the Texas Gulf Coast react to quiet sonic booms as the space agency works on an experimental aircraft that could significantly reduce commercial flight times. NASA launched a two-week research project on quiet supersonic research flights near Galveston, the Houston Chronicle reported. NASA is flying an F/A-18 jet in a unique maneuver over the Gulf of Mexico to assess the **community's response to the noise**.

What

1. NASA officials hope the tests will produce data that can be used by the agency when testing the X-59 low boom flight demonstrator, the experimental aircraft it hopes could eventually reduce commercial flight times by half.
2. The Concorde, an airplane tested decades ago, could cross the Atlantic in just over three hours by traveling twice the speed of sound. But federal aviation officials banned **it after residents complained about the plane's sonic boom**.
3. Supersonic flights by passenger planes are banned over land or close to shore in the US, although the Federal Aviation Administration can allow exceptions.
4. NASA recruited about 500 volunteers from the Galveston area to give feedback and define the level at which they were able to hear the sonic booms from the F/A-18.
5. **The project marks** "the first time in decades that we have reached out to a large community as part of our supersonic research," **said Peter Coen, NASA's commercial supersonic technology project manager**.
6. **Atmospheric turbulence and humidity can affect how some areas perceive the "quiet thumps" made from the jet's special maneuver**.
7. NASA will provide the collected public response data to the Federal Aviation Administration. The FAA has banned supersonic passenger flights over land partly **because of concerns about how they'll affect communities and infrastructure**.

## HIGH EXPOSURE TO RFR

A study commissioned by the United States Food and Drug Administration (USFDA) has concluded that there is a link between high levels of radio frequency radiation (RFR) — like that used in 2G and 3G cellphones — and cancerous heart tumors in male rats, which were exposed to high-level RFR. According to final reports of the study, there is clear evidence that male rats exposed to high levels of radio frequency radiation developed these tumours.

What

1. There was also some evidence of tumors in the brain and adrenal gland of exposed male rats. For female rats, and male and female mice, the evidence was ambiguous as to whether cancers observed were associated with exposure to RFR.
2. The study began 10 years ago when the US National Toxicology Programme (NTP) – housed in the National Institute of Environmental Health Sciences, a part of the US National Institutes of Health – was nominated to do the study on effects of RFR.
3. In the NTP studies, the report notes, exposure was way more than what happens through average duration of cellphone usage.
4. The exposures used in the studies cannot be compared directly to the exposure that humans experience when using a cellphone. In our studies, rats and mice received radio frequency radiation across their whole bodies. By contrast, people are mostly exposed in specific local tissues close to where they hold the phone.
5. The lowest exposure level used for the study was equal to the maximum local tissue exposure currently allowed for cellphone users, the report states. This power level rarely occurs with typical cellphone use.
6. The highest exposure level in the studies was four times higher than the maximum power level permitted.

7. A major strength of our studies is that we were able to control exactly how much radio frequency radiation the animals received — **something that's not possible when studying human cellphone use**, which has often relied on questionnaires.
8. The study began at a time when 2G and 3G networks were the norm — they are still used for calls and texting — and did not investigate the types of RFR used for Wi-Fi or 5G networks.
9. It adds heft to the hypothesis that there is a link between mobile phone use and cancer.

## DAWN MISSION ENDS

**NASA's Dawn spacecraft has gone silent**, ending an 11-year-old historic mission to explore the two largest bodies in the main asteroid belt, Vesta and Ceres, the US space agency said. Dawn missed scheduled communications sessions with NASA's Deep Space Network on October 31 and November 1. After the flight team eliminated other possible causes for the missed communications, mission managers concluded that the spacecraft finally ran out of hydrazine, the fuel which keeps the spacecraft oriented and in communication with Earth.

What

1. Dawn can no longer keep its antennas trained on Earth to communicate with mission control or turn its solar panels to the Sun to recharge.
2. **Currently, it's in orbit around the dwarf planet Ceres**, where it will remain for decades, NASA said.
3. Launched in 2007, Dawn accomplished a journey propelled by ion engines that put about 4.3 billion miles (6.9 billion km) on its odometer.
4. In 2011, Dawn became the first to orbit a body in the region between Mars and Jupiter when the spacecraft arrived at Vesta, the second largest world in the main asteroid belt.
5. In 2015, Dawn became the first to visit a dwarf planet and go into orbit around two destinations beyond Earth. It went into orbit around Ceres, a dwarf planet that is also the largest world in the asteroid belt.

## JUPITER'S TROJAN ASTEROIDS

**NASA's Ralph** — a space instrument that has travelled as far as Pluto — is set to **explore Jupiter's Trojan asteroids**, which are remnants from the early days of the solar system. Ralph was first launched aboard the New Horizons spacecraft in 2006 and obtained stunning flyby images of Jupiter and its moons. This was followed by a visit to Pluto where Ralph took the first high-definition pictures of the iconic minor planet.

What

1. **In 2021, Ralph is set to journey with the Lucy mission to Jupiter's Trojan asteroids.** The instrument will fly by another Kuiper Belt object called 2014 MU69 — nicknamed Ultima Thule — **in January 2019.** Ralph's observations of 2014 MU69 will provide unique insights into this small, icy world.
2. The Lucy spacecraft carries a near-twin of Ralph, **called L'Ralph**, which will **investigate Jupiter's Trojan asteroids.**
3. **The L'Ralph instrument suite will study this diverse group of bodies; Lucy will fly by six Trojans and one Main Belt asteroid — more than any other previous asteroid mission. L'Ralph will detect the Trojan asteroids' chemical fingerprints.**
4. **L'Ralph allows scientists to interpret data provided by the Sun's reflected light that are the fingerprints of different elements and compounds.**
5. These data could provide clues about how organic molecules form in primitive bodies, a process that might also have led to the emergence of life on Earth.

## WORLD'S FIRST AI NEWS ANCHOR

The world's first artificial intelligence (AI) news anchor made "his" debut at the ongoing fifth World Internet Conference in east China's Zhejiang province. AI is a way of making a machine or a software 'think' and 'demonstrate' intelligently in a

manner similar to humans. The AI news anchor has a male image with a voice, facial expressions and actions of a real person.

What

1. "He" learns from live broadcasting videos by himself and can read texts as naturally as a professional news anchor.
2. The AI news anchor was jointly developed by Xinhua and the Chinese search engine company, Sogou.com.
3. "He" has become a member of its reporting team and can work 24 hours a day on its official website and various social media platforms, reducing news production costs and improving efficiency.
4. In 2015, China's Shanghai Dragon TV had "employed" a robot as a weather reporter on its live breakfast show, which evoked concerns among Chinese television anchors that in near future machines may threaten their jobs.

What is Artificial Intelligence?

1. According to the father of Artificial Intelligence, John McCarthy, it is "The science and engineering of making intelligent machines, especially intelligent computer programs".
2. Artificial Intelligence is a way of making a computer, a computer-controlled robot, or software thinks intelligently, in the similar manner the intelligent humans think.
3. AI is accomplished by studying how human brain thinks, and how humans learn, decide, and work while trying to solve a problem, and then using the outcomes of this study as a basis of developing intelligent software and systems.

## WORLD'S LARGEST BRAIN-LIKE SUPERCOMPUTER SWITCHED ON

**The world's largest supercomputer designed to work in the same way** as the human brain has been switched on for the first time. The newly formed million-processor-core Spiking Neural Network Architecture (SpiNNaker) machine is capable of completing more than 200 million actions per second, with each of its chips having 100 million transistors. To reach this point it has taken £15million in funding, 20 years in conception and over 10 years in construction, with the initial build starting way back in 2006.

What

1. The SpiNNaker machine, designed and built in The University of Manchester in the UK, can model more biological neurons in real time than any other machine on the planet.
2. Biological neurons are basic brain cells present in the nervous system that **communicate primarily by emitting 'spikes' of pure electro-chemical energy.**
3. Neuromorphic computing uses large scale computer systems containing electronic circuits to mimic these spikes in a machine.
4. SpiNNaker is unique because, unlike traditional computers, it does not communicate by sending large amounts of information from point A to B via a standard network.
5. Instead it mimics the massively parallel communication architecture of the brain, sending billions of small amounts of information simultaneously to thousands of different destinations.
6. Researchers eventually aim to model up to a billion biological neurons in real time and are now a step closer. To give an idea of scale, a mouse brain consists of around 100 million neurons and the human brain is 1,000 times bigger than that.
7. One billion neurons is one per cent of the scale of the human brain, which consists of just under 100 billion brain cells, or neurons, which are all highly interconnected via approximately one quadrillion synapses.
8. One of the fundamental uses for the supercomputer is to help neuroscientists better understand how our own brain works. It does this by running extremely large scale **real-time simulations which simply aren't possible on other machines.**
9. SpiNNaker has been used to simulate high-level real-time processing in a range of isolated brain networks. This includes an 80,000 neuron model of a segment of the cortex, the outer layer of the brain that receives and processes information from the senses.

- Neuroscientists can now use SpiNNaker to help unlock some of the secrets of how the human brain works by running unprecedentedly large scale simulations.

## GLOBAL PROPOSALS ON VENUS MISSION

ISRO has invited proposals from the international scientific community to carry out novel experiments on its planned Venus mission, scheduled to launch in 2023, the space agency said. The call presents an opportunity for scientists from foreign space agencies, research laboratories, and academic universities to study Venus, the Indian Space Research Organisation (ISRO) said in a statement.

What

- Venus is often described as the “twin sister”** of the Earth because of the similarities in size, mass, density, bulk composition and gravity.
- ISRO aims to identify important science experiments that strengthens or complements the overall science from the suite of pre-selected proposals from India on its Venus mission.
- Proposers are expected to be currently involved in planetary exploration studies, the development of science instruments for space, willing to develop space worthy experiments and have access to associated facilities for test and instrument calibration, ISRO said.
- The capacity of the proposed spacecraft is likely to be about 100 kilogrammes with approximately 500 Watts of power.
- The proposed highly inclined orbit is expected to be around 500 kilometres when it is closest Venus, and 60,000 kilometres when it is farthest. This orbit is likely to be reduced gradually. These values are likely to be tuned based on the final spacecraft configuration.
- The broad areas of research that ISRO plans to explore in its Venus mission include surface, subsurface and atmosphere of the planet, as well as its interaction with the Sun.
- Each proposal needs to identify a principal investigator (PI) and a funding agency. The PI of the proposal should be capable of providing necessary details of the instrument which can address the proposed scientific problems.
- The PI should also be assembling a capable instrument team and lead the team to deliver a space-qualified instrument. There will be no exchange of funds between agencies for the international proposals.
- The space agency encourages collaborations with teams from India on the design and development of instrument hardware, science modelling, simulations and joint calibration activities.
- The last date for submitting proposals is December 20. Since the 1960s, Venus has been explored by flyby and orbiter missions, a few lander missions and atmospheric probes.

## ICE AGE ASTEROID CRATER DISCOVERED

Buried beneath a half mile of snow and ice in Greenland, scientists have uncovered an impact crater large enough to swallow the District of Columbia. The finding suggests that a giant iron asteroid smashed into what is today a glacier during the last ice age, an era known as the Pleistocene Epoch that started 2.6 million years ago. When it ended only 11,700 years ago, megafauna like saber-toothed cats had died out while humanity had inherited the Earth.

What

- The discovery could lead to insights into the ice age climate and the effects on it from the eruption of debris that would have resulted from such a cataclysmic collision. **This is the first impact crater found beneath one of our planet’s ice sheets**, said Kurt Kjær, a geologist at the Center for GeoGenetics at the Natural History Museum of Denmark and lead author of the study.
- In 2015, Kjær and a colleague were analyzing a NASA map of Greenland when they **noticed an enormous circular depression on the Hiawatha Glacier at Greenland’s northwest tip.**

3. The aerial survey confirmed there was a huge pit with an elevated, circular rim and uplifting structures in the center, all telltale signs of an impact crater.
4. **The team's analysis showed that the** Hiawatha crater was nearly 1,000 feet deep and 20 miles in diameter, **placing it among Earth's 25 largest impact craters, although** much smaller than the 90-mile crater left by the dino-busting Chicxulub impact.
5. **The team's analysis showed that the** Hiawatha crater was nearly 1,000 feet deep and 20 miles in diameter, **placing it among Earth's 25 largest impact craters, although** much smaller than the 90-mile crater left by the dino-busting Chicxulub impact.
6. The bowl of the crater presses right against the edge of the glacier, giving the wandering ice sheet a semi-circle-like appearance that is visible from above. Breaking out from that semicircle is a white tongue of ice, a large river containing sediments from the bottom of the ice sheet. Kjær ventured to the floodplain via helicopter and collected sediment.
7. He found what he said were pieces of highly shocked quartz, which signaled that a violent impact had occurred at some time in the area's **history. The area's sediments** also had high concentrations of nickel, cobalt, chromium, gold and platinum, an indicator that the meteorite was made of iron.

## MISCELLANEOUS

### AWARDS OF NITI AAYOG'S AIM AND UNICEF

**NITI Aayog's Atal Innovation Mission (AIM)** and UNICEF India, have come together this **Children's Day**, to provide an open platform to young children of India, to contribute towards sustainable development. Celebrating innovation on the occasion of the **National Children's Day (14 November 2018)**, the UNICEF – Atal Tinkering Labs Young Champions Awards were announced by Dr Rajiv Kumar, Vice-Chairman, NITI Aayog and Mr. Yuri Afanasiev, UN Resident Coordinator and UNDP Resident Representative in India.

What

1. The awards were presented to the top six most innovative solutions from across the country, which were shortlisted through the Atal Tinkering Marathon.
2. On **October 2 last year, AIM's Atal Tinkering Labs (ATL)** had launched a six month long nationwide challenge called the Atal Tinkering Marathon, across six different thematic areas, namely, clean energy, water resources, waste management, healthcare, smart mobility and agri-technology.
3. The objective was to encourage students to observe community problems and develop innovative solutions. From over 650 innovations received, Top 30 innovations were identified from 20 different States and Union territories from across India.
4. These Top 30 teams were awarded with several prizes including a three month-long ATL Student Innovator Program in partnership with industry and start-up incubators, where students were trained on business and entrepreneurship skills. The partners included start-up incubators: C-CAMP, Aartech, Amrita TBI, TREC-STEP and industry representatives: Learning Links Foundation, Intel India and Stratasys India.
5. These Top 30 innovations are symbolic of a larger movement which is taking root in every school, in every district across India.
6. As part of a long-term partnership, during the **Children's Day Week, from today to the World Children's Day on 20 November**, AIM and UNICEF seek to drive extensive forward and backward linkages within the stakeholders in India, to create a paradigm shift in the student mindset and prepare them to become young innovators and entrepreneurs.
7. AIM and UNICEF have also launched a 72 hour Tinkering Hackathon from 14 to 17 November so that children can come up with innovative solutions for challenges faced by them in school, especially pertaining to quality of education and safety in schools. The winners of the Hackathon will be announced on 20 November, **World Children's Day**.

## INDIA'S FIRST CONTAINER VESSEL

Prime Minister Narendra Modi on 12 November 2018 inaugurated India's first multi-modal terminal on the Ganga River in his parliamentary constituency Varanasi and received the country's first container cargo transported on inland waterways from Kolkata. The first consignment containing food and beverage had set sail from Kolkata in the last week of October. The Ganga - Bhagirathi - Hooghly river system between Haldia (Sagar) and Allahabad (1620 km) was declared as National Waterway No 1 (NW-1) in 1986. Since then Inland Waterways Authority of India (IWAI) is carrying out various developmental works on the waterway for improvement of its navigability and development and maintenance of other infrastructure such as terminals and navigation aids as laid down in the IWAI Act, 1985.

What

1. In the maiden container since Independence on inland vessel MV Rabindranath Tagore, food and beverages major PepsiCo moved its 16 containers — equivalent to 16 truckloads — from Kolkata to Varanasi.
2. The vessel will make its return journey with fertilisers belonging to IFFCO that will be procured from its Phulpur plant near Allahabad.
3. The NW1 would enable commercial navigation of vessels with capacity of 1500-2,000 DWT. It is being developed under the Jal Marg Vikas Project (JMVP) from Haldia to Varanasi covering a distance of 1390 km.
4. It is being developed with the technical and financial assistance of the World Bank at an estimated cost of Rs 5,369 crore on a 50:50 sharing basis.
5. The container cargo transport comes with several inherent advantages — it reduces the handling cost, allows easier modal shift, reduces pilferage and damage, it also enables cargo owners to reduce their carbon footprints.
6. The objective is to promote inland waterways as a cheaper and more environment-friendly means of transport, especially for cargo movement.
7. The project entails construction of three multi-modal terminals (Varanasi, Sahibganj and Haldia); two intermodal terminals; five roll on-roll off (Ro-Ro) terminal pairs; new navigation lock at Farakka; assured depth dredging; integrated vessel repair and maintenance facility, differential global positioning system (DGPS), river information system (RIS), river training and river conservancy works.
8. The project of multi-modal terminal and proposed freight village in Varanasi are expected to generate 500 direct employment and more than 2,000 indirect employment opportunities.

## VIRAAT TO BECOME COMMERCIAL HUB

OVER 18 months after the Navy decommissioned its oldest aircraft carrier, Viraat, the grand old lady, as she is often referred to, will now be developed into a commercial hub. The Maharashtra government has won the bid to develop the aircraft carrier into a tourist spot in Sindhudurg district on public-private partnership basis. The estimated cost of the project is Rs 852 crore. Since 2016, the Ministry of Defence (MoD) has been trying to find a viable alternative for its iconic ship.

What

1. The state cabinet cleared a proposal to convert Viraat into a commercial business complex, which will have a convention centre, a hotel, a wreck diving facility and a museum among others. The ship is also proposed to have a marine training facility.
2. The proposal submitted by the government to the MoD, the proposed Viraat museum would be constructed by laying concrete foundation in the sea. The location would be around seven nautical miles from the shore at Nivti rocks in Sindhudurg district.
3. A high-powered committee, headed by state Chief Secretary D K Jain, has been set up to finalise the terms and conditions for tenders to select the private entrepreneur.
4. **The state's fiscal managers, in an official communication, said that the entire capital expenditure will be Rs 852 crore, including acquisition, transportation and breakwater, as well as other infrastructure charges worth Rs 303 crore.**
5. The MoD had proposed to gift the ship to any state government that was ready to bear the cost of converting it into a maritime museum.

6. In December 2014, a technical board was constituted to ascertain how long the aircraft carrier can remain fit to serve. Viraat is the oldest serving Indian naval ship, which was inducted into the Navy in May, 1987.
7. The keel of the warship was laid in 1944. When Viraat was inducted into Navy, she had already served for 20 years in the Royal Navy and was fit to be used for another 10 years.
8. However, the aircraft was in service for over 50 years. A normal shelf-life of a craft is a little over 25 years. The aircraft was scheduled to be decommissioned in 2009, but with **INS Vikramaditya's induction** delayed, Viraat underwent a series of refits and nearing the limits of her mechanical life, she served the Navy until 2017.
9. Currently, the Navy has only aircraft carriers in its fleet — INS Vikramaditya. It was formally inducted into Navy in June 2014 by Prime Minister Narendra Modi.

#### JHARSUGUDA AIRPORT RENAMED

The Union Cabinet chaired by Prime Minister Shri Narendra Modi has approved renaming of Jharsuguda Airport, Odisha as **“Veer Surendra Sai Airport, Jharsuguda”**

What

1. Veer Surendra Sai is a well-known freedom fighter of Odisha.
2. Renaming of the Jharsuguda airport in his name will fulfill long-pending demand of the Odisha Government, which reflects the sentiments of the local public of the respective area.
3. It will also be a befitting tribute to the contribution of the revered personality associated with the State.

#### TRADE THROUGH LIPUKEKH PASS

Business transactions worth over Rs 6.55 crore took place between India and China this year through the border at Lipukekh pass in Uttarakhand. Total business transacted between the two countries through the border this year was 6.55 crore. Of which imports by Indian traders stood at 5.59 crore and exports by them stood at 96.5 lakh, trade officer P S Kutiyal told.

What

1. Border trade between the two countries through the Lipukekh pass conducted for five months from June to October at Taklakot mart in Western Tibet on the Chinese side.
2. A total of 244 Indians, including 70 traders and 174 helpers, went to Taklakot mart this year to do business with their Chinese counterparts, the trade officer said.
3. Indo-China border trade, aimed at strengthening economy of tribal border villages was resumed in the year 1992.

#### Viraat's journey

1. In April, 1986, then Congress government had entered into an agreement with Britain to acquire HMS Hermes for \$ 63 million. After refits and new equipment being fitted on Hermes, it was commissioned at Plymouth as INS Viraat in 1987.
2. The ship holds the Guinness Books of record for being the longest serving warship of the world. Under the Indian flag, it had clocked more than 22,622 flying hours by various aircraft and spent nearly 2,252 days at sea sailing 10, 94,215 km.
3. This is equal to Viraat spending seven years at sea and traveling the entire globe 27 times. Since her inception, she has had a total of 80,715 hours of boiler running.
4. She had played a major role in the 1989 Operation Jupiter in Sri Lanka, after which she was affiliated with Garhwal Rifles and Scouts of the Army in 1990.
5. She also participated in Operation Parkham in 2001-02, when India and Pakistan were engaged in a standoff post terror attack on the Parliament.
6. Like Viraat, there are five business complexes in the US — Intrepid at New York, Hornet at San Francisco, York Town at South Carolina, Lexington at Texas and Midway at Sandiago.

4. The traditional trade with erstwhile Tibet had been closed after the 1962 border conflict between two countries.
5. The Indian traders exported commodities like tea, coffee, jaggery, sugar candy, tobacco products and cosmetics; and imported raw Tibetan wool, readymade garments, shoes and cements bags.

## INDIA IN GTSI 2018

Indians are the most positive about their children taking up a career in teaching, a new global study has revealed. The UK-based **Varkey Foundation's 'Global Teacher Status Index (GTSI) 2018'** was released on 8 November 2018 and is described as the most comprehensive study of how society views teachers across 35 countries around the world. It revealed that over half (54 per cent) of Indian people polled said they encourage their children to become teachers – more than in any other country surveyed, including China (50 per cent).

What

1. By comparison, under a quarter of British people (23 per cent) would encourage their child to become a teacher, while only 6 per cent would encourage their child to become a teacher in Russia, the lowest of any country surveyed.
2. Overall, India ranks eighth among the 35 countries surveyed in the 'Global Teacher Status Index 2018', in which China is the highest-ranked country and Brazil the lowest.
3. The index reveals, for the very first time, that there is a direct link between teacher status and pupil performance as measured by the Organisation for Economic Cooperation and Development's Programme for International Student Assessment (PISA) scores.
4. The survey is based on in-depth opinion polling and analysis by Professor Peter Dolton and the National Institute of Economic and Social Research of over 35,000 adults aged 16-64 and over 5,500 additional serving teachers across 35 countries.
5. The 2018 index expands upon the first GTSI, which surveyed 21 countries back in 2013 and inspired the Varkey Foundation's annual USD 1-million Global Teacher Prize.
6. The survey also found that over three-quarters (77 per cent) of Indian respondents think that pupils respect their teachers – the third-highest of any country surveyed after Uganda (79 per cent) and China (81 per cent).
7. By contrast, only 9 per cent of people in Brazil think pupils respect their teachers, lower than any other country polled.
8. Indians believe strongly in their country's education system – rating it 7.11 out of 10 – the fourth-highest of any country polled, with only Finland (8), Switzerland (7.2), and Singapore (7.1) higher. By contrast, Egyptians rated their country's education system lower than any other surveyed at 3.8.
9. Indians ranked secondary school teachers the seventh-highest of all the countries surveyed, with China ranking them the highest.
10. The latest index found that teacher status was rising globally and of the 35 countries polled, Asian nations of India, China, Malaysia, Taiwan, Indonesia and Korea rank higher in terms of teacher status than every European country and every Western nation – including the US, New Zealand and Canada.

## NATIONAL EDUCATION DAY

National Education Day of India is celebrated every year on 11 November to commemorate the birth anniversary of Maulana Abul Kalam Azad, the first education minister of independent India. This year it was 130th birth anniversary of Maulana Abul Kalam Azad. As first education minister of India, Azad had overseen establishment of national education system with free primary education and modern institutions of higher education.

What

1. National Education Day was instituted by Union Ministry of Human Resource Development in 2008 announced to commemorate the birthday Maulana Abul Kalam Azad for recalling his contribution to cause of education in India.

2. Its objective is to strengthen educational institutions and to raise quality of education to greater heights.
3. **It also seeks to remember Maulana Azad's contribution in laying the foundations of education system in an independent India as well as to evaluate our current performance in this field.**
4. Maulana Abul Kalam Azad was born on 11 November 1888 and died on 22 February 1958.

## 6 AIRPORTS GET NOD FOR PRIVATISATION

The government on 8 November 2018 decided to privatise six airports. The ones chosen for operation, management and development through a public-private partnership (PPP) model are Lucknow, Ahmedabad, Jaipur, Mangaluru, Thiruvananthapuram, and Guwahati. This comes 12 years after Delhi and Mumbai airports were privatised in 2006.

What

1. A group of secretaries from the Ministry of Civil Aviation and departments of economic affairs and expenditure, headed by NITI Aayog Chief Executive Officer (CEO) Amitabh Kant, will decide the contours of the sale.
2. The airports would be bid out for 30 years and the chosen private player will be given a controlling stake.
3. The Airports Authority of India (AAI) will hold a minor stake, just like it does at the Delhi and Mumbai airports. The private player will hold at least 75 per cent stake.
4. The bidding will be held in a revenue-sharing model, where bidders are required to pay a specified share of gross revenue to the AAI.
5. This is known as the concession fee. The bidder who quotes the highest fee wins it. The same model followed was during the privatisation of Delhi and Mumbai airports.
6. Under the agreement, Delhi airport operator GMR has to share 45.99 per cent of its revenue with the AAI every year.
7. GVK, which operates the Mumbai airport, shares 38.7 per cent of the revenue. **The AAI's profits are largely driven by revenue it earns from these two airports.**
8. It has earned about Rs 100 billion from GMR and GVK. Sector experts feel the airports chosen for privatisation will also get attractive bids.
9. The bid is likely to attract a good response from global operators since all six airports are growing fast, with robust catchment areas and low uncertainties.
10. The concession fee is likely to be higher than the limited profits being earned by the AAI currently because of many administrative restrictions. This can be used for airport development in the interiors.
11. **The decision to change the model of privatisation comes after the AAI's plans of handing over only operation and maintenance (O&M) of airport terminals at Ahmedabad and Jaipur ended in a stalemate.**

The six airports are

1. Lucknow
2. Ahmedabad
3. Jaipur
4. Mangaluru
5. Thiruvananthapuram
6. Guwahati

## AWARDS PRESENTED AT 'GLOBAL IT CHALLENGE FOR DISABILITIES 2018'

The three day event of the "Global IT Challenge for Youth with Disabilities, 2018" concluded in the presence of Shri Thaawarchand Gehlot, Union Minister for Social Justice and Empowerment. It was organised by the Department of Empowerment of Persons with Disabilities (DEPwD), Ministry of Social Justice and Empowerment in association with Rehabilitation International Korea and their associated partner LG Electronics from 9th to 11th November, 2018.

#### What

1. This year 96 youth with disabilities (visual disability, hearing disability, locomotor disability and intellectual disability/developmental disorder) from 18 countries namely, India, Indonesia, China, Vietnam, Malaysia, Thailand, Sri Lanka, Bangladesh, Nepal, Mongolia, Cambodia, Laos, Philippines, Korea, Kazakhstan, **Kyrgyzstan, UK and UAE participated in the “Global IT Challenge for Youth with Disabilities, 2018”.**
2. The individual competition on e-tool and e-life mapping was held on 9th November, 2018 and the group competition event was completed on 10th November, 2018.
3. Alongside the IT challenge competitions another parallel programme namely IT Forum was also organised to showcase the best practices followed by various participating countries regarding use of ICT for enhancing empowerment of persons with disabilities.
4. The event comprised of 55 awards in various categories including awards for best volunteer. **Three awards namely, “Best, Excellent and Good” in individual and group events in each category i.e. visual, hearing, physical and developmental/intellectual disability.**
5. Thailand won maximum i.e. six awards followed by Philippines with five awards. India bagged three awards including Super Challenger awards.
6. Shri Manjot Singh from India won two awards in e-tool challenge and e-life map challenge under visual disability category where as shri Saurav Kumar Sinha from India won the Super Challenger award.
7. **Ms. Fayza Putri, Adila from Indonesia won the ‘Global IT Leader Award’.**
8. The objective of the Global ICT Challenge for Youth with Disabilities is to leverage IT skills among youth with disabilities and also to spread awareness about the application of Information and Computer Technology (ICT) in enhancing the quality of life of persons with disabilities especially in Asia-Pacific region.
9. India had nominated twelve youth with disabilities to participate in the event. These youth with disabilities had been selected on the basis of the National IT Challenge conducted by the Ministry through NIT, Kurukshetra in June, 2018.
10. India has been participating in the event since 2013 and has been winning awards ever since. Last year the event was held in Vietnam.

#### ESA-ROSCOSMOS MARS ROVER’S LANDING SPOT REVEALED

ExoMars rover, the European Space Agency (ESA) and **Russian Roscosmos’ joint** venture to the Red Planet that will set out in 2020, will likely land on **Mars’ equator** called Oxia Planum. The Oxia Planum had housed a massive pool of water in the **prehistoric era. Scientists will look for “biosignatures”, the Sputnik news agency reported.**

#### What:

1. The rover will drill into the surface of the Red Planet to search for evidence of ancient life after it lands there in 2021.
2. The teams were earlier expected to confirm the site in mid-2019, just ahead of the much-anticipated 2020 launch, but it was postponed.
3. ExoMars with a tiny robot on board would be collecting samples for future studies about **Mars’ watery past.**
4. **“With ExoMars we are on a quest to find biosignatures,” adding that both of the selected sites provide “valuable scientific opportunities to explore ancient water-rich environments that could have been colonised by microorganisms, Sputnik quoted Jorge Vago, a project scientist as saying.**
5. Another site which was also considered as a likely landing spot was Mawrth Vallis that **literally means “a valley on Mars”. It lies just north of Oxia Planum.**
6. Both the sites are associated with rich evidence of **Mars’ ancient water reserves, which if ultimately proved, would directly point to the type of life that possibly might have thrived there.**
7. Researchers though went for Oxia Planum as it holds vast scientific potential and is home to layers of clay-rich minerals, left behind after numerous streams drained the **site’s large watery mass.**