Prelim Bits 24-02-2022 | UPSC Daily Current Affairs

AI Research SuperCluster

Facebook-parent Meta is building an AI supercomputer, the AI Research SuperCluster (RSC).

> AI supercomputers are built by combining multiple graphic processing units (GPUs) into compute nodes, which are then connected by a high-performance network fabric to allow fast communication between those GPUs.

- RSC is a powerful supercomputer that can perform tasks like translating text between languages and help identify potentially harmful content on Meta's platform.
- It can run computer vision workflows up to 20 times faster.
- It can train large-scale Natural Language Processing (NLP) models three times faster.
- It can help its researchers build better AI models that can work across different languages, seamlessly analyse text, images and video together.
- It also power real-time voice translations to large groups of people speaking different languages so that they can collaborate on a research project, and develop new augmented reality tools.
- With the pandemic, the demand for data centres of AI and ML among Government and educational entities is witnessing exponential growth which in turn is boosting the demand for supercomputers.
- RSC can keep people safe in the metaverse through its training models that can detect harmful content faster than earlier systems.

Reference

1. https://www.thehindu.com/sci-tech/technology/metas-ai-supercomputer/article65073934.ece?homepage=true
2. https://ai.facebook.com/blog/ai-rsc/

Security Printing and Minting Corporation of India

The Delhi headquarters of the Security Printing and Minting Corporation of India has been declared a "prohibited place" under the British-era Official Secrets Act (OSA) by the Ministry of Home Affairs.

- It is a wholly owned Schedule 'A' Miniratna Category-I company of Government of India, incorporated in 2006.
- It comes under the administrative control of Department of Economic Affairs, Ministry of Finance.
- It is India's only currency and bank notes manufacturer, which printed the new series of notes of denomination ₹2,000 and ₹500 in 2016.
- It is also engaged in the production of security paper, non-judicial stamp papers, postal stamps

and stationery, passport and visa stickers, security inks, circulation and commemorative coins among others.

Reference

1. https://www.thehindu.com/news/national/hq-of-bank-note-manufacturer-declared-prohibited-place/article65076982.ece?homepage=true
2. https://www.spmcil.com/Interface/AboutUsspmcil.aspx?menue=1

Digital University

The Ministry of Education and various stakeholders are working to set up the 'digital university', announced in the 2022 Union Budget.

- Digital University can fill the gaps in faculty development, enrollment in SEDGs, employability enhancing skills, quality learning material in regional languages, formal & non-formal (Recognizing Prior Learning) etc.
- The government's plan is to get various universities to come together and form a digital university, which can then enrol students as a single unit.
- This University will offer the whole gamut of qualifications - certificate programmes, diplomas, degrees.
- There won't be any limit on the number of seats, with anyone who has passed class 12 able to enrol.
- University Grants Commission will function as an enabler and not as a watchdog with accountability provisions in reimagining of futuristic teaching learning process w.r.t. Digital education.
- **Related Links** - One Class-One Channel & PM eVIDYA Initiative

Reference

1. https://pib.gov.in/PressReleasePage.aspx?PRID=1800295
2. https://theprint.in/india/education/what-is-a-digital-university-how-modi-govt-plans-to-set-it-up-and-what-are-the-challenges/841195/

India-UAE CEPA

India and the UAE have signed a Comprehensive Economic Partnership Agreement (CEPA) with the aim of increasing bilateral merchandise trade to $100 billion by 2030.

- The India-UAE CEPA is expected to come into effect in the first week of May 2022.
- **Significance** - India-UAE CEPA marks the first trade agreement India has made with a major trading partner in over a decade.
- The last major FTA India signed was with Japan in 2011.
- This CEPA is the first in series of FTAs that India is pursuing to boost exports sharply to 1 trillion dollars each in merchandise and services by 2030.
- Under the agreement, the UAE will **eliminate duties on 80% of its tariff lines** that account for 90% of India's exports to the UAE by value.
- **Zero duty access** for Indian products to the UAE is set to expand over 5-10 years to 97% of UAE tariff lines corresponding to 99% of India's exports by value.
- This CEPA marked the first time India had included a **chapter on digital trade** in an FTA.
- Key domestic sectors that are set to benefit include, gems and jewellery, textiles, leather,

footwear, sports goods, engineering goods, automobiles and pharmaceuticals.
- **Exclusion** - India has excluded certain goods from the agreement through a "sensitive list" of products amounting to 10% of tariff lines that are excluded completely from the agreement.
- Dairy, fruits, vegetables, cereals, tea, coffee, sugar, food preparations, tobacco, toys, plastics, scrap of aluminium, copper, etc are excluded.
- Certain other areas where the government is incentivising manufacturing through PLI schemes have also been excluded.
- **Prevent misuse** - This agreement contains strict rules of origin to prevent other countries from using the agreement to reroute the government's exports through UAE to benefit from lower tariffs.
- Most products require a value addition of 40% in the exporting country under this agreement to qualify for lower tariffs under the agreement.
- Aluminium and auto components would require value addition of 45% to qualify as having originating in India or UAE under the agreement.
- This agreement also requires that any raw agricultural products and oilseeds be "wholly obtained" or "produced entirely in the exporting country".
- This will ensure that no third party products in these categories can be exported under the agreement.
- It also has safeguard mechanisms that would be triggered if there was a significant surge in imports of a specific product in either country.

Reference

https://indianexpress.com/article/explained/india-uae-trade-agreement-explained-7784932/

Shadow Brokers

- The Shadow Brokers are a group of hackers linked to the 2017 leak of hacked intel belonging to the US National Security Agency (NSA).
- They are, in turn, implicated in that year's WannaCry global ransomware attack that used EternalBlue, an NSA cyber weapon.
- The Shadow Brokers have said they are committed to taking down the NSA, in particular the Equation Group.
- [The Equation Group is an offensive cyberwarfare unit of the NSA Computer Network Operations (CNO) unit, formerly called the Office of Tailored Access Operations (TAO).]
- The Shadow Brokers appeared around the time of the 2016 Democratic National Committee (DNC), the US presidential candidate selection event held by the organization of the same name.
- **Related Links** - Petya Ransomware Attack

Reference

1. https://www.thehindu.com/news/international/us-group-hacked-top-research-institutes-in-india-russia-and-china-says-beijing-cyber-firm/article65079559.ece?homepage=true
2. https://www.theatlantic.com/technology/archive/2017/05/shadow-brokers/527778/
3. https://www.hypr.com/shadow-brokers/

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