

Current Affairs Summary | February 2023

1. Indian Railways Hydrogen trains

- Indian Railways (IR) has envisaged to run 35 (thirty five) Hydrogen trains under “Hydrogen for Heritage” at an estimated cost of ₹ 80 crores per train and ground infrastructure of ₹ 70 crores per route on various heritage/hill routes.
- The use of Hydrogen as fuel provides larger benefits in the direction of green transportation technology to support zero carbon emission goals as a clean energy source.
- It is estimated that the initial running cost of Hydrogen fuel train-set will be higher which will subsequently reduce with increase in number of trains.

2. Economic survey 2023

- The economic survey was tabled by finance minister in the parliament on 31st January.
- The survey exuded confidence that India’s GDP would grow 6.5% in 2023- 24 after an estimated 7% this year.
- The final growth outcome for 2023- 24 could be in the range of 6% to 6.8%.
- The survey expects inflation to be well behaved in 2023- 24. The RBI had estimated 6.8% retail inflation for 2022- 23, which is outside its target range.
- The economic survey of 2022- 23 showed that 6.49 crore households demanded work under MGNREGA.
- Economic survey is released annually by the ministry finance and is prepared by the economics division of the department of Economic Affairs under the guidance of the chief economic advisor.
- The first economic survey in India was presented in the year 1950- 51. It contains data about the state of economy in the past one year.

3. Budget 2023-24

- The Union finance minister presented the annual budget in the parliament on 1st February. The key highlights were as follows –
 - The tax free limit under the new exemption-less income tax regime was raised to ₹7 lakh from ₹5 lakh.
 - New socio economic development schemes like the PM particularly vulnerable tribal groups development mission and the PM Vishwakarma Kaushal samman were launched.
 - The allocation for the PM Awas yojana was increased by 66%, and that of MGNREGA was decreased by 33%.

- Changes in customs duty regime is likely to make mobile phones and TVs cheaper and automobiles dearer. Silver will become costlier.
- The budget laid emphasis on research and development for the potential of lab-grown diamond (LGD). Research grant will be provided to one of the IITs for five years.
- Conversion of physical gold to digital gold will not attract capital gains tax.
- PAN would be used for common identifier for all digital systems of specified government agencies.
- Up to 50 new tourist destinations will be developed and 'unity malls' will be set up in state capitals to showcase products with Gi tag.
- A national digital library was proposed for children and adolescents along with strengthening of the National Book Trust.
- The union budget has proposed several measures to enhance business activities at Gujarat International Financial Tec-City - International Financial Services Centre (GIFT IFSC).

4. Disinvestment envisaged in budget 2023-24

- The union budget for 2023- 24 has set or disinvestment target of ₹51,000 crore. It is the lowest target in 7 years.
- It is down nearly 21% from the budget estimate for the current year.
- The centre has not met the disinvestment target for 2022- 23 so far.
- The centre is not going to add new companies to the list of CPSEs to be divested in 2023-24. The government has decided to stick to the already announced and planned privatisation of state owned companies.
- Different central governments over the last 3 decades have been able to meet annual disinvestment targets only 6 times.

5. India, US step up strategic ties with tech plan

- India and the US launched a set of programmes to enhance their strategic partnership.
- The aim is to increase the depth and scope of bilateral cooperation in cutting edge technology, including in the defence sector.
- The programmes were launched at the inaugural dialogue of the Initiative on Critical and Emerging Technologies (iCET).
- The programmes include
 - A research agency partnership between the US National Science Foundation and the Indian Science agencies.
 - A mechanism to cooperate on quantum computing.
 - Developing new defence industrial cooperation roadmap
 - Supporting development of semi-conductors in India.
- The iCET initiative was launched by India and US in 2022.

- Under iCET, both the countries had identified six areas of cooperation which would include co-development and co-production.
- These areas are - scientific research and development; quantum and artificial intelligence, defense innovation, space, advanced telecom which would include things like 6G and semiconductors.

6. Red sanders smuggling

- The CITES trade database has recorded 28 incidents of red Sanders confiscation, seizure and specimens from the wild being exported from India.
- Convention on international trade in indentured species of wild fauna and flora (CITES) is an international agreement between governments to ensure that trade in wild animals and plants does not threaten the survival of the species.
- Red Sanders, or red sandalwood, is an endemic tree species with distribution restricted to eastern ghats of India. It is one of India's most exploited tree species.
- Under the foreign trade policy of India, the import of red Sanders is prohibited while export is restricted.
- It is listed under schedule 4 of the wildlife protection act and categorised as endangered as per the IUCN Red list.

7. AI-powered surveillance system at Tihar Jail

- Tihar jail is installing Artificial Intelligence (AI) powered CCTV cameras to monitor inmates and fight crime.
- The premises will also have a real time grievance redressal system and optical fibre network.
- The AI powered CCTV cameras will help detect movements in dark spots and the grievance redressal system will operate like police control rooms to address the problems of inmates in real time.
- At present, Tihar has 7,500 IP CCTV cameras. It is difficult to monitor all the cameras and it also requires more human deployment.
- The AI powered cameras will not be installed in Tihar's sub jail number 6 which houses only women prisoners, because of 'privacy concerns'.

8. Magnetite pollution

- Geologists at Jadavpur university preliminary sense of the pollution in an area by collecting roadside dust and testing it with magnetic field.
- Their results were published in the January 2023 edition of the Current Science.

- The found that the amount of magnetite was proportional to the traffic on a given road. It is produced when fossil fuels are combusted in vehicle engines.
- Magnetite particles are highly magnetic mineral form of iron and are known to be present in air pollution.
- Vehicle brake systems are the major source of airborne magnetite at the roadside. They are also emitted from power plants.

9. ASI decides to form special panel to trace and certify 24 'missing' monuments

- The archaeological survey of India has decided to form a special committee to trace and certify 24 protected monuments which have gone 'missing'.
- The report of the CAG in 2013 had stated that 92 protected monuments were missing. However, the ASI has traced 68 monuments and 24 are not yet traced.
- Some missing monuments are – Barakhamba Cemetery in Delhi, ruins of a temple circle in Mirzapur, 12th century temple in Rajasthan's Baran, Inchla Wali Gumti in Delhi.
- There are at present 3693 centrally protected monuments and sites in the country.

10. Voice deepfakes

- A voice deepfake is the one that closely mimics a real person's voice. It can accurately replicate tonality, accent and other unique characteristics.
- Attackers are using such technology to defraud users, steal their identity and to engage in various other illegal activities like scams add posting fake videos.
- Detecting voice deep fakes need highly advanced technologies, software and hardware to breakdown speech patterns, background noise and other elements.

11. Naval LCA lands on Vikrant

- The naval variant of the indigenous light combat aircraft landed on the first indigenous aircraft carrier, INS Vikrant.
- This is also the maiden landing of a fixed wing aircraft on the carrier.
- It is a major milestone towards Atmanirbhar Bharat and demonstrates India's capability of designing, developing and constructing IAC with indigenous fighter aircraft.

12. CAR T-cell therapy

- The 3 major forms of treatment for any cancer are surgery, radiotherapy and systemic therapy.

- Chimeric Antigen Receptor (CAR) T cell therapies use a patient's own cells and modify them in the laboratory to activate T cells, to attack the tumours.
- Modified cells are then infused back into the patient's bloodstream. They are called 'living drugs'.
- After modification these cells develop specific proteins on their surface known as chimeric antigen receptors.
- This therapy has been approved for leukaemia and lymphomas.

13. Centre formulates 'Action Plan for Champion Sectors in Services' to give focused attention to 12 identified Champion Services Sectors

- Centre has formulated 'Action Plan for Champion Sectors in Services' to give focused attention to 12 identified Champion Services Sectors.
- These are - Information Technology & Information Technology enabled Services, Tourism & Hospitality Services, Medical Value Travel, Transport & Logistics Services, Accounting and Finance Services, Audio Visual Services, Legal Services, Communication Services, Construction and Related Engineering Services, Environmental Services, Financial Services and Education Services.
- Rs. 5000 Crores have been earmarked to support sectoral initiatives of the Nodal Ministries/Departments identified for these sectors.

14. 25 years of India France partnership

- India and France recently celebrated 25 years of their strategic partnership, which was signed in 1998.
- France has emerged as a key trading partner of India with annual trade of \$12.42 billion in 2021- 22.
- It is the 11th largest foreign investor in India.
- France has become the second largest defence supplier for India in 2017- 21. Some military to military engagements include the French scorpene conventional submarines and the rafale fighter jets.
- The joint strategic vision of India- France cooperation in the Indian Ocean region released in 2018 presented a blueprint for strengthening of ties.
- India and France are now going ahead with cooperation in issues such as digitization, cyber, green energy, blue economy, ocean sciences and space.

15. Small satellite launch vehicle-D2

- The ISRO undertook the second development flight of the small satellite launch vehicle on 10th February.

- The vehicle injected the ISRO's EOS-07, the US based firm Antaris's Janus-1 and the Chennai based Kidz's AzaadiSAT-2 satellites into a 450km circular orbit in its 15 minute flight.
- The EOS-07 is a 156.3 kg satellite designed, developed and realised by the ISRO with the objective to design and develop payload instruments compatible with micro satellite bus.
- Janus-1 is a technology demonstrator, small satellite mission based on the Antares software platform.
- Azadi- SAT 2 is a combined effort of about 750 girls students across India guided by space kids India.

16. Suitability of a candidate cleared by Collegium can't be subject of judicial review: SC

- Supreme Court explained that suitability of a candidate cleared by the collegium for appointment as a judge in a constitutional court cannot be subject of judicial review.
- It said that the court cannot issue a writ of certiorari quashing the recommendation, or mandamus calling upon the collegium of Supreme Court to reconsider its decision.
- Suitability of a candidate is the domain of the collegium as it involves a procedure designed to test the fitness of a person including her character, integrity, competence and knowledge.

17. Discovery of Lithium deposits in J&K

- Lithium deposits were found for the first time in India in Jammu and Kashmir. Around 5.9 tonnes of lithium deposits were found.
- This would reduce the need for imports and improve employment opportunities.
- The discovery was a major boost to the manufacture of rechargeable batteries for smartphones, laptops and electric cars.
- The deposits were found in the Salal-Haimana area of Reasi district.
- Lithium is a highly reactive and flammable metal. It is the lightest metal and the lightest solid element under standard conditions and is a soft silvery white metal.
- Chile, Australia and Argentina are major producers of lithium.

18. 11th India-Mongolia Joint Working Group Meeting Held in New Delhi

- The 11th meeting of India-Mongolia Joint Working Group was held today on 10th February 2023 in New Delhi.

- Both sides reviewed the progress on various bilateral defence cooperation initiatives and identified means to further enhance the existing areas of cooperation and articulated steps in this direction.
- India established diplomatic relations with Mongolia in 1955. The Indian Resident Mission in Ulaanbaatar was opened in 1971.
- This relationship was upgraded to “strategic partnership” in 2015 when Prime Minister Narendra Modi visited Mongolia and declared it as an essential component of ‘Act East Policy’.

19. Scientists report finding a 3rd natural source of quasicrystals

- Scientists have reported finding only the 3rd natural source of quasi crystals.
- In a quasicrystal, atoms are arranged in a pattern that repeats itself at irregular intervals.
- The first natural quasi crystal was found in 2009- as microscopic grains in a piece of the Khatyrka meteorite in the Koryak mountains of Russia.
- The second natural quasi crystal was found in 2021 in the remains of the first nuclear weapon test conducted on July 16 1945 in New Mexico.
- The 3rd natural quasicrystal was reported from the windblown dunes of northern Nebraska.

20. H5N1 and its pandemic potential

- Avian influenza is a contiguous viral infection which can infect mammals from birds, and can rarely spread between mammals.
- H5N1 is a highly pathogenic subtype of avian influenza that causes severe disease and death in birds. This type has also caused number of human infections through close contact with infected birds.
- There have been reports of spread of H5N1 between mammals recently.
- Scientists have been investigating a potential mammalian spill over event of H5N1, which has reported cases from Peru and UK among sea lions. Dolphins and foxes.
- There is a real possibility of evolution of this virus resulting in human transmission.

21. What are microLED displays?

- Apple has decided to shift to microLED display technology, which is considered as the next big transition in display technology.
- Micro LEDs are self illuminating diodes that have brighter and better colour reproduction than organic light emitting diode (OLED) display technology.
- Micro led is as small as cutting a centimetre of hair into 200 smaller pieces. Each of these micro LEDs are semiconductors that receive electric signals.

- They make images appear as if they painted on top of the device's glass.
- They have limitless scalability as they are resolution free, Bezel free, ratio free and even size free. Screen can be freely resized in any form for practical usage.
- The basis for micro LED technology are sapphires. A sapphire can shine on its own forever. A micro LED screen is filled with such small but strong light.

22. Indo-US Unmanned Aerial Vehicle to be flight-tested this year

- A prototype of the air launched unmanned aerial vehicle (ALUAV) developed jointly by India and the United states is likely to be flight tested in 2023.
- The project agreement for ALUAV was signed in 2021. It was signed under the Joint Working Group Air Systems in the Defence Technology and Trade Initiative (DTTI), between India's Ministry of Defence (MoD) and the US Department of Defence (DoD).
- The ALUAV will be launched from C130J aircraft. It is a long term agreement which involves technology transfer.

23. Saudi Arabia to send its first woman to space

- Saudi Arabia will send its first ever woman astronaut on a space mission later this year in a move to revamp the kingdom's ultra conservative image.
- Rayyana Barnawi will join fellow Saudi male astronaut Ali Al-Qarni on a mission to the International Space Station.
- It will be following the footsteps of the neighbouring United Arab Emirates which in 2019 became the first Arab country to send one of its citizens into space.

24. Draft Geo heritage sites and Geo relics bill 2022

- The Ministry of Mines has come up with the draft Geo-heritage Sites and Geo-relics (Preservation and Maintenance) Bill.
- In India, there are 32 geo-heritage sites spread across 13 states.
- The Bill's provisions give the Director General of the Geological Survey of India (GSI), a subordinate body of the Ministry of Mines, the power to
 - declare sites as having 'geo-heritage' value.
 - take possession of relics (fossils, rocks) that rest in private hands.
 - prohibit construction 100 metres around such a site.

25. 3rd global high level ministerial conference on Antimicrobial Resistance

- Antimicrobial resistance (AMR) is a very harmful and invisible pandemic. It refers to the resistance developed by any microorganism against the drugs that are used to treat infections caused by them.
- The 3rd global high level ministerial conference on antimicrobial resistance held in Muscat in November, led to the adoption of Muscat ministerial manifesto on AMR.
- The conference focused on 3 targets –
 - Reduce total amount of antimicrobials used in Agri food system by at least 30- 50% by 2030.
 - Eliminate use in animals and food production of antimicrobials that are medically important for human health
 - Ensure that by 2030 at least 60% of overall antibiotic consumption in humans is from the WHO access group of antibiotics.

26. Purse Seine fishing

- The Supreme Court of India has given permission to fishermen using purse seine fishing to fish beyond territorial waters (12 nautical miles) and within the exclusive economic zone (200 nautical miles) of Tamil Nadu with some restrictions.
- They are restricted to fish on Mondays and Thursdays from 8:00 AM to 6:00 PM.
- Purse seiners tend to overfish due to the large size of their nets, therefore endangering the livelihood of the traditional Fisher.
- Under Articles 56.1(a) and 56.1(b)(iii) of UNCLOS, coastal states have sovereign rights to ensure that the living and non-living resources of the EEZ are used, conserved and managed, and not subject to overexploitation.
- Coastal states must also determine the total allowable catch in the EEZ, according to article 61 of UNCLOS.

27. No age bar to register for cadaver organ transplant

- The union health ministry on Tuesday said that the clause where people aged beyond 65 could not receive cadaver organ transplants has been removed.
- The national organ and tissue transplant organization (NOTTO) guidelines have been changed to affect the same as it violates the right to life.
- Ministry has also done away with the provision where the recipient could register for a transplant only in the domicile state.
- National Organ and Tissue Transplant Organization (NOTTO) is a national level organization set up under the Directorate General of Health Services, Ministry of Health and Family Welfare.

28. India accounts for 52% of world's new leprosy patients

- Despite of India being declared as leprosy eliminated in 2005, the country still accounts for over half of the world's new leprosy patients.
- The union health ministry has therefore devised a strategic road map ' national strategic plan and road map for leprosy 2023- 27'.
- Leprosy is a chronic bacterial infection which affects skin, nerves, lungs and eyes.
- Leprosy is caused by bacterium *Mycobacterium leprae*. It is also known as Hansen's disease.
- It usually takes 3 – 5 years (incubation period) for the symptoms to appear after coming in contact with the bacteria.
- World leprosy day is observed every year on the last Sunday of January. In India it is observed on 30th January every year.

29. India- Japan army exercise gets underway in shiga

- Dharma Guardian – hey the Indian Japan bilateral army exercise begin in Shiga province in Japan.
- This is the 4th edition of the exercise.
- Last month, the two air forces had held the maiden air exercise 'veer guardian'.
- The scope of Dharma guardian exercise covers platoon level joint training on operations in jungle and semi-urban/urban terrain.
- Dharma guardian is a bilateral military exercise of India and Japan which was started in 2018. It is an annual exercise conducted between the armies of both the countries.

30. Indo- Uzbekistan joint military exercise – Dustlik

- The 4th edition of joint military exercise 'DUSTLIK' between the Indian Army and Uzbekistan Army commenced on 20th February at Pithoragarh, Uttarakhand.
- The first edition of the exercise was held at Uzbekistan in November 2019.
- The Indian Army contingent comprises of troops from an Infantry Battalion from the Garhwal Rifles Regiment.
- The 14 days long joint exercise would focus on joint counter-terrorist operations in mountainous and semi-urban scenario under UN mandate and will include field training exercises, combat discussions, lectures, demonstrations and culminate with a validation exercise.

31. MHA designates two as terrorist organisations

- The ministry of Home Affairs designated the Khalistan tiger force and the Jammu and Kashmir ghaznavi force as terrorist organisations under the unlawful activities prevention act of 1967.
- Harvinder Singh sadhu, a Punjab resident currently based in Lahore, was also designated as an individual terrorist under the law.
- The Khalistan tiger force came into existence in 2011 as an offshoot of the babbar Khalsa international, a banned terrorist organization.
- Jammu and Kashmir ghaznavi force surfaced in the year 2020 as a terrorist outfit.
- The UAPA was passed in 1967 and amendments have been done in 2004, 2008 and 2013.
- It gives the power to union government to declare any organization or individual as a terrorist if it participates, prepares, promotes or involves in the acts of terrorism.

32. Illegal trade of Pangolins

- The world Penguin day is observed on February 18.
- A Not for profit organization, has brought out a fact sheet reporting that 1203 pangolins have been found in illegal wildlife trade in India from 2018 to 2022.
- Odisha reported the maximum number of incidents with 154 pangolins in 74 seizures.
- India is home to 2 species: the Indian pangolin and the Chinese pangolin.
- Both the species are included under India's schedule one of the wildlife protection act that could result in a jail term for those hunting animals listed in it.
- The IUCN status of Indian pangolin is endangered, while that of the Chinese pangolin is critically endangered.

33. 12 cheetahs from South Africa enter quarantine in kuno National Park

- 12 cheetahs arrived in Madhya Pradesh from South Africa on 18th February and were released into the quarantine enclosures at Takano National Park.
- This was 5 months after the first batch of 8 cheetahs were brought from Namibia.
- The intercontinental translocation of cheetah is a part of union governments programme to reintroduce them 7 decades after they become extinct in the country.

- India's last cheetah died in Koriya district of Chhattisgarh in 1947 and the species was declared extinct in 1952.

34. Second aubrite meteorite found in India in 170 years

- A Meteorite streaked over India on 17th August 2022. It has been identified as a rare unique specimen of aubrite.
- This is only the second recorded crash of an aubrite, the last being in 1852 in Basti, Uttar Pradesh.
- Aubrites are igneous rocks that form in oxygen poor conditions and therefore contain a variety of exotic minerals that are not found on earth.
- The mineral heideite was first described in the Basti meteorite.
- Meteors are pieces of some solid object in space that broke away, descended onto a planet or moon. Once they reach the surface, they are called meteorites. Aubrites are a type of meteorites.

35. Sickle cell anaemia

- The union budget this year said that the government will work in mission mode to eliminate sickle cell anaemia (SCA) by 2047.
- Sickle cell anaemia is a genetic blood disorder. India is the second worst affected country in terms of predicted births with SCA.
- Mutations in gene in some people changes the shape of the blood cell and distorts it to look like a sickle. This leads to slowing down or blocking of the blood flow.
- Sickle cells die resulting in a shortage of red blood cells that deprives the body of oxygen.
- Since sickle cell anaemia is a genetic disorder, making complete elimination a challenge. The only cure comes in the form of gene therapy and stem cell transplants.

36. Autism spectrum disorder (ASD)

- Autism spectrum disorder (ASD) is the term for a group of neurodevelopmental disorders.
- Researchers are yet to fully understand the factors that cause ASD, but they are beginning to find that a disorder in the gut- brain axis could have a prominent role.
- According to WHO, ASD affects one in 100 children. Children with ASD have impaired social interactions, lack verbal and non verbal communication skills and display restricted and repetitive behaviours.
- At present, there are no known cures and therapeutic interventions available to treat or reverse ASD.

- Researchers have found that fixing the gut in ASD can reduce the toxic burden.

37. India, Singapore link payment services

- India's unified payments interface and Singapore's PayNow we're officially connected on 21st February, allowing for a real time payment linkage.
- The linkage is set to ease financial transactions for the Indian diaspora.
- Singapore is the first country with which cross border person to person payment facilities have been launched.
- UPI is a system that powers multiple bank accounts into a single mobile application, and enables users to make instant payments using a virtual payment address.
- It was launched in 2016 with 21 member banks.

38. Vostro and nostro accounts

- The government officials informed last week that 20 Russian banks have opened special rupee vostro accounts (SRVA) with partner banks in India.
- A vostro account is an account that domestic banks hold for foreign banks in the former's domestic currency.
- In contrast, a nostro account refers to an account that a domestic bank holds in a foreign bank in their currency.
- The SRVA is an additional arrangement to the existing system that uses freely convertible currencies and works as a complimentary system.
- Authorised banks can open multiple SRV accounts for different banks from the same country.
- This framework would reduce the need for holding foreign exchange reserves and dependence on foreign currencies making the country less vulnerable to external shocks.

39. Will India witness an El Nino forecast this year?

- India is experiencing a colder than normal winter due to a record breaking 3rd consecutive year of la Nina.
- Forecasts for the 2023 fall and winter are predicting that there is a 50% possibility for El Nino to occur.
- Transition from a La Nina winter to an El Nino summer historically tends to produce a large monsoon deficit.
- This in turn can favour enhanced cyclone formation.
- If an El Nino state emerged by summer, we will likely have a deficit in 2023.

- El Nino refers to a band of warm water spreading from West to east in the Equatorial Pacific Ocean. La Nina occurs when the band of water spreads east to West, and is cooler.

40. Suspension of the New START treaty

- The Russian President declared that Moscow binding is suspending its participation in the New START treaty- the last remaining nuclear arms control pact with the US.
- New START's official name is the treaty between the United States of America and the Russian Federation on measures for the further reduction and limitation of strategic offensive arms.
- The treaty envisages caps on the number of nuclear weapons and broad inspections of nuclear sites.
- He also said that Russia should stand ready to resume nuclear weapons tests if the US does so.
- The New START treaty was signed in 2010 and entered into force on 5th February 2011 for 10 years. It was extended by 5 more years till 2026.
- It limited USA and Russia to 1550 strategic nuclear warheads deployed on 700 strategic delivery systems.

41. Vaigai Valley civilisation

- Keeladi is a tiny hamlet in the shivaganga district in South Tamil Nadu. The excavations here from 2015 prove that an urban civilization existed in the sangam age on the banks of the Vaigai river.
- In 2019, a TNSDA report dated the unearthed artifacts from Keeladi to a period between 6th century BC and first century BC.
- Artifacts have led academics to describe the site as a part of the Vaigai valley civilisation, inviting comparisons with the Indus Valley Civilisation.

42. India, China hold in-person border talks after 3 years

- India and China have discussed proposals for disengaging in the 2 remaining friction areas along the line of actual control.
- This is the first in person border talk between the 2 countries in 3 years.
- This was held in the 26th meeting of the working mechanism for consultation and coordination on India-China border affairs (WMCC).
- The Working Mechanism for Consultation and Coordination on India–China Border Affairs (WMCC) was set up through an India-China agreement in January 2012 for improved institutionalized information exchange on border related issues.

43. 'Dickinsonia fossil' found in Bhimbetka is old beehive

- Scientists had discovered the fossils of an extinct species of animal from India's Bhimbetka rock shelters in 2021.
- A closer look at the site revealed that the apparent fossil was an impression of wax smeared on a rock by a beehive.
- The impression resulted from decay of a modern beehive which was attached to a fractured rock surface.
- Dickinsonia is believed to be world's earliest known living animal as of now, which lived during the late Ediacaran period, which is now Australia, Russia and Ukraine.

44. 60% of India's voters linked Aadhaar to voter ID: RTI

- Over 60% of India's 94.5 crore voters have linked their aadhaar to their voter IDs, the election Commission disclosed in a right to information response.
- Tripura had the highest rate of aadhaar linking add 92%.
- Some of them may have provided documents other than aadhaar such as PAN, driving licence or passport to fill form 6B.
- The election laws act 2021 was passed to de-duplicate electoral rolls by allowing election authorities to collect the 12 digit aadhar number from voters.
- The election law (amendment) bill 2021 sought to amend section 23 of the representation of people's act 1950, enabling the linking of electoral roll data with the Aadhaar ecosystem.
- It also sought to keep 4 qualifying dates to enrol people who have turned 18 – these will be the first days of January, April, July and October.

45. INS Sindhukesari

- INS Sindhukesari, an Indian Navy kilo class conventional submarine, docked in Jakarta for the first time from Feb 22-24.
- This is seen as strengthening maritime partnership between India and Indonesia towards safer and secure Indo-Pacific.
- The Ship undertook the maiden docking in Indonesia for operational turnaround (OTR).
- INS Sindhukesari was designed as part of Project 877 and built under a contract between Rosvooruzhenie, Russia, and the Ministry of Defence (India).
- The submarine, which was on operational deployment, travelled through the Sunda Strait and undertook the maiden docking in Indonesia for Operational Turnaround.

46. India ranks 42 among 55 on international IP Index

- India ranked 42nd among 55 leading global economies on the international IP index released by the US Chambers of Commerce.
- The vice president of the US Chamber of Commerce said that India is ripe to become a leader for emerging markets seeking to transform their economy through IP-driven innovation.
- The Intellectual Property (IP) Index is released every year by the US chamber of commerce for 55 countries, by analysing 50 indicators. In 2023, The United states ranked first followed by the UK and France.
- The index aims to help nations navigate towards a greater future economy, marked by innovation and creativity.

47. Surya Nutan

- The Prime Minister had recently launched the Indian oil corporation's patented solar cooker stove – Surya Nutan at the India energy week 2023 in Bengaluru. He claimed that the stove would soon reach 3 crore households within the next few years.
- Surya Nutan can work both on solar and auxiliary energy sources.
- It collects energy from the sun, converts it into heat through a specially designed heating element, stores thermal energy in a scientifically proven thermal battery and reconverts the energy for use in indoor cooking.

48. Heat waves

- The Indian meteorological department (IMD) warned that maximum temperatures over northwest, West and central India would be 3- 5 degrees Celsius higher than the long term average.
- A region has a heatwave if its ambient temperature deviates by at least 4.5- 6.4 degrees Celsius from the long term average. There is also a heat wave if the maximum temperature crosses 45 degree Celsius or 37 degrees Celsius at a hill station.
- Different reasons for heat waves in India are as follows –
 - In India, air flows from West- North West in spring bringing in warm air from West Asia.
 - The lapse rate- the rate at which temperature cool from the surface to the upper atmosphere- is declining under global warming.
 - Heatwaves over peninsular India arrive from the oceans.
 - The age of air mass and how far it has travelled also affects the formation of heat waves.

49. 1300 year old Buddhist stupa found in Odisha's Jajpur

- 1300 year old stupa was found in the middle of a mining site in Jajpura district from where Khondalite stones were supplied for the beautification project around Shree Jagannath temple in Puri.
- Initial assessment showed that it may belong to the 7th or 8th century.
- It was found at Parabhadi, which is situated near Lalitagiri, a major Buddhist complex.
- Khondalite stones were widely used in ancient temple complexes. These are proposed to be used widely to maintain aesthetic value of some projects.

50. Global Biofuel Alliance: One of the priorities under India's G20 Presidency

- Brazil, India, and the United States, as leading biofuel producers and consumers, will work together during the next few months towards the development of a Global Biofuels Alliance along with other interested countries.
- This Alliance will be aimed at facilitating cooperation and intensifying the use of sustainable biofuels, including in the transportation sector.
- The Global Biofuel Alliance is one of the priorities under India's G20 Presidency.