Prelim Bits 30-03-2022 | Daily UPSC Current Affairs

Recycling the Heat of Datacentres

Microsoft has partnered with Fortum to heat homes, services and businesses in Finland with sustainable waste heat from a new datacentre region that Microsoft has planned to build in the Helsinki metropolitan area in Finland.

Datacentre

- It is a physical facility that organisations use to store their critical applications and data, process data and disseminate them to users.
- It is designed based on a network of computing and storage resources that enables delivery of shared applications and data.
- Key components of a datacentre are routers, switches, firewalls, storage systems, servers, and application-delivery controllers.
- Since datacentres consume large amounts of energy, it's important to ensure the physical structures that house them are well-designed and insulated to optimise temperature controls and energy efficiency.

Heat Generated

- Temperatures recorded in the hot aisles of a datacentre hover between 80 and 115 degrees Fahrenheit.
- Over 75% of a datacentre's electricity becomes waste heat.
- In winter, a datacentre can provide heating up to 85 degrees Fahrenheit, with better energy efficiency than a heat pump in a new house.
- **Carbon footprint -** Globally, datacentres consume around 200 terawatt-hours (TWh) of electricity, which is more than 1% of the world's total electricity.
- They contribute to 0.3% of all global CO2 emissions, according to the International Energy Agency.
- Datacentre energy usage in some countries could increase to 15% to 30% of their total domestic electricity consumption by the end of the decade.
- The heat recycling system can provide clean heat to homes, businesses and public buildings near the datacenters.
- Once the new data centre region's waste heat capture is in operation, a total of 60% of the area's heating will be generated by climate-friendly waste heat.
- Of this, 40% results from the datacentre region and the rest from other waste heat sources like purified waste water.

District heating

- District heating is a system of generating heat in a centralised location by capturing heat and then distributing it to buildings for residential and commercial heating needs.
- The heat is transferred to customers as hot water which is pumped through insulated underground pipes.

- The new generation of district heating is based on replacing fossil fuels with flexible solutions like renewable electricity, heat pumps and waste heat utilisation.
- Artificial intelligence will help optimise operations of the entire system.
- District heating is popular in the Nordic and Baltic countries, as well as in Russia and China, which have high heat demands during winters.
- Datacentres thrive in cold climates. Their location in cold climates helps to cut down on the need to cool server rooms.
- **Other companies doing Heat Recycling -** Facebook (Denmark), Apple (Denmark), H&M (Denmark), IBM (in Switzerland), Quebecor (in Canada), etc.

Reference

https://www.thehindu.com/sci-tech/technology/explained-recycling-heat-generated-by-datacentres-to-cut-co2-emission/article65248615.ece

Hurun Global Rich List 2022

The Hurun Global Rich List 2022 - a report on the findings on the dollar millionaires for 2021 - has been released.

> An Oxfam report pegged the wealth of top 100 richest Indians at $775 billion. It also added that India accounted for 4.6 crore or half of the overall people on the planet falling into extreme poverty in 2021.
>
> As per another survey, dollar millionaires rose by 11% to 4.58 lakh households in India at the end of the pandemic-hit 2021.

About Hurun Report

- Hurun Report is a leading research, luxury publishing and events group established in London in 1998.
- It is widely recognized world-over for its comprehensive evaluation of the wealthiest individuals across the globe.
- Hurun Report is the largest compiler of the rich list globally.

Findings

- The Hurun Global Rich List 2022 report ranked a total of 3,381 billionaires from 2,557 companies and 69 countries.
- China is still the first with 1,050 billionaires owning $3,756 billion in wealth, with the US at the second position with 523 billionaires owning $3,554 billion in wealth.
- India ranked third in the list of total self-made billionaires in the world, with 119 billionaires accounting owning a cumulative wealth of $474 billion.
- The Gautam Adani family, Larry Page and Sergey Brin were the biggest gainers this year.

Findings about India

- The Hurun Report 2021 is the survey of 350 dollar millionaires or those possessing a personal wealth of over Rs. 7 crore.
- It also estimated the number of Indian dollar millionaires to **increase by 30%** to touch six lakh households **by 2026**.

- It indicated that the number of those who classify themselves as happy in personal and professional lives slipped from 72% (2020) to 66% (2021).
- **Mumbai** is home to the largest number of dollar millionaires at 20,300 households, followed by Delhi at 17,400 and Kolkata with 10,500.
- At a time when calls for taxing the super-rich are growing (higher taxation advocated by Oxfam to save lives), less than a third among those surveyed felt paying taxes is a determinant of social responsibility.
- Similarly, when calls for greater help through philanthropy are growing, only 19% of the millionaires surveyed by Hurun said they believe in giving back to society.
- Over two-thirds of those surveyed said they will prefer sending their kids abroad for education, with the U.S. emerging the favourite destination followed by the U.K., New Zealand and Germany.
- The survey found that a fourth of those in the list change their cars every 3 years with the German carmaker Mercedes Benz emerging as the most preferred.
- Nearly two-thirds of those surveyed said they own four time pieces, adding that Rolex is the most preferred brand.

Particular	**Most preferred Brand**
Hospitality brand	Indian Hotels' Taj
Jewellery retailer	Tanishq (owned by the Tata Group)
Luxury goods	Louis Vuitton
Private jet brand	Gulfstream

- The next decade presents a meaningful opportunity for luxury brands and service providers to enter/further strengthen presence in India
- Number of dollar millionaires using UPI for payments has doubled to 36%, while nearly a third of the surveyed are currently avoiding risks in their investments.

Reference

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2. https://www.thehindu.com/news/national/dollar-millionaires-in-india-rise-11-in-pandemic-hit-2021-less-happy-than-last-year-survey/article65062237.ece
3. https://www.india.com/business/falguni-nayar-indias-nykaa-storms-into-2022-m3m-hurun-global-rich-list-5289705/

Chandigarh’s Private Member Bill

The Chandigarh Municipal Corporation approved a proposal to amend Article 80 of the Constitution so that its councillors could send a representative to the Rajya Sabha.

Article 80 of the Constitution of India deals with the composition of the council of states also called the Upper House and Rajya Sabha.

- The Private Member Bill is a bill introduced by a Member of Parliament (MP), who is not a minister.
- MPs sitting in the Opposition mostly bring Private Member Bills in the house.
- **Chandigarh’s case -** Chandigarh is a Union Territory (UT) without any legislative assembly.
- Chandigarh has a seat of Member of Parliament (MP) in the lower house (Lok Sabha) or House

of the People. Chandigarh residents elect an MP every 5 years through direct voting.
- But, the elected Municipal Corporation Councillors do not form the electoral college for selecting a member for Rajya Sabha because it is beyond the powers of the **Municipal Corporation**.
- Also, between 1966 and 1990, MPs for Rajya Sabha in Delhi were selected by the members of the **Metropolitan Council of Delhi**.
- There is a difference between the Metropolitan Council and Municipal Corporation.
- Selecting MP for Rajya Sabha, is beyond the listed scope of functions of the municipal corporation.
- As the civic body house gave its assent to the amendment, UT Administration will send it to the Ministry of Home Affairs for further consideration. It will then be forwarded to the Parliament.

The UTs that have the right to send MPs to the Upper House - Puducherry (one representative), Jammu and Kashmir (4 representatives) and Delhi (3 MPs in the Upper House).

The UTs that don't have the right to send MPs to the Upper House -Ladakh, Chandigarh, Dadra & Nagar Haveli, Daman and Diu, Andaman and Nicobar Islands, and Lakshadweep.

- **Benefits -** The amendment, if approved, will enhance the powers of elected councillors.
- Because there is no legislative assembly, the councillors represent the people of Chandigarh in the true sense.
- Surely, the chances of the candidate of the party, which will have larger councillors in the civic body, will be boosted.
- If approved, the move will not affect the powers of the MP from Chandigarh in the Lok Sabha.

Reference

https://indianexpress.com/article/explained/explained-how-one-bill-can-alter-power-dynamics-in-ut-civic-body-7796739/

Transportation of EVMs

Before the counting of votes for the Assembly elections in 5 states, a political party accused the ruling party of "stealing" votes by intercepting a truck carrying EVMs in Varanasi.

During non-election period

- All available EVMs in a district are normally stored in a treasury or a warehouse under the direct control of District Electoral Officer (DEO).
- Exceptions can be made in case of unavailability of storage space, but the designated treasury or warehouse should not be below the level of tehsil.
- The warehouse is secured by a double lock, guarded round the clock by policemen or security guards, and is also under CCTV surveillance.
- During a non-election period, EVMs cannot be moved out of the warehouse without specific instructions from the Election Commission.
- The first-level check of the EVMs by engineers is done here, in the presence of representatives of political parties.

During poll season

- Closer to the election date, EVMs are allocated randomly to various Assembly segments through a software in the presence of party representatives.
- If the representatives are absent, a list of allocated EVMs and VVPAT machines for each Assembly segment is shared with the party office.
- From this point, the Returning Officer (RO) of the Assembly segment takes charge of the allocated machines and stores them in designated strong rooms. Here, the second round of randomisation takes place.
- EVMs are commissioned to specific polling stations in the presence of party representatives.
- After all machines are prepared with the setting of candidates and fixing of ballot papers, and then commissioned, the strong room is sealed before the party representatives who can also put their own seal on the locks.
- The strong room is guarded round the clock under the charge of a senior police officer, not below the rank of a Deputy Superintendent of Police.
- It can also be guarded by central police forces, wherever possible.
- Once sealed, the strong room can only be opened on a fixed date and time when the machines have to handed over to the polling parties to be delivered to their designated polling stations.
- To replace the defective machines with as little delay as possible, some reserve EVMs are also taken from the strong rooms and stored in a central place in the Assembly segment.

From booth back to strong room

- Once voting ends, the Presiding Officer is required to prepare an account of votes recorded in the EVMs before dispatched to the strong rooms right away.
- An attested copy of this is provided to each candidate’s polling agent. After this, the EVM is sealed.
- Candidates and their agents are allowed to put their signatures on the seals, which they can check for any signs of tampering.
- Candidates or their representatives travel behind vehicles carrying EVMs from the polling station to the strong room.
- Once all used EVMs have arrived, the strong room is sealed and the candidate or her representative is permitted to put their own seals or locks as well.
- They can also keep a watch on the strong rooms round the clock.
- Once sealed, the strong room cannot be opened until the morning of counting day.
- If the strong room has to opened before that for an unavoidable reason, it can only be done in the presence of the candidate or his representative.
- Security forces are deployed in three layers around storage rooms with Central Armed Police Forces guarding the inner ring.
- On the day of the results, counting begins only after the candidate or her polling agent has checked the machine number and whether the seal is unbroken.

Reference

https://indianexpress.com/article/explained/evms-varanasi-akhilesh-bjp-7808041/

Increase in Kaziranga Rhino Population

The latest census of the UNESCO World Heritage Site’s flagship animal - greater one-horned or Indian rhinoceros - has revealed that their population has increased in the Kaziranga National Park and Tiger Reserve.

- The last rhino census conducted in 2018 had put the number at 2,413.
- In the Kaziranga National Park and Tiger Reserve, the population has increased to 2,613 by 200 in 4 years.
- Though the tiger reserve measures 1,355 sq. km, the census was confined to a rhino-bearing area of 864 sq. km.
- This year's census had a first - the use of drones for the recheck of 26 park compartments where the sample survey was conducted.
- A similar census was conducted in two more of **Assam's** rhino habitats earlier.
    1. Orang National Park recorded an increase of 24 rhinos over the figure of 101 in 2018.
    2. Pobitora Wildlife Sanctuary recorded five more rhinos than in 2018.
- **Related Links** - Greater One-Horned Rhino, Indian Rhino Vision 2020

Kaziranga National Park and Tiger Reserve

- Kaziranga National Park and Tiger Reserve is a protected area in the northeast Indian state of Assam.
- It is the oldest park in Assam that covers the floodplains of the river Brahmaputra on the North and the Karbi Anglong hills on the South.
- Its forests, wetlands and grasslands are home to Indian one-horned rhinoceroses, tigers and elephants.
- The forest region of Kaziranga Park is home to **world's largest population of Indian Rhinoceros**.
- Over the time, the tiger population has increased in Kaziranga, and that's the reason why Kaziranga was declared as **Tiger Reserve** in 2006.
- Also, the park is recognized as an **Important Bird Area** by BirdLife International for the conservation of avifaunal species.
- Ganges River dolphins swim in the park's waters.
- Kaziranga National Park a UNESCO World Heritage Site is famous for the Great Indian one horned rhinoceros.
- **Related Links** - Kaziranga Animal Corridors

Reference

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3. https://nagaon.gov.in/frontimpotentdata/kaziranga-national-park xs

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