

## My Notes....

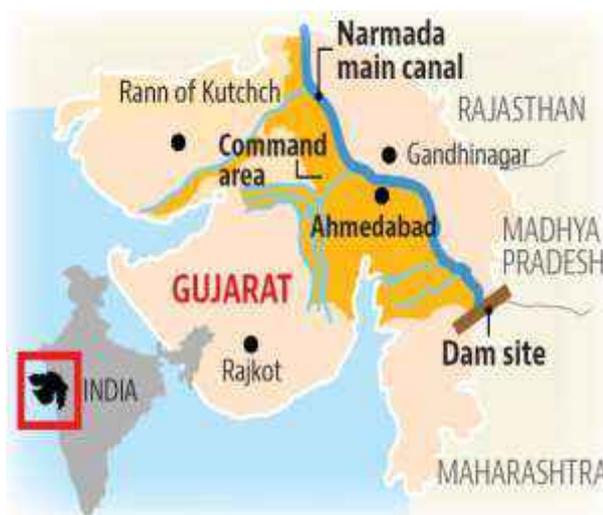
### NATIONAL

Sardar Sarovar Dam dedicate to the nation

The Prime Minister, Shri Narendra Modi, on 17 September 2017 dedicated the Sardar Sarovar Dam to the nation. The occasion was marked by prayers and chanting of hymns at the Dam at Kevadia. The occasion also marked the closing ceremony of the Narmada Mahotsav, which generated awareness about the River Narmada, in various districts of Gujarat.

What

1. It is the second-biggest concrete gravity dam in the world after the Grand Coulee Dam in the United States.
2. The dam would help irrigate 800,000 hectares of land in the state and will provide drinking water to 131 urban centres and 9,633 villages (53 per cent of a total of 18,144 villages of Gujarat). Besides, the canal network will also irrigate parts of Rajasthan, Maharashtra and Madhya Pradesh
3. The plan for harnessing the river for irrigation and power generation in the Narmada basin was initiated in 1946. India's first Prime Minister, Jawaharlal Nehru, inaugurated the project on April 5, 1961. However, the project was halted several times due to an interstate river water sharing dispute and protests against the human and environmental implications it would have.
4. In 1985, Medha Patkar, along with other civil society activists came together and conducted a study of the problems the projects would lead to post-completion. They inferred that the govt had overlooked the severe environmental impact of the projects as certain agricultural tracts would be submerged. Moreover, millions would be displaced by the dams and there was no concrete rehabilitation programme to take care of the people affected.
5. The proposed height of the dam has been revised upward over the years by the government, despite stiff resistance on each revision. In the latest revision, the Supreme Court has allowed an increase of 17 metres.



First ever National Conference

The first ever National Conference on "Mission Mode to address Under-Nutrition" was successfully held in New Delhi on 19 September 2017. The conference was inaugurated by the Minister of Women & Child Development, Smt Maneka Sanjay Gandhi in the presence of Minister of State for Women & Child Development, Dr. Virendra Kumar. The conference was organized by the Ministry of Women & Child Development in collaboration with Ministry of Drinking Water and Sanitation and Ministry of Health & Family Welfare, **keeping in mind the goal of "Mission Malnutrition Free India-2022"**.

What

1. The focus of the entire programme should be to administer nutrition rather than feeding beneficiaries by giving "Nutrient Dense Food".
2. A change in policy is required to implement this, the Minister said. The Ministry of Women & Child Development will soon issue new guidelines on supplementary nutrition in this regard in the next few days which will supersede all existing guidelines.

3. Similarly, a separate self contained protocol for severely and acutely malnourished (SAM) children will also be issued shortly. The Minister also highlighted the importance of child protection alongwith nutrition.
4. At conference, District Collectors/Deputy Commissioners/District Magistrates as well as the District-level officers of Health & Family Welfare, Nutrition (ICDS/SW), Drinking Water & Sanitation Departments in the 113 High Burden Districts along with the Principal Secretaries/Secretaries, in-charge of these three Departments of all States/UTs discussed a multitude of topics relating to stunting, under-nutrition and wasting and the key strategic interventions which are urgently required.
5. Smt Maneka Sanjay Gandhi also gave away awards to three States i.e. Chattisgarh, Arunachal Pradesh and Gujarat for substantial reduction in stunting during the ten year period between NFHS-3 and NFHS-4.
6. She also released a book "Forest Lanterns" containing essays on solutions to improve nutrition among children in tribal areas.

#### 'Saubhagya' Scheme launched

Prime Minister Narendra Modi on 25 September 2017 launched a Rs 16,320-crore scheme - Pradhan Mantri Sahaj Bijli Har Ghar Yojana 'Saubhagya' - to provide electricity connections to over 40 million families in rural and urban areas by December 2018. Rs 16,000 crore will be spent to bring a monumental change in the lives of the poor, PM said while launching the 'Saubhagya' scheme.

#### What

1. Under the scheme, the government proposes to provide electricity to all households by December 2018, ahead of the earlier target of March, 2019.
2. All villages would be electrified by December this year ahead of the scheduled deadline of May 1, 2018.
3. The prime minister also called upon ONGC to use its Rs 100 crore start up funds to develop user friendly electric cooking appliances saying it would help in reducing the fuel consumption.
4. The total outlay of the 'Saubhagya' project is Rs 16,320 crore while the Gross Budgetary Support (GBS) is Rs 12,320 crore.
5. The outlay for the rural households is Rs 14,025 crore while the GBS is Rs 10,587.50 crore. For the urban households the outlay is Rs 2,295 crore while GBS is Rs 1,732.50 crore. The Centre will provide largely funds for the scheme to all States/UTs.
6. The beneficiaries for free electricity connections would be identified using Socio Economic and Caste Census (SECC) 2011 data.
7. Un-electrified households not covered under the SECC data would also be provided electricity connections under the scheme on payment of Rs 500 which shall be recovered by DISCOMs in 10 instalments through electricity bill.
8. The Rural Electrification Corporation Limited (REC) will remain the nodal agency for the operationalisation of the scheme throughout the country.
9. The government has been working hard to electrify all villages in the country and also want to achieve 24X7 Power for All by March, 2019.

#### The expected outcome of the Scheme

1. Environmental upgradation by substitution of Kerosene for lighting purposes
2. Improvement education services
3. Better health services
4. Enhanced connectivity through radio, television, mobiles, etc.
5. Increased economic activities and jobs
6. Improved quality of life especially for women

#### First 'BIMSTEC DMEx- 2017'

The **First 'BIMSTEC Disaster Management Exercise- 2017' (BIMSTEC DMEx-2017)** will be conducted by the National Disaster Response Force (NDRF) as the lead agency from October 10-13, 2017 in Delhi and the National Capital Region (NCR). This Exercise will be a platform for sharing Best Practices on all aspects of Disaster Risk

Reduction (DRR), strengthening regional response and coordination for Disaster Management among the BIMSTEC member countries. Delegates from all seven nations of **the 'Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation'** (BIMSTEC) grouping, - namely Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka and Thailand, representatives from Embassies/High Commissions of BIMSTEC nations in Delhi, National Disaster Management Authority (NDMA), and Senior Officers from the Nodal Ministries are participating in the event.

What

1. At the 17th BIMSTEC Senior Officials Meeting held in Kathmandu, Nepal on February 7, 2017, it was decided that India would organize the first annual Disaster Management Exercise for the region.
2. The main focus of the BIMSTEC DMEx-2017 will be on testing the **region's preparedness** and resilience towards effective activation of inter-Governmental interaction/dialogue/agreements for immediate deployment of regional resources for disaster response.
3. It will help create synergy and synchronize efforts to institutionalize regional cooperation among the member countries.
4. The BIMSTEC DMEx-2017 is being conducted in two phases in Delhi and NCR. The main exercise will comprise of Table Top Exercise (TTX), Field Training Exercise (FTX) and After Action Review (AAR) which is scheduled for October 10-13, 2017.
5. Earlier, the first phase comprising a Preparatory Meeting and field visit of site selected for FTX during the main exercise was held in Delhi NCR on August 8-9, 2017.
6. India has been at the forefront of DRR efforts by hosting the South Asian Annual Disaster Management Exercise (SAADMEx) and the Asian Ministerial Conference for Disaster Risk Reduction (AMCDRR).
7. India has also offered its expertise and capabilities in DRR such as the South Asia satellite, GSAT-9, and the Tsunami Early Warning Centre to other countries. Disaster Management was one of the important Agenda items the BIMSTEC leaders deliberated upon during the Goa BRICS Summit in October last year where BIMSTEC leaders were the Special Invitees.
8. The BIMSTEC region is home to around 1.5 billion people, constituting around 22% of the global population with a combined GDP of US \$2.7 trillion economy.
9. Majority of the BIMSTEC countries are situated in the South Asian Region (SAR), prone to natural disasters such as floods, cyclones, earthquakes, avalanches and drought.



Incredible India 2.0

India's spiritual and wellness traditions will form the highlights of tourism ministry's Incredible India 2.0 campaign that will be launched by President Ram Nath Kovind on World Tourism Day (27 September 2017), this year. The revamped version of the government's marketing initiative to promote India as a preferred tourist destination for global audiences will focus on far flung monasteries in Lahaul Spiti, and Ayodhya, the centre of the disputed Ram temple-Babri Masjid site, apart from the usual pilgrim favourites like Varanasi, Mathura and Ajmer.

What

1. The Gorakhnath Math, will also feature prominently on the list of tourist attractions that will be pushed in the Incredible India 2.0 campaign.
2. The government will continue to highlight tourists attractions for their natural beauty and flora and fauna, the PMO has put in a special word for the inclusion

of Ayodhya, the birth place of Lord Ram, to be promoted as a tourist spot for the global audience.

3. In addition to launching a revamped website for the Incredible India 2.0 campaign, the government will also launch the 'Adopt a Heritage' project, which entails encouraging students and private organisations to participate more actively in the maintenance of Indian heritage. The idea behind the initiative is to create a sense of belonging among people for India's heritage. The plan to involve students, especially, focuses on the idea that they will, after being attached to a heritage project, grow up into responsible adults who will learn to preserve and protect their heritage."
4. Incredible India 2.0 campaign will focus on developing at least 10 cities where it will promote their spirituality quotient and also develop their medical and wellness potential. The "holistic development model" of 10 cities have been identified in Uttar Pradesh, Assam, Haryana, Tamil Nadu and Gujarat.
5. At present, five cities have been picked from UP — Ayodhya, Agra, Mathura-Vrindavan-Govardhan, Varanasi-Sarnath, and Gorakhpur.
6. Kurukshetra, Guwahati, and Kanyakumari have also been identified for developing tourist circuits.
7. Rishikesh, for instance, will not only offer 'adhyatm' to the tourists it hosts, but also offer traditional wellness programmes that tourists can enrol for.
8. Kerala, likewise, will not only be promoted for its natural beauty, but also for its ancient ayurvedic healing systems.
9. The ministry has set itself a target of completing this exercise of developing cities on this format by October 2018. The prime minister's office has issued clear instructions that multiple ministries will have to work together in order to ensure that collective targets are met."

## INTRODUCTION

### Incredible India

The first marketing initiative of its kind, Incredible India was conceptualized in 2002 by V Sunil (while he was Creative Director, O&M Delhi), and Amitabh Kant, Joint Secretary, Ministry of Tourism. The primary objective of this branding exercise was to create a distinctive identity for the country. This resulted in the iconic "Incredible India" logo, where the exclamation mark that formed the "I" of India was used to great effect across all communications. The campaign successfully established India as a high-end tourist destination, generating a 16% increase in tourist traffic in the first year.

### ARPAN 3.0

Defence Ministry has rolled out ARPAN 3.0 (Army Record Office Process Automation 3.0), a new automation software for Defence Security Corps personnel to ease personal documentation and all issues related to their progression. The software was jointly developed by Army Software Development Centre (ASDC) and Tech Mahindra, using state-of-the-art web-based technology.

What

1. ARPAN 3.0 will provide over 12 lakh soldiers of Indian Army easy access to their service records including pay and leave details and transfer and postings among others. As of now, all these records are maintained manually, which is a time-consuming exercise.
2. It consists of seven modules facilitating end to end human resource, financial management of Junior Commissioned Officers (JCOs) and Other Ranks with major functional advantages of timely processing of postings, promotions, release of salary, publication of personal occurrences and processing of pension has been rolled out by DCOAS (IS &T) for the Defence Security Corps.
3. The software provides valuable data for decision and policy making for the Defence Security Corps Directorate.

4. It will enable Defence Security Corps to access their service profiles, statement of accounts and adjustment of allowances at par with troops of Indian Army.

#### Wetland (Conservation and Management) Rules 2017

Ministry of Environment, Forests and Climate Change (MoEFCC) has notified new Wetland (Conservation and Management) Rules 2017 to prohibit range of activities in wetlands. The new rules will replace earlier rules notified in 2010.

#### Highlights of new rules

1. It stipulates setting up of State Wetlands Authority (SWA) in each State/UTs **headed by State's environment minister and include range of government officials.**
2. State government will also nominate one expert each in fields of wetland ecology, hydrology, fisheries, landscape planning and socioeconomics.
3. It will develop comprehensive list of activities to be regulated and permitted within notified wetlands and their zone of influence.
4. It will also recommend additional prohibited activities for specific wetlands define strategies wise use of wetlands and its conservation and undertake measures to enhance awareness within stakeholders and local communities on values and functions of wetlands.
5. The rules prohibit activities like conversion of wetland for non-wetland uses including encroachment of any kind, setting up and expansion of industries, waste dumping and discharge of untreated wastes and effluents from industries, cities, towns, villages and other human settlements.
6. The rules stipulates for setting up of National Wetlands Committee (NWC), headed by MoEFCC Secretary, to monitor implementation of these rules and oversee work carried out by States.
7. NCW will also advise Central Government on appropriate policies and action programmes for conservation and wise use of wetlands, recommend designation of wetlands of international importance under Ramsar Convention, advice on collaboration with international agencies on issues related to wetlands etc.

#### What

1. Wetland is transitional land between terrestrial and aquatic eco-systems where water table is usually at or near surface or it may be land covered by shallow water.
2. It supports rich biodiversity and provides wide range of ecosystem services such as water storage, water purification, flood mitigation, erosion control, aquifer recharge etc.
3. There are 115 wetlands officially identified by Central Government and of those 26 are identified as wetlands of international importance under Ramsar Convention.

#### TK Viswanathan Committee Recommendations

An expert committee headed by former Lok Sabha secretary general TK Viswanathan to deal with cybercrimes especially online hate speech has submitted its report to Union Home Ministry. The committee was formed after Supreme Court struck down Section 66 A of the Information Technology (IT) Act, 2000 in Shreya Singhal vs. Union of India. Section 66 A of IT Act was added to criminalize sending of offensive messages through a computer or other communication devices.

#### What

1. The committee has recommended appointing cybercrime coordinators in all states and establishing cybercrime cells in each district.
2. They will deal with those fomenting trouble or spreading hate against anybody on rounds of religion, race, caste or community, sex, sexual orientation, gender identity, language, place of birth or residence, disability or tribe through any means of communication.

3. It has suggested replacing some clauses of the IT Act, 2000 and amending some sections of IPC like 153 (want only giving provocation with intent to cause riot) and 505A (false and mischievous reports intended to upset public tranquillity) to deal with online hate crimes.
4. It has recommended punishment under amended clause dealing with prohibiting incitement to hatred of two years imprisonment or fine of Rs 5,000 or both.
5. It has suggested that offences under amended Section 505A be punishable with imprisonment of up to one year or fine or Rs 5,000 or both.
6. The committee suggested that state cybercrime coordinator should be an officer not below the rank of Inspector General of Police (IGP).
7. The district cybercrime cell should be headed by an officer not below the rank of sub-inspector of police.

#### Background

1. The Union Home Ministry had constituted committee under chairmanship of former Law Secretary TK Viswanathan to assist government in establishing effective legal framework to deal with cybercrimes related to hate speech on internet.
2. It was having members from Law Ministry, CBI and Ministry of Home Affairs.
3. It was tasked to study and examine existing domestic cyber laws and international cyber legislations and propose measures, amendments to present laws.
4. It was also mandated to recommend amendments to Information Technology Act, 2000 and corresponding provisions in IPC, CrPC and Evidence Act to facilitate establishment of strong legal framework to fight cybercrimes.
5. It was also mandated to draw a roadmap taking into account the need of legal competence and expertise on cyber laws from investigation, prosecution and judiciary angles.

#### First Scorpene submarine delivered

Kalvari, the first of the six Scorpene-class submarines, was on 21 September 2017 handed over to the Indian Navy by shipbuilder Mazgaon Dock Limited, paving way for its commissioning soon. The development marks a major milestone in Indian Navy's submarine programme as the vessel is expected to bolster India's maritime prowess.

#### What

1. The submarines, designed by French naval defence and energy company DCNS, are being built by Mazagon Dock Limited in Mumbai as part of Project-75 of the Indian Navy.
2. The state-of-the-art technology utilised in the Scorpene has ensured superior stealth features such as advanced acoustic silencing techniques, low radiated noise levels, hydro-dynamically optimised shape and the ability to launch a crippling attack on the enemy using precision-guided weapons.
3. Kalvari is named after the dreaded Tiger Shark, a deadly deep sea predator of the Indian Ocean.
4. The first Kalvari, commissioned on December 8, 1967, was also the first submarine of the Indian Navy. It was decommissioned on May 31, 1996, after nearly three decades of service.
5. The second of the Scorpenes, Khanderi, was launched in January this year, and is currently undergoing the rigorous phase of sea trials.
6. The third Scorpene, Karanj, is being readied for launch later this year. The rest are in various stages of outfitting.

#### INS Tarasa commissioned

INS Tarasa, a Water Jet Fast Attack Craft was commissioned into the Indian Navy by Vice Admiral Girish Luthra, Flag Officer Commanding-in-Chief, Western Naval Command at the Naval Dockyard, Mumbai.

#### What

1. INS Tarasa is the fourth and last of the follow-on Water Jet FAC's built by the Garden Reach Shipbuilders and Engineers (GRSE), Kolkata.
2. The first two ships of the class i.e. IN ships Tarmugli and Tihayu were commissioned in 2016 and are based at Visakhapatnam; while the third ship INS Tillanchang was commissioned earlier this year at Karwar on 09 March 2017.
3. These ships are an upgrade of the Car Nicobar class Fast Attack Crafts with the Indian Navy, which were also indigenously designed and built by GRSE, Kolkata.
4. INS Tarasa is 50 m long and powered by three waterjets which give it speeds of over 35 knots (65 kmph). The ship is armed with a 30 mm main gun indigenously built , and a number of light, medium and heavy machine guns to undertake coastal defence operations.
5. The ship is an ideal platform for missions like coastal and off-shore surveillance, EEZ Patrol, law enforcement as well as non-military missions such as Search and Rescue, Humanitarian Assistance and Disaster Relief. The commissioning Commanding Officer of the ship is Lieutenant Commander Praveen Kumar.
6. This is the second ship of the Indian Navy to be named INS Tarasa. The first INS Tarasa was in service of the Navy from 1999 to 2014.
7. She was gifted to Seychelles Coast Guard as a symbol of India's partnership with friendly maritime nation in IOR.
8. The new INS Tarasa will be based at Mumbai under the operational control of Western Naval Command.

#### Umbrella scheme for Police Forces

The Union Cabinet chaired by the Prime Minister Shri Narendra Modi, has given its approval for implementation of umbrella scheme of "Modernisation of Police Forces (MPF)" for years 2017-18 to 2019-20. The financial outlay for the scheme over the three year's period is **Rs.25, 060 crore, out of which the Central Government share will be Rs.18, 636 crore and the States' share will be Rs.6, 424 crore.**

#### Salient Features

1. Special provision has been made under the Scheme for internal security, law and order, women security, availability of modern weapons, mobility of police forces, logistics support, hiring of helicopters, upgradation of police wireless, National Satellite Network, CCTNS project, E-prison project etc.
2. Under the umbrella scheme, central budget outlay of Rs.10,132 crore has been earmarked for internal security related expenditure for Jammu & Kashmir, North Eastern States and left wing extremism affected States.
3. Scheme of Special Central Assistance (SCA) for 35 worst LWE affected districts has been introduced with an outlay of Rs.3,000 crore to tackle the issue of underdevelopment in these district.
4. New initiatives are being introduced to provide assistance to States for upgradation of police infrastructure, forensic science laboratories, institutions and the equipment available with them to plug critical gaps in the criminal justice system. Police Stations will be integrated to set up a national data base of crime **and criminals' records.** It will be linked with other pillars of criminal justice system such as **'prisons, forensic science laboratories and prosecution offices.**
5. The umbrella scheme also provides for setting up of a State-of Art forensic science laboratory in Amravati, Andhra Pradesh and upgradation of Sardar Patel Global Centre for Security, Counter Terrorism and Anti Insurgency in Jaipur and Gujarat Forensic Science University in Gandhi Nagar.

#### Kandla Port renamed

The Ministry of Shipping has issued a notification renaming Kandla Port Trust as Deendayal Port Trust with effect from 25th of September, 2017. Kandla Port, located on the Gulf of Kutch in Gujarat, is one of the twelve major ports in the country.

#### What

1. As per the Ministry's notification, the Central Government, in exercise of powers conferred on it under Indian Ports Act, 1908, made the amendment to replace "Kandla" with "Deendayal".
2. While inaugurating various projects at Kandla Port in May this year, Prime Minister Shri Narendra Modi had given the suggestion for renaming of Kandla Port after Pandit Deendayal Upadhyay, who stood for the uplift of the poor and weaker sections of society.
3. The Ministry of Shipping issued the required notification on the occasion of the closing of the year long centenary celebrations of Pandit Deendayal Upadhyay.

V-409

**Indian Coast Guard's (ICG) new interceptor boat V-409** was launched in Mangaluru, Karnataka by Bharathi Defence and Infrastructure Limited (BDIL). The vessel will be inducted into service by mid-October 2017 to give boost to coastal security and national security.

What

1. The V-409 interceptor boat has length of 28 meters, beam of 6 meters and draught of 1.2 meters. It has aluminium hull.
2. It has Articulate Surface Piercing Propulsion, also called as Arneson Surface Drives (ASD) which is powered by twin MTU Caterpillar marine diesel engines having a capacity of 1630 kW each.
3. These engines enable boat to attain a maximum speed of more than 35 knots.
4. The vessel has the capability of attaining a very high speed in a very short duration and can operate in shallow waters.
5. The vessels can perform high-speed interception, close-coast patrol, low-intensity maritime operations, search-and-rescue (SAR) and surveillance. The boat has complement of one officer and 12 sailors.

#### Background

1. BDIL is constructing 20 vessels for ICG of which six had already been handed over and the remaining vessels would be handed over on the projected time.
2. The boats are being constructed as per Rs. 2.81 billion contract signed between Ministry of Defence and BDIL in March 2009.
3. The remaining vessels will be handed over on the projected time.

#### Indian film in Oscar's entry 2018

The Film Federation of India (FFI) has selected Hindi film *Newton*, a black comedy on foibles of democracy to represent India in Best Foreign Language category at 90th Academy Awards (Oscars) to be held in February 2018. It was unanimously chosen by FFI's selection committee, headed by Telugu producer C V Reddy from 26 entries received this year.

What

1. The movie has been directed by Amit Masurkar.
2. It stars Rajkumar Rao, Pankaj Tripathi and Raghavir Yadav.
3. The film is political satire revolving around an honest election officer's (*Newton Kumar*) attempt to conduct a free and fair poll in naxal-controlled town in the conflict-ridden jungles of Chhattisgarh.
4. It showcases rookie government clerk's best efforts to conduct free and fair voting despite odds stacked against him mainly with apathy of security forces and the looming fear of guerrilla attacks by communist rebels.

## INTERNATIONAL

Nations ink UN nuclear ban treaty

Fifty countries have signed a treaty to ban nuclear weapons, a pact that the world's nuclear powers spurned but supporters hailed as a historic agreement nonetheless. Before the day was out, 50 states as different as Indonesia and Ireland had put their names to the treaty; others can sign later if they like.

What

1. Guyana, Thailand and the Vatican also has already ratified the treaty, which needs 50 ratifications to take effect among the nations that back it.
2. They would be barred from developing, testing, producing, manufacturing, otherwise acquiring, possessing or stockpiling nuclear weapons “under any circumstances.”
3. **The US, Britain and France said the prohibition wouldn’t work and would end up disarming their nations while emboldening “bad actors,”** in US Ambassador Nikki Haley’s words.
4. Brazil was the first country to sign onto the ban, followed by nations from Algeria to Venezuela.

### **New colour of China’s ‘Dead Sea’**

A **salt lake in China, known as the country’s ‘Dead Sea’**, has turned pink on one side, attracting curious visitors to the **world’s third largest sodium sulphate inland lake**, according to a media report. The pink colour in Yencheng Salt Lake is due to an alga called *dunaliella salina*, which changes it from the original colour, making it appear green on one side and pink on the other.

What

1. The lake, located in northern **China’s Yuncheng** city in Shanxi province, is one of the three inland salt lakes with sodium sulfate in the world, covering an area of 132 square kilometres.
2. The dual-colours have lasted for many years, and the view only disappears in winter when the lake dries up. The lake was also in the news last year, when it turned blood-red because of the same algae.
3. According to geologists, it was formed about 50 million years ago. The salt content in it is similar to that of the Dead Sea, allowing humans to float on it, thus **earning the moniker: ‘China’s Dead Sea’**. **Chinese people began making use of the lake at least 4,000 years ago.**
4. Today, the lake still produces salt for industrial use.

### **UN ends disarmament in Colombia**

The United Nations has finished deactivating thousands of weapons and munitions that once belonged to demobilised leftist rebels in Colombia. In a ceremony attended by President Juan Manuel Santos but which was skipped by leaders of the now-disbanded Revolutionary Armed Forces of Colombia, the head of the UN mission in Colombia, Jean Arnault, said international observers spread across the country had collected a total of 8,994 firearms and more than 38 tons of explosives from the rebels.

What

1. A team of 15 German specialists needed six weeks to cut through the metal weapons **so they can’t be fired ever again.**
2. **The disarmament process is over,”** said Santos after receiving a recently disabled **AR-15 assault rifle that he called the “last gun” of the decades-long conflict.**
3. While the FARC appears to have honored its commitment to disarm many are doubtful it will begin confessing to their war crimes and compensating victims as required by last year's peace deal.
4. In a separate event some 50 rebel leaders laid flowers at the grave of one of the FARC's most-prominent but also cruelest military strategist.
5. The rebel commander known by his alias Mono Jojoy was killed in combat in 2010.

#### About FARC

1. The Revolutionary Armed Forces of Colombia—People’s Army (FARC–EP and FARC) was a guerrilla movement involved in the continuing Colombian armed conflict since 1964.
2. It was known to employ a variety of military tactics in addition to more unconventional methods, including terrorism.

The FARC-EP was formed during the Cold War period as a Marxist–Leninist peasant force promoting a political line of agrarianism and anti-imperialism.

## ECONOMY

### New PPP Policy

Central Government announced a new PPP Policy for Affordable Housing that allows extending central assistance of up to Rs.2.50 lakh per each house to be built by private builders even on private lands besides opening up immense potential for private investments in affordable housing projects on government lands in urban areas. Minister of Housing & Urban Affairs Shri Hardeep Singh Puri announced this policy that gives eight PPP (Public Private Partnership) options for private sector to invest in affordable **housing segment. He was addressing the 'Real Estate & Infrastructure Investors Summit-2017' organized by real estate body NAREDCO in Mumbai.** This policy seeks to assign risks among the government, developers and financial institutions, to those who can manage them the best besides leveraging underutilized and un-utilized private and public lands towards meeting the Housing for All targets by 2022.

### What

1. The two PPP models for private investments in affordable housing on private lands include extending central assistance of about Rs.2.50 lakh per each house as interest subsidy on bank loans as upfront payment under the Credit Linked Subsidy Component (CLSS) component of Pradhan Mantri Awas yojana (Urban).
2. Under the second option, central assistance of Rs.1.50 lakh per each house to be built on private lands would be provided, in case the beneficiaries do not intend to take bank loans.
3. The eight PPP options, including six for promoting affordable housing with private investments using government lands have been evolved after extensive consultations with States, promoter bodies and other stakeholders.

The six models using government lands are:

1. DBT Model: Under this option, private builders can design, build and transfer houses built on government lands to public authorities. Government land is to be allocated based on the least cost of construction. Payments to builders will be made by the public authority based on progress of project as per agreed upon milestones and buyers will pay to the Government.
2. Mixed Development Cross –subsidized Housing: Government land to be allotted based on number of affordable houses to be built on the plot offered to private builders, cross subsidizing this segment from revenues from high end house building or commercial development.
3. Annuity Based Subsidized Housing: Builders will invest against deferred annuity payments by the Government. Land allocation to builders is based on unit cost of construction.
4. Annuity-cum-Capital Grant Based Affordable Housing: Besides annuity payments, builders could be paid a share of project cost as upfront payment.
5. Direct Relationship Ownership Housing: As against government mediated payments to builders and transfer of houses to beneficiaries in the above four models, under this option, promoters will directly deal with buyers and recover costs. Allocation of public land is based on unit cost of construction.
6. Direct Relationship Rental Housing: Recovery of the costs by builders is through rental incomes from the houses built on government lands.
7. Under these six Government land based PPP models, beneficiaries can avail central assistance of Rs.1.00 to Rs.2.50 lakh per house as provisioned under different components of PMAY (Urban). Beneficiaries will be identified as per the norms of PMAY (Urban).

### India's first atomic energy venture

India is playing a substantive role in building a nuclear power plant on foreign soil for the first time ever with the proposed supply of equipment and material for the power station being built by Bangladesh with Russian assistance. At the recent 61st general conference of the global nuclear watchdog International Atomic Energy Agency (IAEA)

at Vienna, top Indian officials announced Indian firms are working with Russian and Bangladeshi partners on establishing Rooppur Nuclear Power Plant in Bangladesh. India will supply and manufacture equipment, material for the plant near Dhaka. Besides Bangladeshi nuclear scientists are undergoing training at the Kudankulam Nuclear Power Plant in Tamil Nadu, which was also built with Russian assistance and uses Russian nuclear technology.

What

1. This will be India's first atomic energy venture abroad. According to the December 2014 'Strategic Vision for Strengthening Cooperation in Peaceful Uses of Atomic Energy' between India and Russia, the "two sides will explore opportunities for sourcing materials, equipment and services from Indian industry for the construction of the Russian- designed nuclear power plants in third countries".
2. India signed a civil nuclear cooperation deal, along with two more related agreements, with Bangladesh in April when PM Sheikh Hasina was on a four-day official visit.
3. This was New Delhi's second such agreement in the neighbourhood after an agreement with Sri Lanka reflecting India's growing stature a responsible nuclear power.
4. The Rooppur project will be Bangladesh's first atomic energy project involving two units, each with a capacity of 1200 MWs. Russia and Bangladesh signed a cooperation in the field of peaceful use of atomic energy of in 2010. The Rooppur NPP site is situated 160 km from Dhaka.
5. Rooppur plant will have Russian design AES-2006 with VVER-1200 reactors, the prototype of which was implemented at the Novovoronezh NPP02 in Russia.
6. This is an evolutionary design of III+ generation which is fully compliant with the **international safety requirements, according to ROSATOM, Russia's State-run apex Atomic Energy body.**
7. The technology in Novovoronezh offered to Bangladesh could also be extended to the second Russian built set of six reactors in India.

Green Masala Bond in UK

The Indian Renewable Energy Development Agency launched a new Green Masala Bond on the London Stock Exchange's **new International Securities Market** to raise funds to finance renewable energy projects across India. The five-year dated bond raised approximately \$300 million (Rs19.5 billion), with a coupon of 7.125%, and became the first Green Masala Bond to be listed on the International Securities Market (ISM). Indian Renewable Energy Development Agency (IREDA) is fully committed to helping achieve Indian **Government's vision of 175 GW renewable energy capacity by 2022.**

What

1. The Green Masala Bond is a significant milestone for IREDA in this regard, as we embark on the next phase of renewable and sustainable energy led expansion.
2. Popli described the listing as a step towards Prime **Minister Narendra Modi's** commitment to the Paris agreement on Climate Change.
3. The overwhelming response to the issue is a testament to the confidence of global investors in IREDA and the Indian renewable sector in general.



4. IREDA, a state-owned non-banking financial institution, has a remit to promote, develop and extend financial assistance for renewable energy and energy efficiency conservation projects in India. The company provides financing for hydro, wind and solar energy projects, new and emerging technologies and for bio energy sectors.
5. The IREDA Green Masala Bond illustrates **government of India's** commitment towards fostering the renewable and sustainable energy sector.
6. Renewable energy will increasingly become the dominant force in energy generation, as **we strive for 'Electricity for All' and achieve our** mandate of 175 GW renewable energy capacity by 2022.
7. The new green bond is certified by Climate Bonds Initiative, an international, investor-focused not-for-profit, which helps build robust and transparent assurance frameworks around green bond investment. It marks the fourth green bond by an Indian issuer to be issued on London Stock Exchange.
8. Axis Bank and NTPC joined in 2016, raising respectively \$500 million and \$300 million equivalent. In June this year, the Rural Electrification Corporation (REC) raised \$450 million.
9. London Stock Exchange claims to be the largest Masala Bond centre globally, with 42 bonds listed in total with an equivalent value of over \$6 billion.

#### Flashback

1. The Finance Minister in the Budget 2014-15 had announced setting up of a Trade Facilitation Centre and a Crafts Museum to develop and promote handlooms, handicrafts and silk products of Varanasi and to provide necessary help to weavers, artisans and entrepreneurs of Varanasi in strengthening their marketing activities in domestic as well as international markets and in carrying forward the rich tradition of handlooms at Varanasi.
2. A Trade Facilitation Centre is an indispensable step to help weavers/artisans of Varanasi to integrate into the global economy. There is a need for trade facilitation and advisory services to provide support for compliance with trade procedures, formalities and legal and regulatory requirements; this is needed to make entrepreneurs aware of new rules, regulations, thereby facilitating their import/export activities and enhancing their competitiveness.
3. The Sankul will facilitate the weavers/artisans/exporters in promotion of handlooms/handicrafts in both domestic and international markets.
4. The Crafts Museum in the Sankul will preserve the traditional handloom/handicrafts products of Varanasi and showcase the handloom & handicraft products, which will be an inspiration for the new generation, scholars, designers and tourists.
5. The Prime Minister had laid foundation stone of Trade Facilitation Centre and a Crafts Museum on 7th November, 2014 at Bada Lalpur, Varanasi. The first phase of the project, consisting of Crafts Museum, Entrance Plaza and Shopping Arcade was inaugurated by the Prime Minister on 22nd December, 2016.
6. The project is strategically located near the upcoming bypass between NH-29 (Varanasi - Gorakhpur Road) and NH-56 (Varanasi - Sultanpur Road).

#### Deendayal Hastkala Sankul

The Prime Minister, Shri Narendra Modi, on 22 September 2017 dedicated to the nation, the Deendayal Hastkala Sankul – a trade facilitation centre for handicrafts – at Varanasi. The Prime Minister had laid the foundation stone of this Centre in November 2014. He described the Trade Facilitation Centre as one of the biggest projects for

Varanasi for a long time. This Centre would help the artisans and weavers showcase their skills to the world, and facilitate a brighter future for them.

What

1. The Ministry of Textiles is fortunate that the Rs. 300 crore Deendayal Hastkala Sankul has been dedicated to the nation by the Prime Minister, on the auspicious occasion of Nav Durga.
2. The Minister recalled that the foundation stone of the Sankul was laid by the PM on 7th November, 2014 and that the first phase was inaugurated by the PM on 22nd December, 2016.
3. The Ministry of Textiles has entered into MoUs with Indira Gandhi National Open University (IGNOU) and National Institute of Open Schooling (NIOS), whereby children of weavers and artisans are able to avail school and university education, with 75% of fees being borne by the Government of India.
4. The beneficiaries receive security-free loans ranging from 50,000 rupees to 10 lakh rupees under the scheme.
5. More than 33,000 weavers have benefited by MUDRA scheme, receiving loans worth more than 170 crore rupees. The weavers receiving MUDRA loans have been able to increase their income by more than 50% within just two months.

Pralay Sahayam

A multi-agency exercise was conducted on the banks of Hussain Sagar Lake as the final event of '**Pralay Sahayam**' in Hyderabad on 23 September 2017. The event demonstrated efforts of all central and state agencies, National Disaster Relief Force (NDRF) and the Armed Forces towards jointly tackling an urban flooding scenario in Hyderabad.

What

1. For the purpose of the exercise, Hussain Sagar Lake was transformed into urban colonies partly submerged under water, post heavy showers in the city.
2. A large number of dummy structures depicting multi-storied buildings and houses with stranded people, power stations, educational institutes etc., were erected in the lake in an inundated condition.
3. The hapless stranded occupants of these dwellings were rescued in joint operations carried out by the State Government agencies, Police, State Fire & Emergency Services, NDRF, CISF and the Armed Forces.
4. The Indian Air Force and the Army Aviation employed the Mi-17 helicopters, Advanced Light Helicopter (ALH) and Chetak Helicopter for aerial evacuation, demonstrating special skills in hovering and winching.
5. The massive Mi-17 lowered a Gemini class inflatable boat of the Indian Navy for rescuing the trapped citizens.
6. The agile ALH and Chetak Helicopters virtually hovered over the roof tops and winched in people trapped in stranded, inaccessible buildings. Special Forces such as the Army Commandos and Marine Commandos from the Indian Navy carried out a highly synchronized Search and Rescue operation in the flooded colonies.
7. The exercise brought out the role and function of the State Emergency Operations in coordinating conduct of the joint operations. Further the significance of early warning systems of agencies like Indian Meteorological Department (IMD), National Remote Sensing Centre (NRSC) and Indian National Centre for Ocean Information Services (INCOIS) was emphasized.
8. The exercise culminated with a static display which demonstrated the efficient and functional layout of a relief and rehabilitation camp for the displaced persons.

Economic Advisory Council formed

Prime Minister Narendra Modi has set up an economic advisory council, the government said on 25 September 2017, as concerns grow about a slowdown in Asia's third-largest economy. The new council, headed by Bibek Debroy, a member of Modi's federal think tank Niti Aayog, will address "issues of macroeconomic importance" and

present its views to the prime minister. A few quarters ago, India was the world's fastest-growing major economy. But data showed last month that India's economic growth had slowed to a three-year low, prompting many economists to revise down estimates for the fiscal year ending in March 2018.

What

1. The figures piled pressure on Modi, who was widely criticised by the opposition for a decision last year to scrap high-value banknotes.
2. The policy meant to flush out money hidden from the taxman ended up wiping out about 86 percent of currency in circulation, hitting consumer demand in an economy where most people are paid in - and buy what they need with - cash.
3. Finance Minister Arun Jaitley held meetings with cabinet colleagues and other government officials earlier this month and on 25 September 2017 said the government was planning measures to revive growth.
4. Some economists have called for the expansionary fiscal policy to stimulate consumer demand in India.
5. The government is considering a plan to loosen its fiscal deficit target to let it spend up to \$7.7 billion more to halt the slowdown.

India's first spot gold exchange

The World Gold Council (WGC) plans to form a committee soon to help set up India's first spot gold exchange within 12 to 18 months, a senior official of the industry body said. A dedicated exchange for physical gold is expected to pave the way for standard gold pricing practices in India, apart from bringing in transparency into a market which sees large cash transactions.

What

1. The committee, which is likely to be formed in the December quarter, will not set up the exchange.
2. It will provide guidance in setting up the exchange, while releasing a WGC report highlighting the need for a dedicated spot gold exchange in the country.
3. In 2015, Indian government had floated the idea of setting up a national gold exchange.
4. India's push for an exchange follows the gold monetisation and sovereign bond schemes launched in last few years, designed to mobilise the country's gold hoard and reduce imports of the precious metal that weighs on the country's trade deficit.
5. The Multi Commodity Exchange (MCX) and National Commodity and Derivatives Exchange (NCDEX) currently offer gold futures contracts in India, but do not have a platform for physical trade.
6. A physical exchange would enable jewellers, retailers, refiners and banks to trade over a regulated platform, the WGC report said.
7. China, world's top gold consumer, runs such a bourse where gold, both domestically produced and imported, can be bought and sold.

Fugitive Economic Offenders Bill, 2017

The Union Law ministry has approved Fugitive Economic Offenders Bill, 2017 to empower government to confiscate property of economic offenders and defaulters who flee India. The Bill seeks to deter economic offenders from evading the process of Indian law **by fleeing the country. It was drafted in pursuance of Finance Minister Arun Jaitley's 2017-18 Budget speech promising legislative changes or even new law to confiscate the assets of such fugitives. The Finance Ministry had prepared the draft Cabinet note on the bill and sought the law ministry's opinion on it.**

What

1. It defines fugitive economic offender as any individual against whom warrant for arrest in relation to economic offence has been issued and person has left the country and refuses to return to India to face criminal prosecution.
2. The burden of proof for establishing that an individual is fugitive economic offender will be on authorities.

3. The proposed bill will be applicable in cases where the value of offences is over Rs 100 crore.
4. It will allow Financial Intelligence Unit (FIU), the premier technical snoop wing under the finance ministry, to file an application for declaration of fugitive economic offender for confiscation of their assets.
5. The bill entrusts responsibility to try such cases to the courts under Prevention of Money Laundering Act, 2002 (PMLA).
6. The bill has provision for appointment of an administrator to dispose off property of fugitive offender to pay off the creditors. Besides, it has provisions to override provisions of other existing laws.

## SCIENCE AND TECHNOLOGY

### Fourth gravitational wave detected

Scientists have made the fourth detection of gravitational waves – ripples in the fabric of space and time – formed by the collision of two massive black holes located about 1.8 billion light-years away. The signal was recorded on August 14 by the Virgo detector located in Italy, and the two Laser Interferometer Gravitational-Wave Observatory (LIGO) detectors located in the US.

#### What

1. It is the first joint detection of gravitational waves with the Virgo and LIGO collaborations.
2. The transient gravitational-wave signal was produced by the collision of two stellar mass black holes. The detected gravitational waves – ripples in space and time – were emitted during the final moments of the merger of two black holes with masses about 31 and 25 times the mass of the Sun and located about 1.8 billion light-years away.
3. The newly produced spinning black hole has about 53 times the mass of our sun, which means that about 3 solar masses were converted into gravitational-wave energy during the merger.
4. Findings from the event, known as GW170814, will be published in the journal Physical Review Letters. With the next observing run planned for 2018 such detections can be expected weekly or even more often.
5. It is wonderful to see a first gravitational-wave signal in our brand new Advanced Virgo detector **only two weeks after it officially started taking data,**” said Jo van den Brand from Vrije Universiteit (VU) Amsterdam in the Netherlands, spokesperson of the Virgo collaboration.
6. Advanced LIGO is a second-generation gravitational-wave detector consisting of the two identical interferometers in Louisiana and Washington, and uses precision laser interferometry to detect gravitational waves.
7. It detected the first gravitational wave in February last year, almost 100 years after German scientist Albert Einstein predicted the phenomenon.
8. Advanced Virgo is the second-generation instrument built and operated by the Virgo collaboration to search for gravitational waves. With the end of observations with the initial Virgo detector in October 2011, the integration of the Advanced Virgo detector began.
9. The Virgo detector joined the LIGO detectors on August 1 this year. The real-time detection on August 14 was triggered with data from all three LIGO and Virgo instruments. Virgo is, at present, less sensitive than LIGO, but two independent search algorithms based on all the information available from the three detectors demonstrated the evidence of a signal in the Virgo data as well.

### India's first case of quadruple malaria

**India's first case of quadruple malaria** — presence of four types of Plasmodium parasite in a single patient — has been detected in a 12-year-old tribal kid in the Bastar forest of Chhattisgarh. **It's not known whether the boy survived the infection as he left the hospital, against medical advice, without completing the treatment.** Follow-up was not possible because of the inaccessibility to the area from where he came. Nevertheless, the

discovery by medical researchers illustrates how the battle against malaria is far from being over as new challenges crop up.

What

1. The Bastar boy recently attended the Darbha community health centre with the history of repeated fever.
2. His blood sample was examined at the malaria clinic of the National Institute for Research in Tribal Health, Jabalpur – one of the constituent laboratories of the Indian Council of Medical Research – located in the clinic.
3. We found four species of Plasmodium parasites – P.falciparum, P.vivax, P.malariae and P.ovale – in his blood. The dominant one was P.falciparum. **To the best of our knowledge, this is India's first case of quadruple malaria,"** NIRTH scientist Praveen K Bharti, a member of the team that analysed the blood sample.
4. An examination of 160 blood samples collected in the NIRTH centre, led to the discovery of multiple cases of mixed infection with two or more species. Mixed infections of P. vivax and P. falciparum were the highest (19%), followed by P. falciparum, P. vivax, and P. malariae (2.5%) mixing up and P. falciparum and P. malariae (1.3%) combination in few samples.
5. There was only one case with all 4 species. Such rare cases of malaria are a **diagnostic and clinical challenge,"** the researchers reported in a recent issue of the journal Public Library of Sciences.

### World's first molecular robot

Scientists from University of Manchester have created **world's first 'molecular robot'** — millionth of a millimetre in size. It can be used to build molecules and may help discover novel drugs.

What

1. The molecular robot is millionth of millimetre in size.
2. It is made up of just 150 carbon, hydrogen, oxygen and nitrogen atoms which are basic building blocks required to form molecules.
3. It can be programmed to move and build molecular cargo using a tiny robotic arm.
4. The molecular robot operates by carrying out chemical reactions in special solutions which can then be controlled and programmed by scientists to perform the basic tasks.
5. It responds to series of simple commands that are programmed with chemical inputs.
6. The molecular robot is so small, that it massively reduces demand for materials, dramatically reduce power requirements and can accelerate and improve drug discovery and rapidly increase the miniaturisation of other products.
7. Such molecular robots can be used for medical purposes, advanced manufacturing processes and even building molecular factories and assembly lines.

### India's first electric bus service launched

**India's first electric bus service was launched at Rohtang** Pass area in Himachal Pradesh. It is first of its kind electric bus service for tourist spot in India and first in world at an altitude of 13,000 feet. The electric bus service will ply between Manali and Rohtang and there will be 10 electric buses in fleet. It was launched amid concern over environment degradation in Rohtang Pass area due to plying of diesel taxis. The initiative aims to curb carbon emission which is resulting in melting of glaciers in Himalayas.

New type of washable solar cell developed

Scientists have developed a new type of water-proof solar cell which can provide electricity even after being soaked in water or stretched and compressed. The finding could open the way for wearable solar cells, which will provide power to devices such as health monitors incorporated into clothing, researchers said. These could include sensors that record heartbeats and body temperature, for example, providing early warning of medical problems, they said.

What

1. Researchers, including those from the University of Tokyo in Japan, developed extremely thin and flexible organic photovoltaic cells, coated on

- both sides with stretchable and waterproof films, based on a material called PNTz4T.
2. They deposited the device in an inverse architecture onto a one-micrometre-thick parylene film.
  3. The ultra-thin device was then placed onto acrylic-based elastomer and the top side of the device was coated with an identical elastomer, giving it a coating on both sides to prevent water infiltration.
  4. The elastomer, while allowing light to enter, prevented water and air from leaking into the cells, making them more long-lasting than previous experiments.
  5. The researchers then subjected the device to a variety of tests, finding first that it had a strong energy efficiency.
  6. To test its resistance to water, they soaked it in water for two hours, and found that the efficiency decreased by just 5.4 per cent.
  7. To test the durability of the solar cell, they subjected it to compression, and found that after compressing by nearly half for twenty cycles while placing drops of water on it, it still had 80 per cent of the original efficiency.

### Google Tez

In a bid to tap India's rapidly-growing digital payments market, Google has launched **its 'Tez' application**. Built on the government-backed Unified Payment Interface (UPI) platform, the app will allow users to securely pay for goods and services both online and offline, and also make person-to-person transactions. Digital payments have got a huge push post the government's demonetisation exercise in November last year. According to government estimates, digital economy has the potential to go up to \$1trillion in the next few years. Finance minister Arun Jaitley, who launched Tez, observed that during November, December and January a lot of people made digital payments more out of compulsion than finding it a more convenient method to transact.

### What

1. Tez, which means fast in Hindi, is a standalone payments app that can be downloaded on Android and iOS devices. Designed in a chat-like interface, Google has released Tez on both Android and iOS platforms.
2. It is based on UPI -- a payments protocol built by government-backed National Payment Corporation of India (NPCI).
3. Apart from English and Hindi, "Tez" app supports various Indian languages such as Bengali, Gujarati, Marathi, Kannada, Tamil and Telugu.
4. Google has partnered with four banks — Axis Bank, HDFC Bank, ICICI Bank and State Bank of India (SBI) — for the solution. While they will be exclusive platform partners, Tez will work with all 55 banks who are on the UPI platform.
5. **Tez is similar to NPCI's own BHIM app**, currently, the most used UPI payments app in India.
6. The user interface is fairly simple and the user is asked to sign into the application using the mobile number that is registered with the bank account.

### Genome editing used to alter DNA function

Scientists in the UK have for the first time used genome editing to study DNA function in human embryos, an advance that could help better understand the biology of our early development. Researchers from the Francis Crick Institute in the UK revealed the role of a key gene in human embryos in the first few days of development. They used genome editing technique called CRISPR/Cas9 to stop a key gene from producing a protein called OCT4, which normally becomes active in the first few days of human embryo development. After the egg is fertilised, it divides until at about seven days it forms **a ball of around 200 cells called the 'blastocyst'**.

### What

1. The study found that human embryos need OCT4 to correctly form a blastocyst. We were surprised to see just how crucial this gene is for human embryo development, but we need to continue our work to confirm its role, said Norah Fogarty from the Francis Crick Institute.

2. Other research methods, including studies in mice, suggested a later and more focused role for OCT4, so our results highlight the need for human embryo **research,” said Fogarty, first author of the study published in the journal Nature.**
3. To inactivate OCT4, they used CRISPR/Cas9 to change the DNA of 41 human embryos. After seven days, embryo development was stopped and the embryos were analysed. The embryos used in the study were donated by couples who had undergone in vitro fertilisation (IVF) treatment, with frozen embryos remaining in storage.
4. The majority were donated by couples who had completed their family, and wanted their surplus embryos to be used for research. The study was done under a research licence and strict regulatory oversight from the Human Fertilisation and Embryology Authority (HFEA), **the UK government’s independent regulator** overseeing infertility treatment and research.
5. As well as human embryo development, OCT4 is thought to be important in stem **cell biology. ‘Pluripotent’ stem cells** can become any other type of cell, and they can be derived from embryos or created from adult cells such as skin cells.

#### AI based SIA launched

Artificial intelligence banking platform Payjo said it has launched an artificial intelligence (AI)-powered chat assistant for State Bank of India (SBI) to address customer enquiries. The chat assistant, known as SBI Intelligent Assistant, or SIA, will help customers with everyday banking tasks just like a bank representative, the company said in a statement.

#### What

1. SIA is a revolution in the banking industry. It is set to disrupt the way banks and customers interact. SIA has been set up to handle nearly 10,000 enquiries per second, or 864 million in a day, which is nearly 25% of the queries processed by Google every day.
2. SIA will enhance customer service several notches above. **Payjo’s expertise** in the conversational banking domain helped us build SIA as a superior chatbot in the global banking space.
3. With SIA, the bank will reduce significant operational expenditure over time. Currently, SIA can address enquiries on banking products and services. It is trained with a large set of knowledge and is adept at answering frequently asked questions as well.

## MISCELLANEOUS

#### UN Equator Prize 2017

Swayam Shikshan Prayog (SSP), a Pune-based non-governmental organisation working among women farmers, **has won this year’s** UN Equator Prize. SSP is the only Indian organisation among the 15 winners that were chosen from 800-odd **entries. The award recognises SSP’s initiative to empower over 20,000 women farmers** from the impoverished Marathwada region in Maharashtra.

#### What

1. SSP has been promoting climate-resilient agro-ecological farming that addresses many issues relating to sustainable development, such as food security, income security and natural resource management.
2. The prize was received by Godavari Dange and Kamal Kumbhar, two women farmers from Osmanabad district, at the UN General Assembly meeting in New York on 24 September 2017.
3. **SSP’s climate**-resilient farming model works by giving cultivation rights of a small piece of land, which is usually half or one acre, to women from marginal families. Subsequently, they are trained in climate-friendly farming practices such as use of biofertilisers and biopesticides, preservation or exchange of locally available seeds, and diversification from single to multiple food crops that are water-efficient.

4. The initiative not only helped to convert 12,000 acre of dry land into bio farms, but also reduced the cost of cultivation by 40 per cent and increased the yield per acre by 25 per cent.
5. Last year, **SSP won UNFCCC's Momentum for Change Lighthouse Activity** Award for this initiative.

India mourns first five-star officer

War hero Marshal Arjan Singh who led the Indian Air Force during the 1965 India-Pakistan conflict, died. Ninety-eight-year-old Singh, the only officer of the IAF to be promoted to five-star rank, equal to a Field Marshal in the Army, was admitted to the Army's Research and Referral hospital after he suffered a cardiac arrest, the defence ministry said.

What

1. An icon in the country's military history, Singh had led a fledgling IAF in the 1965 Indo-Pak war when he was just a 44-year-old.
2. As Pakistan launched its Operation Grand Slam with an armoured thrust targeted at the vital town of Akhnoor in Jammu and Kashmir, he led the IAF through the war with courage, determination and professional skill.
3. The fighter pilot, who inspired the IAF despite constraints on the full-scale use of air combat power, was awarded the Padma Vibhushan, the second highest civilian honour, in 1965.
4. Born on April 15, 1919, in Lyallpur in Punjab in undivided India, his father, grandfather and great-grandfather had served in the cavalry.

Biggest road transport tender gets SC green signal

The Supreme Court on 15 September 2017 allowed Jawaharlal Nehru Port Trust (JNPT) to **proceed with India's biggest road transport tender yet to evacuate import containers from the four terminals of India's busiest container port to five locations and their nodes**. The tender is part of a plan to speed up imports through the direct port delivery (DPD) programme to cut transaction cost and time.

What

1. The tender — a first of its kind in India — involves selecting as much as seven big road transporters who will deploy some 2665 tractor-trailers (TTs) — both owned and aggregated — manufactured after April 1, 2009, for evacuating 580,747 twenty-foot equivalent units (TEUs) landing at the port to locations in Gujarat, Ahmednagar, Nashik, Aurangabad, Nagpur, Indore and Hyderabad, Goa, Bangalore and local region near Mumbai over distances ranging from 40 km to 1,100 km.
2. The apex court did not stay the tender while hearing an appeal brought by Maharashtra Heavy Vehicle and Inter State Container Operators Association (MHVICOA) after losing the case in the Mumbai high court in August, a JNPT official said. Neither did the court say that the finalisation of the tender will be subject to the outcome of the petition.
3. The government has directed JNPT to raise the proportion of DPD volumes to 40 per cent.
4. The Customs have identified and permitted 778 major importers to avail themselves of DPD. **As the volumes of DPD and number of client's increases, the terminals will face the challenge of yard efficiency and congestion on the port roads.**
5. The DPD also brings in the challenge of reliable delivery to multitudes of importers.
6. Currently, the terminals are stacking containers CFS/ICD wise and containers **are allocated to trucks on "best-pick" basis**. The port caters to 36 lakh road containers in its yard.
7. Trade and market forces have failed in offering any new solution to provide efficient transport solution for DPD. To cater to 40 per cent DPD volumes, there **was a need to work out an 'Out of the Box' solution**.

### Greatest living business minds list

Three Indian corporate czars—Lakshmi Mittal, Ratan Tata and Vinod Khosla—have been named in Forbes' special list of the world's '100 Greatest Living Business Minds'. Lakshmi Mittal is the chairman and CEO of ArcelorMittal, Ratan Tata is Tata Group's chairman emeritus and Vinod Khosla is the co-founder of Sun Microsystems. The special list also includes Donald Trump. Forbes referred him as the "Salesman and Ringmaster Extraordinaire: Owner, Trump Organisation; 45th President Of The United States".

#### What

1. Others in the list include Amazon founder Jeff Bezos, Virgin Group founder Richard Branson, Berkshire Hathaway CEO Warren Buffett, Microsoft co-founder Bill Gates and News Corp. executive chairman Rupert Murdoch.
2. Moreover, CNN founder Ted Turner, talk show master Oprah Winfrey, Dell Technologies founder Michael Dell, Paypal, Tesla and SpaceX co-founder Elon Musk, Facebook COO Sheryl Sandberg, Starbucks CEO Howard Schultz and Facebook co-founder Mark Zuckerberg, among others figured in the list.
3. **To celebrate Forbes' centennial, the magazine amassed an encyclopedia of ideas** from 100 entrepreneurs, visionaries and prophets of capitalism, making it the greatest ever collection of business essayists. In developing the list, Forbes sought people who have either created something with a lasting impact on the world or innovated in a way that transcends their given field.
4. **"The list speaks to a century of entrepreneurial capitalism compiling the doers who have created, disrupted and innovated on a collectively historic scale,"** Forbes said. Forbes magazine was founded on 17 September 1917 by BC Forbes, a financial journalist, and his partner Walter Drey.

### India Retail Report 2017

India has replaced China as the numero uno retail destination in 2017 as part of the global retail development index, according to industry experts. "India has replaced China this year as the top retail destination as part of the study on global retail development index," AT Kearney partner Subhendu Roy said on the concluding day of the two-day India Retail Forum 2017. The change in ranking was an outcome of four factors including increased consumer spending, beyond essentials, rising mobile and internet penetration, favourable foreign investment climate and bold action on cashless transaction and GST.

#### What

1. According to India Retail Report 2017, over the past 12-15 months, 100 per cent cash and carry operations are gaining significance in India with Thailand's Siam Makro being the latest entrant in this space following Metro, Walmart and Booker.
2. Furthermore, Swedish-furniture maker Ikea plans to open its lone distribution centre or warehouse in the country in Pune by end 2017 and its first store in Hyderabad by early 2018 with overall plans to invest \$1.56 billion to set up 25 stores in India.
3. In addition to the bigger retailer and brands, the mid-size brands from across the world are also looking to cash on the relaxed retail policy in India.
4. Food as well as retail Brands such as Korres, Migato, Evisu, Wallstreet English, Pasta Mania, Lush Addiction, Melting Pot, Yogurt Lab and Monnalisa and many others from across the world, are expected to invest about \$300-500 million cumulatively to open roughly 2,500-3,000 stores, the study said.
5. With increasing global participation in Indian retail, the sector will further evolve and become more organised and competitive in providing better assortment to the consumer.

### Haifa Day

Prime Minister Narendra Modi on 23 September 2017 saluted Indian soldiers who made the supreme sacrifice to liberate Haifa, the third largest city in Israel during the **'Battle of Haifa' in 1918**. On his visit to Israel in July, Modi had visited the Indian cemetery in Haifa, along with his Israeli counterpart Benjamin Netanyahu to lay wreaths. In

the Battle of Haifa, the Indian 15th (Imperial Service) Cavalry Brigade, 5th Cavalry Division and part of the Desert Mounted Corps attacked rear guard forces of the Ottoman Empire that resulted in the capture of the towns of Haifa and Acre.

What

1. The Jodhpur and Mysore Lancers are now represented by the 61st Cavalry Regiment in the Indian Army and still commemorate the battle every year on September 23 as Haifa Day.
2. The Battle of Haifa was fought on 23 September 1918 towards the end of the Battle of Sharon which together with the Battle of Nablus formed the set piece Battle of Megiddo fought between 19 and 25 September during the last months of the Sinai and Palestine Campaign of the First World War.
3. During the Battle of Haifa, the Indian 15th (Imperial Service) Cavalry Brigade, 5th Cavalry Division and part of the Desert Mounted Corps attacked rearguard forces of the Ottoman Empire that resulted in the capture of the towns of Haifa and Acre.
4. This attack took place at the north western edge of the Esdraelon Plain (also known as the Jezreel Valley and the plain of Armageddon) 40–50 miles (64–80 km) behind the front line in the Judean Hills after the Desert Mounted Corps had occupied the plain, during the cavalry phase of the Battle of Sharon.

Mehrishi to take over as CAG

Former home secretary Rajiv Mehrishi takes over as the Comptroller and Auditor General (CAG) on 25 September 2017 succeeding Shashi Kant Sharma on 24 September 2017. Mehrishi, 62, would be administered the oath of office and secrecy by President Ram Nath Kovind at Rashtrapati Bhavan.

What

1. Mehrishi, a 1978 batch (retired) Indian Administrative Service (IAS) officer of the Rajasthan cadre, completed his two-year fixed term as the home secretary last month.
2. Sharma, who had taken over as the CAG on May 23, 2013, demitted office on 22 September 2017, they said. Sharma was defence secretary prior to his appointment as the CAG.
3. Mehrishi will have tenure of about three years.
4. The CAG is appointed for a term of six years or till the incumbent attains the age of 65 years, whichever is earlier.
5. As a constitutional functionary, the CAG is primarily entrusted with the responsibility to audit the accounts of the Union government and of the state governments.
6. CAG reports are laid before Parliament and legislatures of the states.
7. Mehrishi, who hails from Rajasthan, holds Master of Business Administration degree from the University of Strathclyde, Glasgow (UK).
8. Before appointed as the home secretary, he worked as economic affairs secretary and chief secretary of Rajasthan.
9. Mehrishi has also worked as a secretary in departments of chemicals and fertilisers, and Overseas Indian Affairs.

Merkel wins fourth term

German Chancellor Angela Merkel won a fourth term in office on 24 September 2017 but Europe's most powerful leader will have to govern with a far less stable coalition in a fractured parliament after her conservatives haemorrhaged support to a surging far right. Two years after Merkel left German borders open to more than 1 million migrants, the anti-immigration Alternative for Germany (AfD) stunned the establishment by becoming the first far-right party to enter parliament in more than half a century. The AfD won 13.0 per cent of the vote - more than expected and one of many shocks on drama that saw Merkel's conservatives get their worst result since 1949, and her main Social Democrat (SPD) rivals their worst since 1933.

What

1. Describing the far right's success as a test for Germans, Merkel insisted she had a mandate to govern - a formidable challenge as she has little choice but to cobble together a three-way coalition with a pro-business group and the Greens.
2. The euro slipped around 0.4 per cent in early Asian trading as it became clear the results would make forming a coalition tricky for Merkel.
3. Coalition building could take months as Merkel's only straightforward path to a majority in parliament would be a three-way tie-up with the liberal Free Democrats (FDP) and the Greens - an arrangement untested at national level.

#### Platts rankings 2017

Reliance Industries Ltd has jumped five places to rank as the world's third-biggest energy company behind Russian gas firm Gazprom and German utility E.ON, according to Platts Top 250 Global Energy Company Rankings. State-owned Indian Oil Corp (IOC) broke into the top 10 club, climbing to 7th position in the 2017 ranking, up from 14th rank in 2016. IOC has been steadily climbing the rankings — it was placed at No. 66 in 2015. Oil and Natural Gas Corp (ONGC) was placed at 11th position in 2017 as against 20th in 2016.

#### What

1. 14 Indian energy companies made it to the S&P Global Platts Top 250 Global Energy Company Rankings, they were one short of the tally held last year, Platts said in a statement.
2. Reliance, the owner of world's biggest refinery complex, was ranked at 7th position in last year.
3. Coal India Ltd, the world's largest coal producer, was the only Indian firm to have slipped in the ranking - 45 in 2017, down from 38 in last year.
4. The other Indian firms in the ranking included Bharat Petroleum Corp Ltd (39), Hindustan Petroleum Corp Ltd (48), Power Grid Corp (81) and GAIL India Ltd (106).
5. Russia's Gazprom snagged the number 1 spot, ending US oil and gas giant ExxonMobil's 12-year reign at the top of the list (ExxonMobil holding within the lead ten at 9th place).
6. Among this year's biggest movers is E.ON, which climbed 112 places to 2nd place from 114th.
7. South Korea's Korea Electric Power is ranked 4th, followed by China Petroleum & Chemical and Russia's PJSC Lukoil.
8. The annual Top 250, published by S&P Global Platts, ranks companies based on financial performance using four key metrics: asset worth, revenues, profits, and return on invested capital. All companies on the list have assets greater than USD 5.5 billion.
9. Coal's troubles were especially acute in Asia, with China's production falling by 7.9 per cent or 140 million tons of oil-equivalent (mtoe), a record decline. Those headwinds translated into swings in this year's Platts rankings for coal interests, the statement said reasoning Coal India slip.
10. Collectively, the world's top 10 companies posted combined profits of \$63.7 billion last year, 14 per cent lower than the \$74.3 billion posted the year before.
11. The Top 250 profit figures are adjusted for preferred dividends and exclude discontinued operations and extraordinary operations.

#### Hurun rich list 2017

Acharya Balkrishna, the head of Baba Ramdev's Patanjali Ayurveda, has made it to the Hurun India Rich List this year, while Damani, the founder of D-Mart stores, was the biggest gainer. **While Balkrishna's combined wealth is Rs 70,000 crore, Damani was the biggest gainer, his wealth increasing 320%.** Haridwar-based, 45-year-old Balkrishna rose to the eighth position from 25th last year, after his wealth grew by 173%. Patanjali Ayurveda, which he set up with Ramdev, had a turnover of Rs 10,561 crore in FY17. It was giving tough competition to international brands, according to a Hurun statement.

#### What

1. Following 62-year-old Damani, the biggest gainer was Anurag Jain, 55, the **managing director of Endurance Technology**. His and his family's wealth increased by 286%.
2. The top three in the biggest gainers list were backed by the initial public offerings (IPO) performance of their companies. **Damani's Avenue Supermarts** was listed at a premium of 102% and rallied a further 43% as of 31 July.
3. Also helping the rich consolidate their wealth was government policies such as the note ban in November last year and the roll-out of the goods and services tax (GST) in July this year, according to the Hurun report.
4. In report 42-year-old Bengaluru-based Ambiga Subramanian emerged as the youngest self-made woman in the list, as she sold her shares in Mu Sigma, the data analytics unicorn that she co-founded.
5. The pharmaceuticals and consumer products companies were biggest gainer this year, with the two sectors doubling the number of entrants to 79 and 63, respectively.
6. On an average, the wealth of those on the Hurun India Rich List has increased by 11%, compared to that of last year. Sixteen people saw their wealth double year-on-year. The number of dollar billionaires has increased to 136 from 126 last year. However, 100 individuals saw their wealth decline.
7. Chairman of Reliance Industries, Mukesh Ambani, 60, with net worth of Rs 2.57 lakh crore is ranked first in the list for the sixth consecutive year. Share price of Reliance Industries hit a nine-year high in July this year.
8. Another notable performer was Kishore Biyani of Future Retail; he registered a 259% increase in wealth. The merger of Future Retail and Bharti Retail created the biggest supermarket chain with a turnover of Rs 15,000 crore and its subsequent relisting resulted in significant wealth creation for Biyani.
9. All the under-40 entrepreneurs in the Hurun India Rich List 2017 derive their wealth from innovative technological ventures.
10. Divyank Turakhia, 34, of Media.net is the youngest self-made billionaire in the list. Divyank Turakhia bootstrapped his company Media.net without external funding. Rest of the entrepreneurs raised money from some of the top international funds.
11. The Hurun India Rich List is based on a comparison with their listed equivalents using prevailing industry multiples such as price to earnings, price to sales, EV to sales, EV to Ebitda, and also other methodologies. In certain cases of early-stage companies, the First Chicago Method for valuation has been used.

#### Wheat pathogen Ug99

A team of scientists tracking the spread of plant diseases at Cambridge may have good and bad news for India. The good news: a deadly fungus that was seen to cause widespread devastation in wheat fields in many parts of the world, particularly in East Africa, is unlikely to come in through a route which many feared that the pathogen would take. The bad news, however, is that it may find alternative tracks to enter the country, which is among the largest wheat producers globally.

#### What

1. Ug99 is a deadly race of fungus puccinia graminis tritici (Pgt) — did not cross over to India despite it being present in Iran since 2006.
2. Ug99 — named so because it was first detected in Uganda in 1999 — scared wheat breeders across the world as the particular race could attack Sr31, a stem rust resistance gene used in modern wheat breeding programmes.
3. The fungus causes stem rust that can severely hit yields as seen in the past in many countries in East Africa, West Asia and parts of Europe.
4. A team of plant epidemiologists from Cambridge University led by Christopher Gilligan used high performance computing, field surveys and high resolution meteorological data to simulate the routes that Ug99 and other deadly races of Pgt can take to land in wheat farms in other geographical areas.
5. Suresh Bhardwaj, a principal scientist at Indian Institute Wheat and Barley Research, did not subscribe the view. India has one of the best surveillance

programmes in the world for wheat rust, said Bhardwaj whose lab located at Shimla has been helping to develop wheat varieties which are resistant to rust diseases caused by different fungi.

6. Ninety five per cent of wheat crops grown in central India, particularly in Madhya Pradesh and parts of Karnataka is resistant to this fungus.

#### National Tourism Awards 2017

The President of India, Shri Ram Nath Kovind, presented the National Tourism Awards (September 27, 2017) at a function held in New Delhi. Gujarat Tourism won the Hall of Fame award for being the Best State in Comprehensive Development of Tourism category at the function. President Ram Nath Kovind gives the award to Gujarat tourism minister Ganpatsinh Vasava. This year, some new categories of award have been introduced like Swachhta Award, Best State for Adventure Tourism award and Best Wildlife Guide award.

#### What

1. The awards are given since the early 1990s and are presented to state governments, Union Territories, classified hotels, heritage hotels, approved travel agents, tour operators and tourist transport operators, individuals and other private organisations in recognition of their performance in their respective fields and also to encourage healthy competition with an aim to promote tourism.
2. The awards were followed by the launch of the Incredible India 2.0 Campaign, **the launch of 'Adopt A Heritage' Project** and design launch of Incredible India Website.
3. It is the new version of the marketing campaign will focus on the promotion of monasteries and pilgrim sites in India.

#### World Development Report 2018

The World Bank has warned of a learning crisis in global education, particularly in low and middle-income countries like India, underlining that schooling without learning is not just a wasted development opportunity, but also a great injustice to children worldwide. The Bank in a latest report noted that millions of young students in these countries face the prospect of lost opportunity and lower wages in later life because their primary and secondary schools are failing to educate them to succeed in life.

#### What

1. According to the **'World Development Report 2018: 'Learning to Realise Education's Promise'**, released, India ranks second after Malawi in a list of 12 countries wherein a grade two student could not read a single word of a short text.
2. India also tops the list of seven countries in which a grade two student could not perform two-digit subtraction.
3. In rural India, just under three-quarters of students in grade 3 could not solve a two-digit subtraction such as 46—17, and by grade 5 half could still not do so.
4. The report argued that without learning, education will fail to deliver on its promise to eliminate extreme poverty and create shared opportunity and prosperity for all.
5. In rural India in 2016, only half of grade 5 students could fluently read text at the level of the grade 2 curriculum, which included sentences (in the local language) **such as 'It was the month of rains' and 'There were black clouds in the sky'**.
6. According to the report, in Andhra Pradesh in 2010, low-performing students in grade 5 were no more likely to answer a grade 1 question correctly than those in grade 2.
7. Further a computer-assisted learning programme in Gujarat, improved learning when it added to teaching and learning time, especially for the poorest-performing students, it said.
8. The report recommends concrete policy steps to help developing countries resolve this dire learning crisis in the areas of stronger learning assessments, using **evidence of what works and what doesn't to guide education decision-making**; and

mobilising a strong social movement to push for education changes that **champion 'learning for all'**.

#### GCI 2017

India has been ranked as the 40th most competitive economy -- slipping one place from last year's ranking -- on the World Economic Forum's global competitiveness index, which is topped by Switzerland. On the list of 137 economies, Switzerland is followed by the US and Singapore in second and third places, respectively. In the latest Global Competitiveness Report released, India has slipped from the 39th position to 40th while neighbouring China is ranked at 27th.

#### What

1. India stabilises this year after its big leap forward of the previous two years, the report said, adding that the score has improved across most pillars of competitiveness. These include infrastructure (66th rank), higher education and training (75) and technological readiness (107), reflecting recent public investments in these areas, it added.
2. India's performance also improved in ICT (information and communications technologies) indicators, particularly Internet bandwidth per user, mobile phone and broadband subscriptions, and Internet access in schools.
3. The private sector still considers corruption to be the most problematic factor for doing business in India.
4. A big concern for India is the disconnect between its innovative strength (29) and its technological readiness (up 3 to 107): as long as this gap remains large, India will not be able to fully leverage its technological strengths across the wider economy.
5. Among the BRICS, China and Russia (38) are placed above India. South Africa and Brazil are placed at 61st and 80th spots, respectively.
6. In South Asia, India has garnered the highest ranking, followed by Bhutan (82nd (rpt) 82nd rank), Sri Lanka (85), Nepal (88), Bangladesh (99) and Pakistan (115).
7. Improving ICT infrastructure and use remain among the biggest challenges for the region: in the past decade, technological readiness stagnated the most in South Asia.
8. Other countries in the top 10 are the Netherlands (4th rank), Germany (5), Hong Kong SAR (6), Sweden (7), United Kingdom (8), Japan (9) and Finland (10).

#### Flashpoint

1. The Global Competitiveness Index (GCI) is prepared on the basis of country-level data covering 12 categories or pillars of competitiveness.
2. Institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods market efficiency, labour market efficiency, financial market development, technological readiness, market size, business sophistication and innovation are the 12 pillars.
3. According to WEF's Executive Opinion Survey 2017, corruption is the most problematic factor for doing business in India.
4. The second biggest bottleneck is 'access to financing', followed by 'tax rates', 'inadequate supply of infrastructure', 'poor work ethics in national labour force' and 'inadequately educated work force', among others.
5. The survey findings are mentioned in the report is Countries preparing for the Fourth Industrial Revolution and simultaneously strengthening their political, economic and social systems will be the winners in the competitive race of the future.

#### 13th Formation Day of NDMA

The Union Home Minister Shri Rajnath Singh inaugurated the 13th Formation Day of National Disaster Management Authority (NDMA) on 28 September 2017. The theme of this year's formation day is 'School Safety'. Delivering the inaugural address, Shri Rajnath Singh said that NDMA has covered a long distance in short time span of 13 years since its formation. He said that NDMA has established credibility of India across world.

What

1. There was no institutional framework for disaster management earlier, but after the setting up of NDMA, a mechanism has been developed not only for disaster management, but also for disaster risk reduction.
2. **India got appreciation due to NDMA's work at Shanghai Cooperation Organisation (SCO) meeting on Disaster management held in Kyrgyzstan last month, where he had participated.**
3. In November last year, India had hosted the Asian Ministerial Conference for Disaster Risk Reduction (AMCDRR) in New Delhi which was first such conference after Sendai framework.
4. **India is hosting first 'BIMSTEC Disaster Management Exercise- 2017' from 10th-13th October this year. He highlighted India's efforts in conducting joint exercise by SAARC nations (SAADMEEx) to respond to simulated disaster situations, urban flooding and cyclones. He also said that a comprehensive plan to mitigate the effects of earthquake and landslides is also being formed.**
5. On the occasion, the Union Home Minister also released National Disaster Management Guidelines on Boat Safety and Cultural Heritage Sites & Precincts. **A study report on "Tamil Nadu floods: Lessons learnt and best practices" was also released.**
6. During the event, the stakeholders are discussing the roadmap, their roles and key challenges in the implementation of the School Safety Policy across the country. States are sharing their experiences in terms of best practices and lessons learnt through their efforts towards school safety initiatives.

World's most affordable technology city

**Bengaluru is the world's most affordable technology hub**, according to a study conducted by a realty consultancy firm. Among the top 29 global technology hubs covered by the study, Bengaluru emerged the cheapest in office rentals. Gurugram, another Indian city, comes second. Whitefield in east Bengaluru is the most affordable technology district, with a rent of \$9.65 (Rs 632) per sq feet, according to the Global Cities 2018 Report produced by Knight Frank.

What

1. Gurugram, part of the National Capital Region (NCR), is the only other Indian tech hub featured on the list. The rent there is \$20.40 (Rs 1,335) per sq feet.
2. Globally, London is the costliest in office rental values at \$90.75 (Rs 5,940) per sq feet.
3. Bengaluru is also the most valued destination on the employment and property cost index.
4. The cost to a firm (salary and property) of employing 100 people in the city comes to \$1.3 million (Rs 8.27 crore approximately) annually, the lowest in the world.
5. The Swiss city of Zurich, a global centre for banking and finance, is the costliest on this front. The cost to a firm employing 100 people in Zurich comes to \$7.9 million (about Rs 52.02 crore).
6. Bengaluru is the only Indian city on the list of 19 most valued destinations on the index.
7. The list is dotted with Indian cities, as Delhi generated the second highest yield of 9.2% and Mumbai the third highest yield of 8.5%. The lowest yield was generated by Hong Kong (2.7%).

**World's first quantum trunk line**

**China launched the world's first 2,000-km-long 'hack proof' quantum communication line between Beijing and its commercial capital Shanghai that cannot**

be wiretapped. Quantum communications have ultra-high security. It is impossible to wiretap, intercept or crack the information transmitted through them.

What

1. **The line is the world's first trunk line of secure quantum telecommunications.** The Jing-Hu (Beijing-Shanghai) Trunk Line connects Beijing, Jinan, Hefei and Shanghai.
2. The quantum satellite was expected to provide a fool-proof hack-free communication **which makes foreign powers to monitor or intercept China's communication systems.**
3. The line is connected with the **world's first quantum satellite**, which was launched by China in August last year, through a station in Beijing.
4. The **satellite is nicknamed 'Micius'** after a Chinese philosopher and scientist who conducted optical experiments.
5. Bai Chunli, president of the Chinese Academy of Sciences (CAS), talked with staff in Hefei, Jinan, Shanghai and Xinjiang Uygur Autonomous Region, through the line.
6. He also had a video call with Austrian quantum physicist Anton Zeilinger through the satellite.

World Maritime Day

The World Maritime Day (WMD) is observed every year on September 28 to highlight importance of shipping safety, maritime security and marine environment and to acknowledge maritime industry. The theme of this year is 'Connecting Ships, Ports and People'.

What

1. It was chosen to provide an opportunity to focus on many diverse actors involved in shipping and logistics industry.
2. It aims to focus on helping International Maritime Organization (IMO) member states to develop and implement maritime strategies to invest in a joined-up, interagency approach that addresses whole range of issues, including facilitation of maritime transport, increasing efficiency, navigational safety, protection of marine environment, and maritime security.

Background

1. The World Maritime Day marks date of adaptation of International Maritime Organization (IMO) Convention in 1958.
2. The day was first observed in 1978.
3. **The IMO's original name was the Inter-Governmental Maritime Consultative Organization (IMCO) but it was changed to IMO in 1982.**

World Tourism Day

The World Tourism Day (WTD) is being observed every year on 27th September to raise awareness about importance of tourism. Observance of day aims to foster awareness among international community of importance of tourism and its social, cultural, political and economic value. The theme of **this year's World Tourism Day is 'sustainable tourism – a tool for development'**. It is dedicated for exploring contribution of tourism to Sustainable Development Goals. In India, to mark this day, President Ram Nath Kovind gave away

International Maritime Organization (IMO)

1. IMO is a specialised agency of the United Nations responsible for regulating shipping.
2. It was established in 1948 in Geneva as ICMO and came into force in 1959.
3. Its headquarters are in London, United Kingdom.
4. IMO has 171 member states and 3 associate members.
5. India was one of the earliest members of the IMO and had joined it as a member-state in 1959.
6. Its functions are to develop and maintain a comprehensive regulatory framework for shipping and its remit.
7. This framework addresses various areas like safety, legal matters, environmental concerns, technical co-operation, maritime security and efficiency of shipping.

National Tourism Awards and also launched Incredible India 2.0 Campaign in New Delhi.

What

1. The World Tourism Day marks adaptation of Statutes of UNWTO (World Tourism Organization) on September 27, 1970.
2. The adoption of these Statutes is considered a milestone in global tourism.
3. The purpose of this day is to raise awareness on role of tourism within international community.
4. It also seeks to demonstrate the impact of tourism sector on social, cultural, political and economic values worldwide.

World Nuclear Industry Status Report 2017

According to World Nuclear Industry Status Report 2017, India with six installed nuclear reactors ranks third in world, while China is leading at 20 installed nuclear reactors.

What

1. The number of nuclear reactor units under construction is declining globally for fourth year in a row, from 68 reactors at end of 2013 to 53 by mid-2017.
2. Most nuclear reactor constructions are behind schedule, with delays resulting in increase in project costs and delay in power generation.
3. Globally, there are 37 reactor constructions behind schedule, of which 19 reported further delays over past year.
4. In India itself, five out of six reactors under construction are behind schedule.
5. Eight nuclear power projects have been under construction globally for a decade or more, of which three have been so for over 30 years.

Von Hippel Award 2017

Eminent Scientist and Bharat Ratna Prof C.N.R. Rao was awarded Von Hippel Award 2017, the highest international prize in materials research. He is first Indian and first Asian to win this honour. The award will be presented to Prof Rao for his interdisciplinary contributions to development of novel functional materials, including nanomaterials, graphene, superconductivity, 2D materials and colossal magnetoresistance at Boston in November 2017,

What

1. Chintamani Nagesa Ramachandra Rao is eminent scientist and **world's foremost** solid state and materials chemists.
2. He has worked mainly in solid-state and structural chemistry. He was first Indian scientist to reach the h-index of 100.
3. He is also the Honorary President of Jawaharlal Nehru Centre for Advance Scientific Research, Bengaluru and a former Chair of the Japan-India Science Council.
4. He has authored of around 1600 research papers. He also has authored and edited 45 books.

PV Sindhu wins 2017 Korea Open title

India's ace shuttler **P V Sindhu (World no. 4) won women's singles title at 2017** Korea Open Super Series badminton tournament. In summit clash held at Korean capital city Seoul, she defeated Nozomi Okuhara (World No. 7) of Japan in three sets 22-20, 11-21, 20-18.

What

1. With this victory, Sindhu became first Indian to win Korea Super Series crown.
2. It was overall her third super series title of her career.

Von Hippel Award

1. Von Hippel Award has been instituted by Materials Research Society (MRS), an organisation with members spanning over 90 countries.
2. It is named after Arthur von Hippel (1898-2003), a pioneer scientist known for study of dielectrics, semiconductors, ferromagnetics and ferroelectrics.
3. He was an early advocate of interdisciplinary approach to materials research and his example substantially furthered science of materials.

3. She had won 2016 China Super Series Premier and India Super Series and Syed Modi Grand Prix Gold this season.
4. PV Sindhu received international fame after getting listed on the Top 20 list of Badminton World Federation rankings in 2012.
5. In 2013, she created history by becoming first **Indian women's singles badminton** player to win medal at World Championships.
6. Sindhu had won Silver medal in 2016 Rio Olympics.
7. She was second Indian female shuttler to win Olympic medal after Saina Nehwal who had won bronze medal in 2012 London Olympics.
8. **Sindhu was awarded Padma Shri in 2015, India's fourth-highest civilian honour.**

#### World Ozone Day

The International Day for Preservation of Ozone Layer (or World Ozone Day) is observed every year on September 16 for the preservation of the Ozone Layer. This year, the theme for the Day is 'Caring for all life under the sun'. The day was designated by the United Nations General Assembly (UNGA) on December 19, 1994. Its observance commemorates the date in 1987 on which the Montreal Protocol was signed on substances that deplete the ozone layer. It also is intended to spread awareness of the depletion of the Ozone Layer and search for solutions to preserve it.

#### What

1. The Ozone layer is fragile shield of gas which protects Earth from harmful ultraviolet (UV) radiation of Sun and thus helping preserve life on the planet.
2. It contains high concentrations of ozone (O<sub>3</sub>) in relation to other parts of the atmosphere.
3. Stratospheric Ozone is not harmful, but its presence on land it is harmful. Substances like Chlorofluorocarbons, halons, Carbontetrachloride are responsible for ozone layer depletion.

#### Montreal Protocol

1. It is an international treaty designed to protect ozone layer by phasing out production of numerous Ozone Depleting Substances (ODSs) that are responsible for ozone depletion.
2. It was agreed on 26 August 1987 in Montreal, Canada and entered into force on 26 August 1989.
3. It was followed by a first meeting in Helsinki, May 1989. Due to its universality, Montreal Protocol has helped in recovering the ozone hole in Antarctica.
4. Under it production and consumption of key ODSs like chlorofluorocarbon (CFCs), Methyl Chloroform, CTC halons and Methyl Bromide have been phased-out globally.