

July - 23

TNPSC BITS

- ❖ Fatma Al Zahra, A student of School of Excellence in Law of the Tamil Nadu Dr. Ambedkar Law University has won the Best Paper Position Award at the Everest International Model United Nations in 2023.
- ❖ "Through The Broken Glass: An Autobiography" was authored by T.N. Seshan, the former Chief Election Commissioner (CEC) of India.
- ❖ Grandmaster R Praggnanandhaa emerged as the champion in the V Geza Hetenyi Memorial Super GM chess tournament 2023 in Budapest, Hungary.
- ❖ Hachiko, the world's most loyal dog, turns 100 this year.
- ❖ The National Day of the Mango is celebrated every year on July 22 since 1987.

NATIONAL

Digital time voucher system



- ❖ The Election Commission of India (ECI) has introduced a digital time voucher system for political parties to access government-owned electronic media.
- ❖ With this facilitation, the political parties will not be required to send their representatives to ECI Offices for collection of the time vouchers physically during elections.
- ❖ The scheme, which was initially notified on 16th January 1998, holds a statutory basis under Section 39A of the R.P. Act, 1951.

- ❖ Under this Scheme, an equitable base time is allotted to each National Party and Recognized State Party of the state concerned uniformly on DD & AIR.

world's latest Steel Slag Road Technology

- ❖ India has developed the world's latest Steel Slag Road Technology.
- ❖ It allows for large-scale utilisation of waste slag from steel plants for road construction.
- ❖ The technology to use steel slag for road construction was created by CSIR.
- ❖ It aims to tackle the issue of slag generated by steel plants.
- ❖ Steel slag are the waste produced during steel production.
- ❖ They are approximately 30 per cent cheaper than conventional paving, and more resilient and resistant to unpredictable weather conditions.



INTERNATIONAL

World Humanitarian Drive

- ❖ World Humanitarian Drive (WHD) is an International NGO with operations in 12 countries.
- ❖ It is founded in the U.K. by British Indian global peace activist, Abdul Basit Syed.
- ❖ WHD is aims to promoting international education and trade.
- ❖ It has been granted special consultative status by United Nations Economic and Social Council (ECOSOC).
- ❖ The WHD also promotes key initiatives between India and the UK.

- ❖ The consultative status with ECOSOC empowers WHD to actively interact with its subsidiary bodies of UN.



UK - Trans Pacific Partnership



- ❖ The UK signed the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) trade bloc.
- ❖ Along with China and Taiwan, Ukraine, Costa Rica, Uruguay and Ecuador have also applied to join the pact.
- ❖ The CPTPP is a landmark trade pact agreed in 2018 between 11 countries.

- ❖ Britain became the 12th member of the pact, which cuts trade barriers.
- ❖ India is not a member of this bloc.

19th session of CGRFA



- ❖ The 19th session of the Commission on Genetic Resources for Food and Agriculture (CGRFA) held in Rome, Italy.
- ❖ CGRFA is the only permanent intergovernmental body that deals with all components of biodiversity for food and agriculture.
- ❖ The commission was established in 1983 and on July 16th, it completed 40 years of existence.

ECONOMY

Interest rates on select small saving schemes

Instrument	Rates of interest from 01.04.2023 to 30.06.2023	Rates of interest from 01.07.2023 to 30.09.2023
Savings Deposit	4.0	4.0
1 Year Time Deposit	6.8	6.9
2 Year Time Deposit	6.9	7.0
3 Year Time Deposit	7.0	7.0
5 Year Time Deposit	7.5	7.5
5 Year Recurring Deposit	6.2	6.5
Senior Citizen Savings Scheme	8.2	8.2
Monthly Income Account Scheme	7.4	7.4
National Savings Certificate	7.7	7.7
Public Provident Fund Scheme	7.1	7.1
Kisan Vikas Patra	7.5 (will mature in 115 months)	7.5 (will mature in 115 months)
Sukanya Samriddhi Account Scheme	8.0	8.0

- ❖ The government raised interest rates on select saving schemes by up to 0.3% for the July-September quarter.

- ❖ The highest increase of 0.3% was for the five-year recurring deposit (RD).
- ❖ A one-year term deposit with post offices will now earn 0.1 percentage higher point at 6.9% and for the two years tenor — 7% (up from 6.9%).
- ❖ Term deposits for three years and five years have been retained at 7% and 7%.
- ❖ The interest rates for popular PPF and savings deposits are retained at 7.1% and 4%, respectively.

Mahila Samman Savings Certificate Scheme



Empower your Financial Liberation !!!

MAHILA SAMMAN
Savings certificate 2023
(A Govt. of India Scheme)

Interest Rate on Deposit : 7.5% P.A.

Maximum Deposit : upto Rs. 2 Lakh

Maximum Period : upto 2 Years

Partial Withdrawal Facility : Available

T&C Apply

- ❖ All Public Sector Banks and eligible Private Sector Banks are permitted to implement and operationalise the Mahila Samman Savings Certificate, 2023.
- ❖ This aims at enabling enhanced access of the scheme for girls/women.
- ❖ With this, Mahila Samman Savings Certificate scheme will now be available for subscription in Post Offices, and eligible Scheduled Banks.
- ❖ It provides attractive and secured investment option to all girls and women.
- ❖ Maturity of the investment under this scheme is two years from the date of opening of the account under the scheme.

SCIENCE AND TECHNOLOGY

Synthetic Embryos

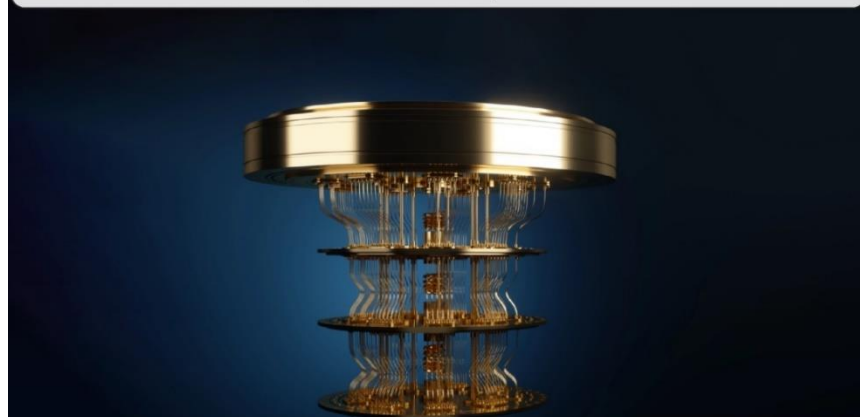
- ❖ Recently, scientists have successfully created advanced embryo-like structures using human stem cells.

- ❖ These synthetic embryos develop similarly to natural embryos at around 14 days after fertilization.
- ❖ This remarkable advancement has the potential to transform the understanding and practices of In Vitro Fertilization (IVF).

	Adult Stem Cells	Embryonic Stem Cells
DEFINITION	Adult stem cells are a type of stem cells present in differentiated tissues and organs of adults and children	Embryonic stem cells are a type of stem cells present in the early stages of embryonic development
POTENCY	Multipotent	Pluripotent
GROWING IN CELL CULTURES	Very challenging	Relatively easy
EXAMPLES	Present in skeletal muscle, liver, pancreas, brain, eye, dental pulp, skin, bone marrow, blood and the lining of the gastrointestinal tract	Present in the inner cell mass of the blastocyst which gives rise to the three germ layers

Majorana Zero Mode

- The particles, also known as Majorana fermions, were first proposed by Italian physicist Ettore Majorana in 1937.
- They possess special properties that make them their own antiparticles, which is advantageous for building quantum computers.

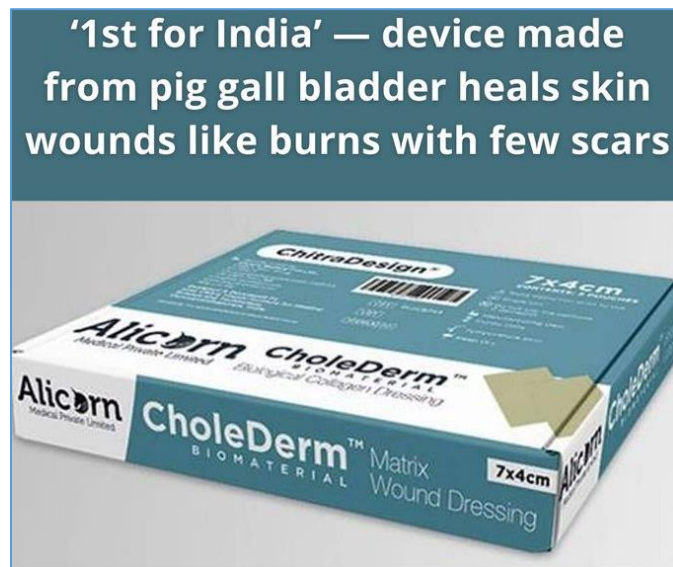


- ❖ Microsoft announced a significant innovation in the creation of Majorana Zero Modes.

- ❖ All particles have four quantum numbers associated with them.
- ❖ No two particles in the same system can have the same four quantum numbers.
- ❖ A quantum computer made with qubit as Majorana zero mode and can be encoded with information onto some property of the mode.

Cholederm

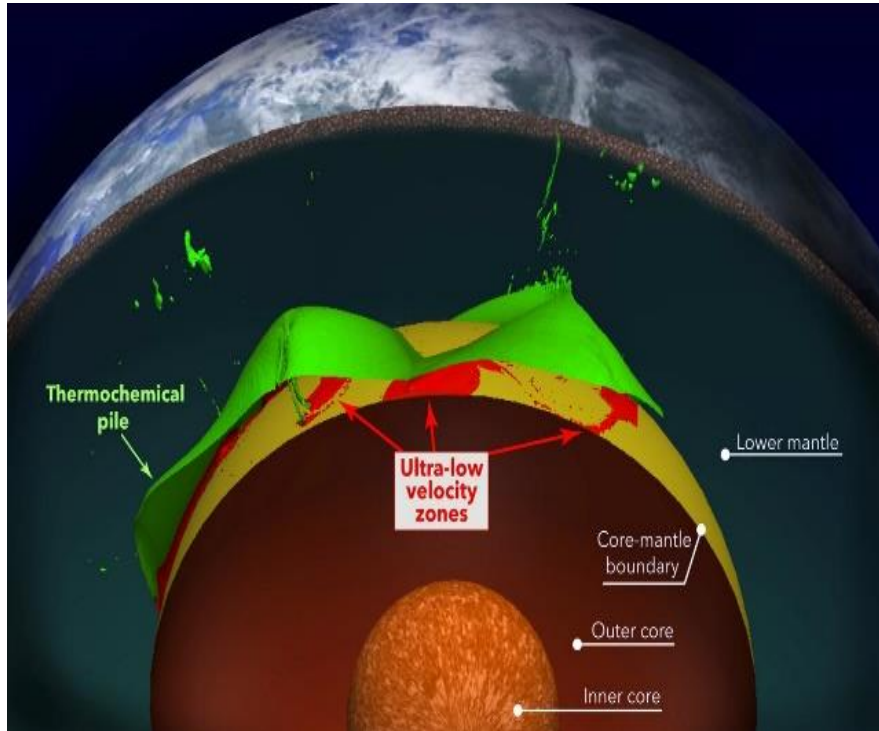
- ❖ The Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST) has developed a new wound care product called Cholederm.
- ❖ It is the first institution in India to develop Class D medical devices that meet the requirements of the Central Drugs Standard Control Organisation (CDSCO).
- ❖ It is a Class D medical device made from the extracellular matrix of a pig's gall bladder.
- ❖ It is an innovative technology for preparing tissue engineering scaffolds from mammalian organs.
- ❖ It has demonstrated faster healing of various skin wounds, including burns and diabetic wounds, in animal tests with minimal scarring.
- ❖ It is expected to reduce treatment costs and make advanced wound care more affordable.



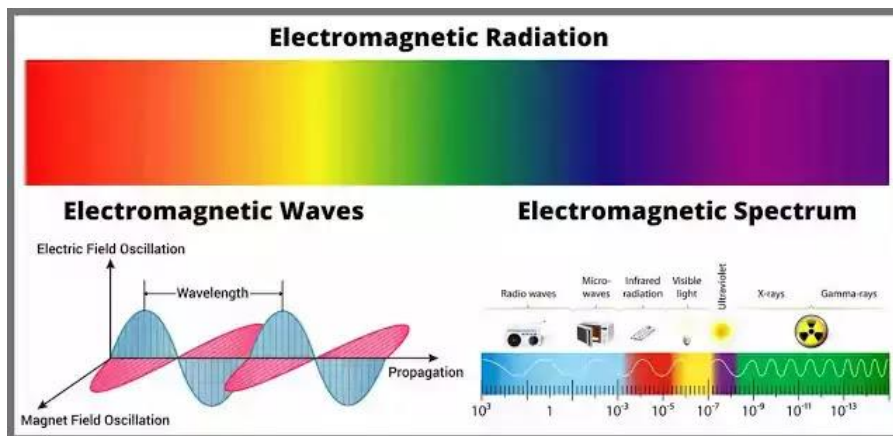
Ultra-Low Velocity Zones

- ❖ Recent research is uncovering mountains deep within the Earth that are three to four times taller than Mount Everest.
- ❖ Their heights are estimated to be over 24 miles (38 kilometers).

- ❖ Using seismology centers in Antarctica, the team identified these colossal mountain ranges, known as ultra-low velocity zones (ULVZs).
- ❖ They are located at the boundary between the core and mantle, approximately 2,900 kilometers beneath the Earth's surface.



Electromagnetic Field (EMF) Radiation

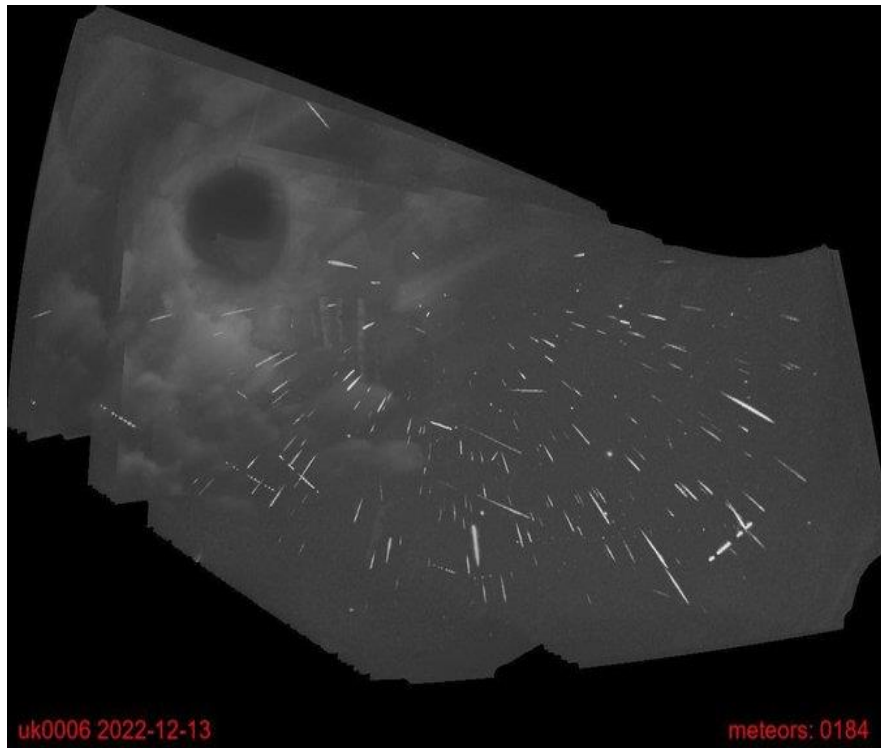


- ❖ Recently, the Department of Telecommunications (DoT), Delhi LSA, organized a webinar focused on raising awareness about Electromagnetic Field (EMF) radiation.

- ❖ The event aimed to address misconceptions surrounding the potential harmful effects of EMF radiation from mobile towers.
- ❖ Experts shed light on the nature of EMF emissions, safety measures, and the role of international organizations in setting limits.

Geminid meteors

- ❖ NASA'S Parker Solar Probe mission has shed new light on the origin of the intense Geminid meteor shower.
- ❖ It illuminates the winter sky with its spectacular display every year.
- ❖ Geminid meteor shower peaks during mid-December each year.
- ❖ It is considered to be one of the best and most reliable annual meteor showers.
- ❖ Geminid stream appears to originate from an asteroid known as 3200 Phaethon.



ENVIRONMENT

Indian Dickinsonia Fossil

- ❖ Researchers claimed that, A rare 550-million-year-old fossil discovered in 2021 from Bhimbetka rock shelters, Bhopal.

- ❖ Now the Indian scientists have proved that the fossil was actually a left-over impression of a fallen beehive and not a genuine fossil.
- ❖ Earlier, US Researchers believed as they have found the first-ever fossil in India of a Dickinsonia —the Earth's 'oldest animal', dating back 570 million years.



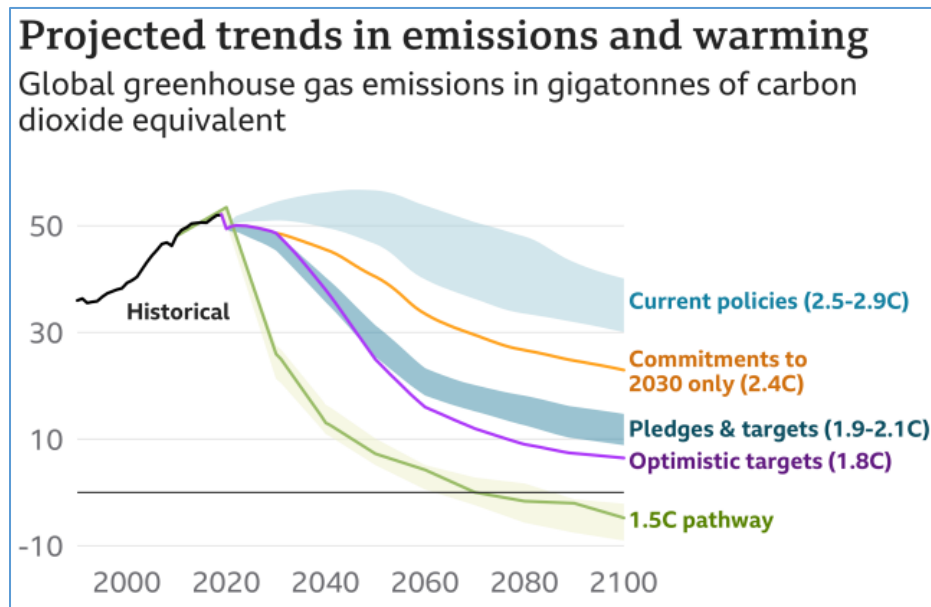
Global Gibbon Network (GGN)



- ❖ The conservation status of India's only ape was a cause for concern at a global event on gibbons held in China.
- ❖ Gibbons is the smallest and fastest of all apes, live in tropical and subtropical forests in the southeastern part of Asia.

- ❖ The hoolock gibbon, unique to India's northeast, is one of 20 species of gibbons on Earth.
- ❖ The estimated population of hoolock gibbons is 12,000.
- ❖ All 20 gibbon species are at a high risk of extinction.
- ❖ Global Gibbon Network was initiated at the International Gibbon Day 2020 event.

1.5 Degree Celsius Temperature Threshold

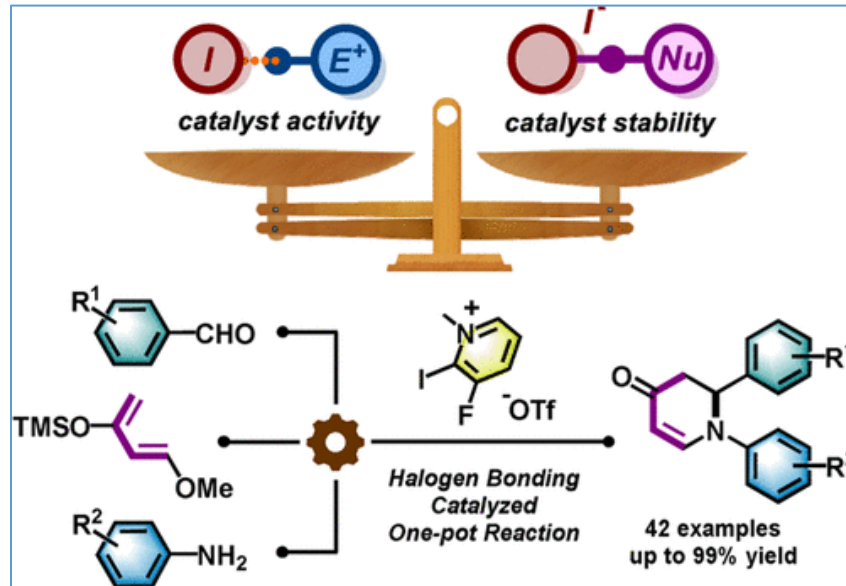


- ❖ The global mean temperature crossed the key 1.5 degrees Celsius limit at the start of June, 2023.
- ❖ This is the first time that the target was breached in the summer months.
- ❖ The mean global temperature exceeded pre-industrial averages by more than 1.5 degrees Celsius several times.
- ❖ But it was all only in the winter and spring months.
- ❖ So far, the warmest year has been 2016, when global mean temperatures were over 1.28 degrees Celsius.

Short-lived halogens

- ❖ It is produced naturally by phytoplankton and algae found in the oceans.
- ❖ Its major constituents are chlorine, bromine or iodine.
- ❖ Its life span is less than six months.

- ❖ According to a recent study, the oceans contribute 8-10% to the cooling of the planet by emitting short-lived halogens.
- ❖ However, human activities have amplified their release into the atmosphere.
- ❖ They calculated that short-lived halogen from oceans reduces warming by depleting ozone.



American bald eagle

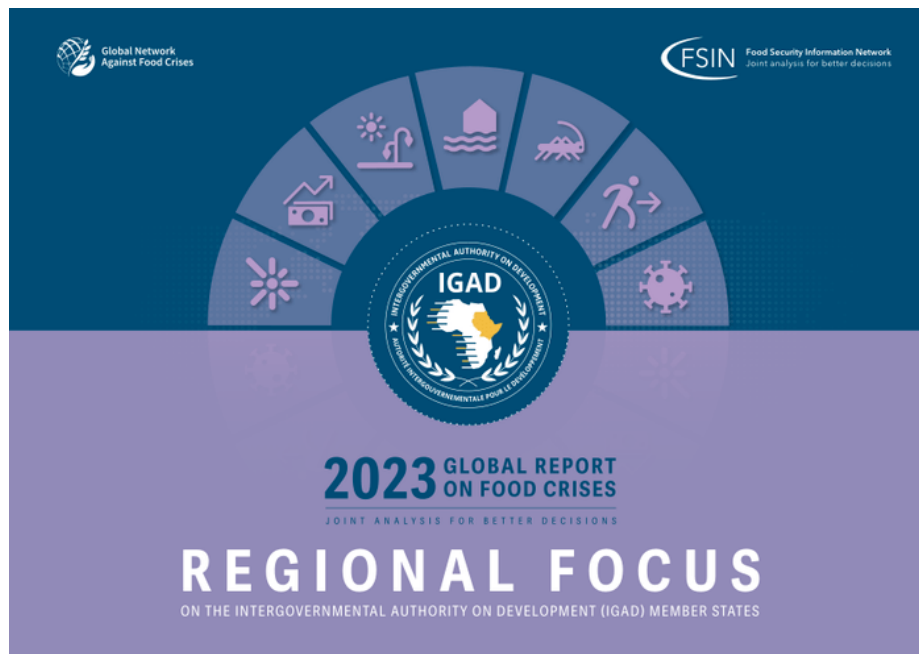


- ❖ The American bald eagle was removed from the endangered species list in 2007, marking a significant milestone in its conservation.

- ❖ Since then, the population of the bird has steadily risen.
- ❖ A 2021 report by the US Fish and Wildlife Service said that the number of bald eagles in the wild has quadrupled since 2009.
- ❖ The bald eagle's natural range covers most of North America, including most of Canada, all of the continental US, and northern Mexico.
- ❖ It is the only sea eagle endemic to North America.
- ❖ The average life span of bald eagles is 20 to 30 years.
- ❖ Female bald eagles are a bit bigger than the males.

REPORTS AND INDICES

IGAD Regional Focus of the Global Report on Food Crises Report



- ❖ The Intergovernmental Authority on Development (IGAD), released this report.
- ❖ This report provides valuable insights into the magnitude of the food crises and serves as a basis for informed decision-making.
- ❖ In 2022, a staggering 55.45 million people across Djibouti, Ethiopia, Kenya, Somalia, South Sudan, Sudan, and Uganda required urgent food assistance, representing a critical situation.
- ❖ The report emphasizes the urgent need for collaborative efforts to combat the dire food crises in the IGAD region.
- ❖ Climatic factors identified as the primary cause of acute food insecurity in Ethiopia, Kenya, Somalia, and Uganda.

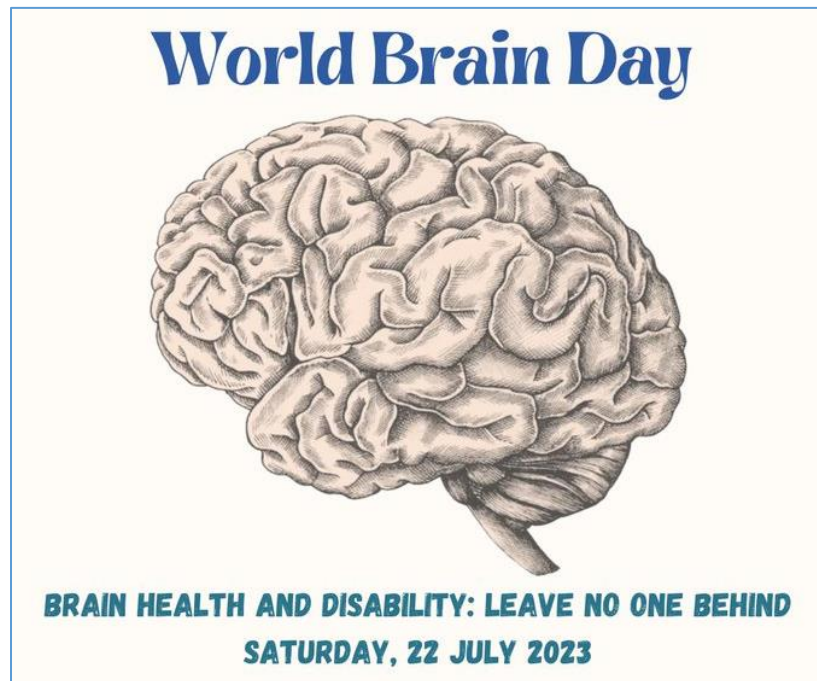


- ❖ Conversely, Djibouti, South Sudan, and Sudan experienced acute food insecurity due to economic shocks.

IMPORTANT DAYS

World Brain Day 2023 - July 22

- ❖ This event dedicated to raising awareness about brain health and neurological disorders.
- ❖ The day promotes education, research, and support for individuals affected by brain-related conditions.
- ❖ Theme of 2023 is "Brain Health and Disability: Leave No One Behind."
- ❖ The World Federation of Neurology (WFN) was founded on July 22, 1957.



Pi Approximation Day 2023 - July 22

- ❖ The ratio of a circle's circumference to its diameter is called Pi.
- ❖ When this date placed in the date/month format, July 22 looks like 22/7.
- ❖ This is an approximate value of Pi.
- ❖ The symbol of Pi was designed back in 1706 by mathematician Leonhard Euler.
- ❖ This day is also celebrated on November 10, as it is the 314th day of the year.

- ❖ Pi Day is observed on March 14, as it looks like 3/14 when placed in the month/date format.
- ❖ Physicist Albert Einstein was also born on July 22.
- ❖ Theoretical Physicist Stephen Hawking passed away on July 22, 2018.

