



Travelling Abroad is a Basic Human Right: SC

Recently, the Supreme Court has ruled that the right to travel abroad is an important basic human right while permitting an IPS Officer who was denied permission to go abroad as he is facing departmental proceedings.

- SC observed that the pendency of departmental proceedings cannot be a ground to prevent the officer from traveling abroad.
- SC was hearing an appeal against the Government of India's denial of permission due to lack of vigilance clearance.
- The decision of the government of India was upheld by Central Administrative Tribunal and High court.
- The bench, while disposing of the appeal, referred to the judgment in Maneka Gandhi v. Union of India, and observed that:
 - The right to travel abroad is an important basic human right for it nourishes independent and self-determining creative character of the individual, not only by extending his freedoms of action but also by extending the scope of his experience.
 - Supreme Court also referred to a judgment of US Supreme court in Kent v. Dulles which said that "Freedom to go abroad has much social value and represents the basic human right of great significance."

Freedom of Movement

- Freedom of movement is one of the six freedoms under Article 19(1) of the constitution of India.
- Article 19: Protection of certain rights regarding freedom of speech etc
 - (1) All citizens shall have the right
 - (a) to freedom of speech and expression;
 - (b) to assemble peaceably and without arms;
 - (c) to form associations or unions;
 - (d) to move freely throughout the territory of India;
 - (e) to reside and settle in any part of the territory of India; and
 - (f) to practice any profession, or to carry on any occupation, trade or business.
- The freedom of movement has two dimensions, viz, internal (right to move inside the country) and external (right to move out of the country and the right to come back to the country).
- Article 19 protects only the first dimension. The second dimension is dealt with by Article 21 (right to life and personal liberty).

Maneka Gandhi Case

- In **Maneka Gandhi case (1978)**, the Supreme Court took a **wider interpretation of Article 21**.
 - The court held that the **'right to life'** as embodied in Article 21 is not merely confined to animal existence or survival but it includes within its ambit the right to live with human dignity and all those aspects of life which go to make a man's life meaningful, complete and worth living.
 - It also ruled that the expression **'Personal Liberty' in Article 21 is of the widest amplitude** and it covers a variety of rights that go to constitute the personal liberties of a man.
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Crisis in Libya

General Khalifa Haftar, head of the **Libyan National Army (LNA)**, has launched an offensive on the capital Tripoli of Libya.

- Haftar forces have already taken control of the **east of the country including most of the oilfields.**
- The general supposedly has the backing of **Egypt, Saudi Arabia, and some West Asian countries, apart from Russia and France.**

Background

- Anti-government protests began on **February 15, 2011**, leading to civil war between opposition forces and Muammar Gaddafi loyalists.
- The capital city, **Tripoli was captured and the government was overthrown after military intervention by western powers.**
- In Libya, a **UN-backed internationally recognized government was put in place called the Government of National Accord (GNA).**
- Libya has no single government currently, with **LNA backing the Tobruk-based parliament which governs the East of Libya**, and the **GNA which controls Libya's western parts from Tripoli.**
- The UN-backed government failed to provide stability to Libya. West Libya which was under GNA control was replete with inter-militia battles and kidnappings.
- The GNA commands no security forces, public administration scarcely exists, water, petrol and power shortages abound, and few banks operate.

International Response

- The GNA of Libya has asked the **UN Security Council to intervene to protect Tripoli.**
- United Nations has issued a **plea for a temporary ceasefire to allow** the wounded to be evacuated.
- Many European countries, the US has asked to **cease hostilities and de-escalation of tension.**
- The **US has ordered evacuation of its troops stationed in Tripoli.**
- **India also evacuated its contingent of peacekeeping forces comprising of 15 CRPF personnel from Tripoli.**
- India has also asked its citizens to exercise extreme caution.

Impact

- The civil war in Libya **may lead to a new migrant crisis from Africa into Europe.**
- **Libya has the largest oil reserve in Africa** and one of the largest oil producer in the world. **Instability in Libya may increase oil prices globally. This will impact India directly.**



Country Profile: Libya //

- Libya is a mostly **desert and oil-rich country in northern africa**.
 - Libya **gained independence in 1951**. Soon after oil was discovered and earned the country immense wealth.
 - Colonel **Gaddafi seized power in 1969** and ruled for four decades until **he was toppled in 2011** following an armed rebellion assisted by Western military intervention.
 - Capital: **Tripoli**
 - Population: **6.4 million**
 - Area: **1.77 million sq km** (685,524 sq miles)
 - Major language: **Arabic**
 - Major religion: **Islam**
 - Currency: **Libyan dinar**
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Universe's First Molecule

Scientists have detected the **most ancient type** of molecule in our universe in **space for the first time ever**.

- **Helium hydride ion (HeH⁺)** was the **first molecule** that formed when, almost 14 billion years ago, the **falling temperatures allowed recombination of the light elements (hydrogen, helium, deuterium and traces of lithium) produced in the Big Bang**.
 - It is the **first type of molecule (first molecular bond)** that formed in the universe after the Big Bang.
- At that time, **ionised hydrogen** and **neutral helium** atoms **reacted to form HeH⁺**.
 - Once the universe cooled down, **hydrogen atoms** started to **interact with helium hydride**, creating molecular hydrogen, which set the **stage for star formation**.
 - From that point on, **stars created the other elements of the cosmos**.
- Despite its importance in the history of the early Universe, **HeH⁺ has so far escaped detection in astrophysical nebulae** — cloud of gas and dust in outer space.
- Helium hydride — a combination of helium and hydrogen — was detected roughly 3,000 light-years from Earth by NASA's **Stratospheric Observatory for Infrared Astronomy (SOFIA)**.

Stratospheric Observatory for Infrared Astronomy

- **Stratospheric Observatory for Infrared Astronomy (SOFIA)** is a **Boeing 747SP jetliner** modified to carry a 100-inch diameter telescope. It is a joint project of **NASA and the German Aerospace Centre**.
 - It is flown at approx 45,000 feet, where its observations are **not impacted by interference from Earth's atmosphere**.
 - SOFIA returns to Earth after every flight, allowing scientists to regularly update the instrument with the latest technology. One of the most recent upgrades **included adding a specific channel to detect signatures of helium hydride**, which previous telescopes did not have.

 - The molecule was found in a **planetary nebula, NGC 7027**, which is the **dusty remnant of a sun-like star**.
 - While helium hydride has been produced and tested in a laboratory setting, this discovery marks the **first time that this molecule has been detected in space** — which sheds light on the **chemistry of the early universe**.
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Genome Sequencing in India

CSIR (Council of Scientific and Industrial Research) plans to undertake genome sequencing of a sample of **nearly 1000 Indian rural youth** to determine **unique genetic traits, susceptibility (and resilience) to disease**.

- This is the **first time that** such a large sample of Indians will be recruited for a detailed study.
- These recruited youths, as part of **genome-sample collections**, are representative of the country's population diversity.
 - In this case, the bulk of them will be college students, both men and women, and pursuing degrees in the life sciences or biology.
- The project is an **adjunct to a much larger government-led programme**, still in the works, to sequence at **least 10,000 Indian genomes**.

Genome Sequencing

- Genome sequencing is figuring out the **order of DNA nucleotides, or bases, in a genome**—the order of Adenine, Cytosine, Guanine, and Thymine that make up an organism's DNA.
- **Human genome**
 - It is made up of **23 chromosome pairs** with a total of about 3 billion DNA base pairs.
 - There are **24 distinct human chromosomes: 22 autosomal chromosomes, plus the sex-determining X and Y chromosomes**.
 - Chromosomes 1-22 are numbered roughly in order of decreasing size.
 - Somatic cells usually have one copy of chromosomes 1-22 from each parent, plus an X chromosome from the mother and either an X or Y chromosome from the father, for a total of 46.
 - There are estimated 20,000-25,000 human protein-coding genes.
 - The estimate of the number of human genes has been repeatedly revised down from initial predictions of 100,000 or more as genome sequence quality and gene finding methods have improved, and could continue to drop further.

Importance of Genome Sequencing

- Sequencing the genome is an important step towards understanding it.
- The genome sequence will represent a **valuable shortcut, helping scientists find genes much more easily and quickly**. A genome sequence does contain some clues about where genes are, even though scientists are just learning to interpret these clues.
- Scientists also hope that being able to study the entire genome sequence will help them understand how the genome as a whole works—how genes work together to direct the growth, development and maintenance of an entire organism.
- Finally, genes account for less than 25 percent of the DNA in the genome, and so knowing the entire genome sequence will help scientists study the parts of the genome outside the genes. This includes the regulatory regions that control how genes are turned on and off, as well as **long stretches of "nonsense" or "junk" DNA—so called because significance of it hasn't been established**.

Human Genome Project

- The Human Genome Project was an international research effort to determine the sequence of the human genome and identify the genes that it contains. The Project was coordinated by the **National Institutes of Health and the U.S. Department of Energy**.
- It was a **13-year-long, publicly funded project initiated in 1990** with the objective of determining the DNA sequence of the entire euchromatic human genome within 15 years.
- The overwhelming success of the Human Genome Project is readily apparent. Not only did the completion of this project usher in a new era in medicine, but it also led to significant advances in the types of technology used to sequence DNA.
- Today, the goal of **personalized medicine is to utilize information** about a person's genes, including his or her nucleotide sequence, to make drugs better and safer.

- For example, evolution of **Her2/neu and Response to Breast Cancer Treatment and CYP450** and Response to Antidepressants are direct result of Human Genome Project.
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Important Facts For Prelims (19th April 2019)

Bubble Boy Disease

- As per a recent study published in the New England Journal of Medicine, **U.S. scientists used 'HIV' in making a gene therapy that cured eight infants of "bubble boy" disease.**
 - The study details how scientists turned the [enemy virus \(HIV\)](#) into a saviour, altering it so it couldn't cause disease and then using it to deliver a gene that babies with "bubble boy" disease lacked.
- Bubble Boy Disease, also **known as Severe Combined Immunodeficiency Syndrome (SCID)** is caused by a **genetic flaw that keeps the bone marrow from making effective versions of blood cells that comprise an immune system.**
 - An immune system is a complex network of cells, tissues, organs that helps the body in fighting infections and other diseases.
- It **affects 1 in 2,00,000 newborns, almost exclusively males.** Without treatment, it often kills in the first year or two of life.
- The nickname **'bubble boy disease' has come from a famous case in the 1970s-** a Texas boy with SCID, lived for 12 years in a protective plastic bubble for isolation from germs.
- A bone marrow transplant from a genetically matched sibling can cure SCID, but most people lack a suitable donor. Transplants are risky too; the Texas boy died after one.
- Doctors think **gene therapy** could be a solution. It **involves removing some of a patient's blood cells, using the modified HIV to insert the missing gene,** and returning the cells to the body.

Top U.K. honour for Indian Scientists

- **Scientist and businessman Yusuf Hamied is among a host of Indian-origin experts honoured in the 2019 list of new fellows of the U.K.'s Royal Society.**
 - The **Royal Society** is an independent scientific academy of the U.K. and the Commonwealth, **dedicated to promoting excellence in science.**
 - It is the **world's oldest scientific academy,** in continuous existence since the seventeenth century.
 - **Cipla Chairman, Hamied is a Padma Bhushan awardee,** and is known for efforts to produce low-cost drugs to treat diabetes, cancer and other diseases.
- Among **other Indian-origin scientists** elected as fellows this year are microbiologist Gurdyal Besra, mathematicians Manjul Bhargava and Akshay Venkatesh and health experts Gagandeep Kang and Anant Parekh.

Bloomberg Misery Index

- The South American nation, **Venezuela has topped the rankings of Bloomberg's Misery Index, which is calculated as the sum of a country's inflation and unemployment rates.**
 - It relies on the age-old concept that low inflation and unemployment generally illustrate how good an economy's residents should feel.
 - **This year's scores are based on Bloomberg economist surveys,** while prior years reflect actual data.
 - The index compared the median estimate of economists' forecasts for each country's rates in 2019 to 2018 published data. **There are total 62 countries in the index.**
- Joining Venezuela in the most-distressed countries are **Argentina, South Africa, Turkey, Greece**

and Ukraine -- each of which retained the same rank as last year, showing intense economic stress and scant progress in taming price growth and getting people back to work.

- **Thailand** again claimed the title of the “**least miserable” economy**, though the government’s unique way of tallying unemployment makes it less noteworthy than Switzerland’s improvement to second-least and Singapore managing to stay in the bottom three.
- The **U.S.** moved six spots toward **13th least miserable**, and the **U.K.** improved four spots to **16th least**.
- **Russia’s** 17-spot deterioration in its score, to the **17th most miserable economy**, is owed to projections of higher prices and stagnation in joblessness.

Nepal Launches its First Satellite

- Nepal has successfully launched its first satellite into space from Virginia in United States to gather detailed geographical information of the Himalayan nation.
- Developed by the Nepalese scientists, was launched at 2:31 am (Nepal time), according to Nepal Academy of Science and Technology (NAST).
- NepaliSat-1 satellite has been developed by the two Nepali scientists, Aabhas Maskey and Hariram Shrestha under the BIRDS project of the Kyushu Institute of Technology, Japan.
 - NAST initiated the launch of the country's own satellite under the BIRDS project of the Japanese Kyushu Institute of Technology.
 - The BIRDS project has been designed in association with the United Nations and aims at helping countries launch their first satellite.
- NepaliSat-1 is a low orbit satellite which will be in the 400-km distance from the Earth's surface.
 - It will be stationed at the [International Space Station \(ISS\)](#) for a month and then it will be sent to orbit the earth.
 - It is a small satellite weighing 1.3 kilograms, with limited capability.
- The satellite will take photographs on a regular basis to gather geographical information of Nepal.

GI Tags

- According to the data from [Department for Promotion of Industry and Internal Trade \(DPIIT\)](#), 14 products have received a [Geographical Indication \(GI\) tag](#) from the government so far **in 2019**.
- Himachali Kala Zeera, Jeeraphool from Chhattisgarh, Kandhamal Haldi from Odisha, [Coorg Arabica coffee from Karnataka](#), [Wayanad Robusta coffee from Kerala](#), [Araku Valley Arabica from Andhra Pradesh](#), [Sirsi Supari from Karnataka](#) and **Himachali Chulli oil** are among those 14 products.
- Once a product gets this tag, no person or company can sell a similar item under that name.
- This tag is **valid for a period of 10 years following** which it can be renewed. GI tags are covered under a law of the World Trade Organization.

Vasanthotsavam

- The annual ‘Vasanthotsavam’ is being held at the temple of Lord Venkateswara in Tirumala, Andhra Pradesh.
- The Annual Vasanthotsavam is performed for 3 days of Trayodasi, Chaturdasi and Pournami in the month of Chaitra (March/April) every year.
- It is believed to be started by King Achyutaraya in 1460's to mark the arrival of Spring Season.
- Vasanthotsavam is the combination of 2 words - "Vasantha" (Spring season in Sanskrit) and "Utsavam" (festival in Sanskrit).

Dastangoi

- An oral Urdu storytelling tradition.
- It has the dastango or storyteller whose voice is main artistic tool at the centre.
- While it originated in Persia, the art form travelled to Delhi and other parts of India, with the spread of Islam.
- It reached its pinnacle during the sepoy mutiny of 1857, when a number of Dastangos migrated to

Lucknow, and popularized the art form in the city.

- The artform died for a while with the demise of Mir Baqar Ali in 1928, and was revived in 2005 only.

Simbakubwa Kutokaafrika

- Researchers have discovered the fossils of an enormous carnivore who lived in Kenya 22 million years ago.
 - It has been named as **Simbakubwa kutokaafrika**, Swahili for “**big lion**”. It weighed about a tonne and was 8 feet long.
 - Simbakubwa is **neither a bear nor a member of the extended feline family (big cat family)**.
 - The massive mammal was a **Hyaenodon**, a now-extinct lineage of carnivores. **Hyaenodon are** not, by the way, related to modern hyenas, but they do have similar dentition (the arrangement or condition of the teeth in a particular species).
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