

WORLD HINDI DAY 2023

World Hindi Day is celebrated every year on January 10.



About World Hindi Day 2023:

- The theme this year for World Hindi Conference is "**Hindi – Traditional Knowledge to Artificial Intelligence**".
- It was first observed in 2003.
- The day is commemorated every year with the objective to promote use of Hindi language abroad.
- It is also the day when Hindi, India's national language, was spoken for the first time in the United Nations General Assembly.
- It was on this day in 1975 that the first World Hindi Conference was held in Nagpur.
- Since then, such conferences are organised in different parts of the world every year.

OZONE LAYER

The recent United Nations report, **Scientific Assessment of Ozone Depletion: 2022** said that the Earth's ozone layer is slowly recovering.



Why in news?

- The successful phasing out of banned substances as envisioned by the Montreal Protocol has set the stage for a complete recovery of the ozone layer by the 2060s, a United Nations-backed panel of experts said at the American Meteorological Society's annual meeting on January 8, 2023.

What is Ozone?

- Ozone is a gas composed of **three atoms of oxygen**. It is both a natural and a man-made product that occurs in the Earth's upper atmosphere (Stratospheric ozone) and lower atmosphere (the troposphere).
- Stratospheric ozone is formed naturally through the interaction of solar ultraviolet (UV) radiation with molecular oxygen (O₂).
- The "ozone layer," approximately 6 to 30 miles above the Earth's surface, reduces the amount of harmful UV radiation reaching the Earth's surface.

NATIONAL SCIENCE DAY 2023

Recently, the Union Minister of Science and Technology released the Theme of National Science Day 2023 at a function in New Delhi.



About National Science Day 2023:

- The theme of National Science Day 2023 will be **Global Science for Global Wellbeing**.
- The government of India designated 28 February as National Science Day (NSD) in 1986.
- On this day Sir C.V. Raman announced the discovery of the '**Raman Effect**' for which he was awarded the Nobel Prize in 1930.

What is Raman Effect?

- Raman Effect is a change in the **wavelength of light** that occurs when a **light beam is deflected** by molecules.
- When a beam of light traverses a dust-free, transparent sample of a chemical compound, a small fraction of the light emerges in directions other than that of the incident (incoming) beam. Most of this scattered light is of unchanged wavelength. A small part, however, has wavelengths different from that of the incident light; its presence is a result of the Raman Effect.

INDIANS ABROAD: HISTORY, SPREAD, REMITTANCES

Why in News?

- The Prime Minister of India recently inaugurated the 17th Pravasi Bharatiya Divas (PBD) convention in Indore (Madhya Pradesh), saying that Indians living abroad are brand ambassadors for the country on foreign soil.

What is the history of the Indian diaspora?

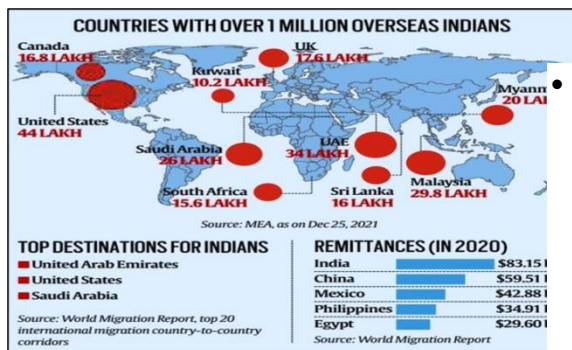
- **‘Girmitiya’ arrangement:** The Indian diaspora has grown manifold since the first batch of Indians were taken to counties in the east pacific and the Caribbean islands as indentured labourers.
 - They were shipped to these countries in the 19th and early 20th centuries to work on plantations in **British colonies** that were reeling from a labour crisis following the abolition of slavery in 1833-34.
- **Waves of migration:** In the 2nd wave, nearly 20 lakh Indians went to Singapore and Malaysia to work in farms, while the 3rd and 4th wave saw professionals heading to western countries and workers going to the Gulf and west Asian countries in the wake of the oil boom.

How is the Indian diaspora classified?

- Overseas Indians are classified into **3 categories:** Non-Resident Indians (NRIs are Indians who are residents of foreign countries), Persons of Indian Origin (PIOs), Overseas Citizens of India (OCIs).
- According to the MEA, **PIO** refers to a foreign citizen (except a national of Pakistan, Afghanistan Bangladesh, China, Iran, Bhutan, Sri Lanka and Nepal) -
 - who at any time held an Indian passport, or
 - who or either of their parents/grandparents/great grandparents was born and permanently resided in India as defined in Government of India Act, 1935, or
 - who is a spouse of a citizen of India or a PIO
- A separate category of **OCI** was carved out in **2006**. An OCI card was given to a foreign national
 - who was eligible to be a citizen of India on January 26, 1950,
 - was a citizen of India on or at any time after January 26, 1950, or

- belonged to a territory that became part of India after August 15, 1947
- Minor children of such individuals, except those who were a citizen of Pakistan or Bangladesh, were also eligible for OCI cards.
- The PIO category was abolished in **2015** and merged with the OCI category.

What is the size and geographical distribution of the Indian diaspora?



● According to the Parliamentary committee on external affairs, there were **7 crore Indians** (NRIs - 1.35 crore, PIOs - 1.87 crore, OCIs, and students) living overseas (as on December 31, 2021). Excluding students, the number stands at 3.22 crore.

- According to the World Migration Report, prepared by the International Organisation for Migration under the United Nations, **India has the largest emigrant population in the world**, making it the top origin country globally, followed by Mexico, Russian and China.

What is the amount of money they send back to India (remittances)?

- The WB's Migration and Development Brief 2022, noted that India, China, Mexico, the Philippines and Egypt are (in descending order) **among the top 5 remittance recipient countries**, although India and China were well above the rest.
- The report stated that for the first time a single country (India) is on track to receive **more than \$100 billion in yearly remittances**.

DIGITAL VOTER ID

Recently, in response to an RTI enquiry, ECI said that just Over **67 lakh voters** (less than



1% of voters) have downloaded a digital voter ID, known as the **electronic Electoral Photo ID Card (e-EPIC)**, from the time the document was made available until December 23, 2022.

About:

- Along with e-PAN and e-Aadhaar, the e-EPIC is one of the few generally accepted identity documents that can be downloaded as a legally valid PDF file.
- About 9.8 crore voters are currently eligible to download an E-EPIC, the ECI said in its RTI response, that is, 6.8% of voters who are eligible to download an e-EPIC as a PDF document have done so — this is equivalent to less than 1% of all registered voters in India.

What is E-EPIC:

- e-EPIC is a portable document format(PDF) version of the EPIC which can be downloaded on mobile or in a self-printable form on the computer.
- A voter can thus store the card on his/her mobile, upload it on Digi locker or print it and self-laminate it.
- It can be used as a valid proof of age and address to avail various government services and schemes. It is equally valid as a proof of document for voter participation.
- In the first phase, new electors who were registered during the Special Summary Revision 2021 and had a unique mobile number in the e-roll were eligible for the e-EPIC. In the second phase, all eligible voters who have a valid EPIC number were made eligible for the e-EPIC.

THE WARNING FROM JOSHIMATH

Context

- As cracks on walls and buildings have recently been discovered, land subsidence (ground sinking) in Joshimath, Uttarakhand, has generated alarm and protests among the local population.
- The subsidence has been increasing at an alarming rate in recent days, and it is building up to be the second big turning point in Uttarakhand's history, following the tragic Kedarnath floods of 2013.
- The article examines the causes of the recent incidents of land subsidence in Joshimath, and preventive measures that are required to handle the situation.

About land subsidence

- It is a **gradual settling or sudden sinking** of the earth's surface often caused by the removal of water, oil, natural gas, or mineral resources out of the ground by pumping, fracking, or mining activities.
- It can also be caused by **natural events** such as earthquakes, soil compaction, glacial isostatic adjustment, erosion, sinkhole formation, etc.
- The Uttarakhand government's expert panel in 2022 found several pockets of Joshimath "sinking" due to the removal or displacement of subsurface materials that has induced structural defects and damage in the town.



Reasons Behind Recent Joshimath Catastrophe

- **Location:** Joshimath/ Jyotirmath is a hilly town in Chamoli District in the Indian state of Uttarakhand, located on the Rishikesh-Badrinath National Highway (NH-7) at a height of 6150 feet (1875 m).
- **Topography:** Joshimath is situated in the **middle slopes of a hill** bounded by the **Karmanasa and Dhaknala streams** on the west and the east and the **Dhauliganga and Alaknanda rivers** on the south and the north undercut the town making it even more prone to disasters.
- Also, a study by Uttarakhand State Disaster Management Authority (**USDMA**) in 2022 found that **perennial streams**, appreciable **snow** in the upper reaches and highly **weathered gneissic rocks** with low cohesive characteristics makes the area prone to landslides.
- **Geology:** According to the **Mishra Committee Report (1976)**, Joshimath is being built on a fragile mountain slope that have deposits of sand and stone, **the remnants of ancient landslides triggered by earthquakes**, thus not suitable for a township.
- The town also sits on a tectonic fault line and falls in **Zone V of the Seismic Zonation Map** and has witnessed several earthquakes over decades.
- This has made the town highly vulnerable to sinking because of tectonic activity.

- **Unplanned development:** As per USDMA survey report in 2022, unplanned developmental activities **without due regard to bearing capacity** have contributed in aggravating slope instability-related issues in Joshimath.
 - Over time, **layers upon layers of new construction**, rapid **urbanization** coupled with **deforestation** have weakened the foundation in the already fragile area.
- **Improper water drainage:** USDMA has pointed out that inadequate drainage and wastewater disposal systems in Joshimath have exacerbated ground subsidence.
 - Firstly, on-surface anthropogenic activities block the natural water flow that then percolates down into the **porous crystalline rocks** beneath the surface, and put pressure in the form of **tectonic forces softening** them further.
 - Secondly, the existence of soak pits instead of proper drainage allows water to slowly leak into the ground, creating cavities between the soil and the boulders leading to water seepage and soil erosion.
 - This **reduces** the shear **strength of the overburden soil** and pushes down loose material into the ground, resulting in land sinking.
- **Unsustainable tourism:** High footfall by tourists heading to shrines like **Badrinath, Hemkund Sahib** and **Adi Shankaracharya temple** has resulted in the construction of hotels and marketplace in the ecologically sensitive zone, aggravating the subsidence.
- **Heavy construction:** All-weather road (Helang bypass) to reduce the distance to Badrinath shrine by about 30 km, using heavy machinery is being built by Border Roads Organisation (BRO) that is believed to have disturbed the Joshimath's mountain foundation.
- **Hydroelectric projects:** The 520 MW Tapovan Vishnugad Hydro Power plant on the **Dhauliganga river** led to the construction of a tunnel that cut through the mountain upon which Joshimath is located.
 - This led to hollowing of the ground beneath the town initiating subsidence in the region.
- **Impact of earlier disasters:** The region might be continuing to experience the release of energy from the **1999 Chamoli earthquake**.
 - Also, the **floods in the Rishiganga and Dhauliganga rivers in 2021** is likely to have impacted the stability of the slope on which Joshimath town is situated.

- **Administration turning a blind eye towards the fragile ecology:** For example, a **High-Powered committee (HPC)** on the Char Dham Project raised concerns about the geological vulnerability of the area and sanctioning of hydroelectric projects in the Joshimath, but no remedial measures were taken by the authorities.
- **Climate change impact:** Uttarakhand being already vulnerable to natural disasters, the impact of climate change in terms of extreme weather events like cloudburst, flash flood, landslides, or glacial outburst could be very dangerous for the hilly state.
 - For instance, due to extreme rainfall the mountain streams have expanded their channels and changed course, thereby inducing more slope instability in already fragile belt.

Steps Taken by the State Government to Avert the Crises

- The government has **declared Joshimath** town a **landslide-subsidence zone**.
- **The construction** of the NTPC Hydro Power Plant and the Helang Bypass has been stopped till further orders and **technical resources** from nearby areas have been **summoned** to Joshimath to find a solution.
- **Evacuation plans** are in the works and the government has put in an order for 4,000 **prefabricated homes** to help the residents of Joshimath.
- The government is also planning to set up **micro-seismic observation systems** in Joshimath that would generate risk resilient parameters for safer dwellings and infrastructure.

Way Forward

- **The Mishra Committee:** It had recommended decades ago to ban on heavy construction in the area around Joshimath.
- **‘Whole of government’ approach:** An **inter-disciplinary investigation** of the affected area to contain the situation, and undertaking **continuous seismic monitoring** by Geological Survey of India (GSI) could help avert the damage to a large extent.
 - Also, other central institutions like the National Institute of Hydrology (NIH), NDMA, IIT Roorkee, Central Building Research Institute (CBRI), etc., should work closely with the state of Uttarakhand in the spirit of ‘whole of government’ approach.

Chat GPT

Cyber Security experts have sent out warnings about the potential use of ChatGPT to write phishing emails, malicious code easily and at a much larger scale.



About:

- ChatGPT (Generative Pre-trained Transformer) is a **chatbot** launched by OpenAI in November 2022. It is built on top of OpenAI's GPT-3 family of large language models.

- It is a type of **artificial intelligence** that can understand and generate natural language text.
- It is trained on large amounts of text data and uses an algorithm called a transformer to learn **how to generate text that is similar to human conversation.**
- The application is beneficial for presenting information and responding to queries in a way similar to what would occur in a normal conversation because it has been educated by artificial intelligence and machine learning.

GPT-3:

- GPT-3 (Generative Pretrained Transformer 3) is a **state-of-the-art language processing AI model developed by OpenAI.**
- It is capable of **generating human-like text and has a wide range of applications**, including language translation, language modeling, and generating text for applications such as chatbots.
- It is one of the largest and most powerful language processing AI models to date, with 175 billion parameters.