

PARAM ANANTA

❖ Context

- A state-of-the art supercomputer was commissioned at IIT Gandhinagar under National Supercomputing Mission.

❖ Key Highlights

- A **Memorandum of Understanding (MoU)** was signed between IIT Gandhinagar and Centre for Development in Advanced Computing (C-DAC) to establish this **838 TeraFlops** Supercomputing Facility under NSM.
- The system is based on **Direct Contact Liquid Cooling technology** to obtain a high power usage effectiveness & thereby reducing the operational cost.
- **60 % of the Param Ananta capacity will be used by IIT Gandhinagar** and the rest will be open for use by nearby academic institutes for various research purposes.
- The facility is **established under Phase 2 of the NSM**, wherein the **majority of the components** used to build this system have been **manufactured and assembled within the country**, along with an indigenous software stack developed by C-DAC.
- Considering the top 500 supercomputers in the world (as of Nov-21), **China has the largest number of Supercomputers** in the top 500 list - 173 followed by US-149 and Japan-32.
- **India has only three supercomputers in the list.**

❖ National Supercomputing Mission



- The Government of India **launched the mission in 2015.**
- Under NSM, the plan was to **connect R&D institutions and academic institutions** in the country using a supercomputing grid with **73 high performance computing facilities.**
- Spread over the period of seven years the estimated cost of this mission is Rs. 4,500 crores (US\$ 593 million).
- The **Department of Science and Technology (DST)** and the **Department of Electronics and Information Technology (DeitY)** jointly guide the mission.
- **Centre for Development of Advanced Computing (C-DAC)** is entrusted with overall design, development, deployment, and commissioning of computers built under this mission.
- Under NSM, to date **15 supercomputers have been installed across the nation** with an aggregate compute capacity of **24 petaflops.**
- **The top supercomputer 210 AI PetaFlops Param Siddhi** with a processing power of 6.5 petaflops has been deployed at **CDAC, Pune.**

Prime Minister's Employment Generation Programme

❖ Context:

- The government has approved continuation of the **Prime Minister's Employment Generation Programme (PMEGP).**



❖ Key Highlights:

- The **Ministry of Micro, Small and Medium Enterprises (MSME)** is implementing the programme to facilitate **generation of employment opportunities for unemployed youth** across the country by assisting setting up of **micro-enterprises in non-farm sector.**
- It has been approved with an outlay of around 13 thousand 554 crore rupees.
- Since its inception in 2008-09, about **7.8 lakh micro enterprises have been assisted** with a subsidy of 19,995 crore rupees generating estimated sustainable employment for 64 lakh persons.
- The government has made modifications in the existing Scheme.
- It has increased the maximum project cost from existing 25 lakh rupees to 50 lakh rupees for manufacturing units and from existing 10 lakh rupees to 20 lakh rupees for service units.
- The scheme will create sustainable estimated employment opportunities for about 40 lakh persons in five financial years.

❖ Objectives of the PMEGP:

The PMEGP has **four-fold objectives:**

1. **To create employment in rural**, as well as urban areas in India by setting up new self-employment micro-enterprises or projects.
2. **To provide a common ground** for the widely dispersed traditional artisans and unemployed youth in both rural and urban areas to come together and create self-employment avenues.
3. **To take steps to prevent the migration of rural people** to cities to seek employment by giving them stable and sustainable employment. This is especially for traditional and prospective artisans and rural and urban unemployed youth who get traditional or seasonal employment and remain unemployed the rest of the year.
4. **To increase the income-earning capacity** of artisans and focus on increasing the growth rate of rural and urban employment.

Face to Face Centres

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News in Between the Lines

Zinc Air Batteries



❖ Context

- Indian Institute of Technology Madras researchers are developing mechanically-rechargeable zinc-air batteries.

❖ Advantages Of Zinc Air Batteries

- Zinc is **widely available in India**.
- It is **cheaper**. While lithium-ion batteries cost \$200 to \$250 a KWhr, zinc-air batteries cost around \$150 KWhr. With wider usage, the price is expected to come below \$100 KWhr.
- Zinc-air batteries are also **water-based and have a longer shelf life**.
- They have **good turnaround efficiency**
- It would **reduce the import of lithium-ion batteries**. Currently, Indian EV manufacturing firms import lithium-ion batteries mostly from China which makes it import dependent.
- The diverse requirements of the Indian market cannot be fully met by lithium-ion batteries alone and thus zinc air batteries may prove to be a meaningful alternative.

India's Biggest Trading Partner



❖ Context

- The US surpassed China to become India's top trading partner in 2021-22.

❖ Key Highlights

- According to the data of the commerce ministry, in 2021-22, the **bilateral trade between the US and India stood at \$119.42 billion** as against \$80.51 billion in 2020-21.
- **The USA is one of the few countries with which India has a trade surplus**. In 2021-22, India had a trade surplus of **\$32.8 billion** with the US.
- **India has joined a US-led initiative to set up an Indo-Pacific Economic Framework (IPEF) recently** and this would help boost economic ties further.
- **Major Export Items** from India to the US include petroleum products, polished diamonds, pharmaceutical products, jewellery, light oils and petroleum, frozen shrimp, made ups etc.
- **Major Imports** from the US include petroleum, rough diamonds, liquified natural gas, gold, coal, waste and scrap, almonds etc.
- The USA was followed by **China (\$115.42 BN)**, **UAE (\$72.9 BN)**, **Saudi Arabia (\$42.85 BN)**, Iraq (\$34.3 BN) and Singapore (\$30 BN) in top trading partners of India.

Highest Ever Textile Exports



❖ Context

- India scaled its highest ever exports tally at **US\$ 44.4 Bn in Textiles and Apparel (T&A)** in FY 2021-22.

❖ Key Highlights

- **USA was the top export destination** accounting for 27% share, **followed by EU (18%), Bangladesh (12%) and UAE (6%)**.
- In terms of product categories, the export of **cotton Textiles was US\$ 17.2 Bn with 39% share** registering a growth of 54% during 2021-22 over FY 2020-21.
- Export of Ready-Made Garments was US\$ 16 Bn with 36% share showing a growth of 31% during 2021-22 over FY 2020-21.

Channel Avulsions

❖ Context

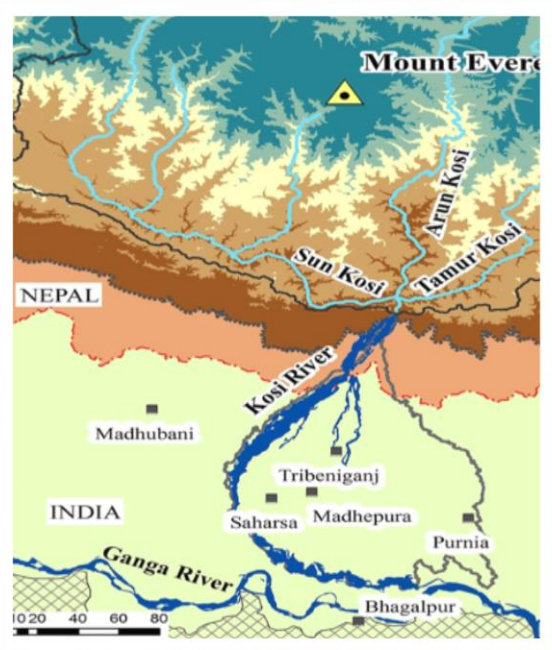
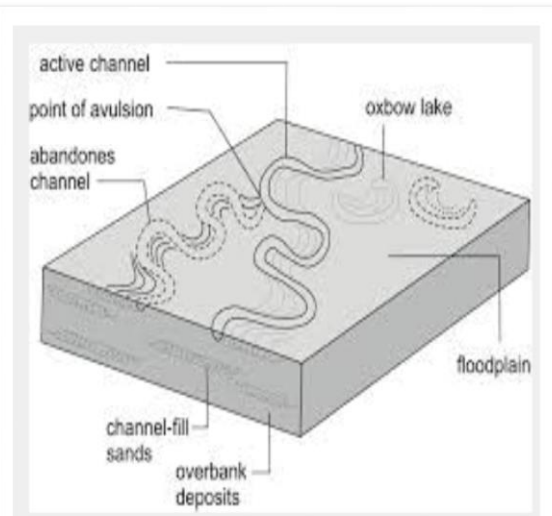
- A new study has predicted that **climate change can alter where rivers jump course in delta regions**. **Rising sea levels can push avulsions farther inland in the backwater zone**.

❖ Key Highlights

- Researchers from the United States combed through **satellite imagery from 1973-2020** and historical maps to **document 113 avulsions worldwide**.

Face to Face Centres





- Satellite data helped the team pinpoint where avulsions occur. They divided the avulsions into **three categories**:
 - That occur in the base of mountains, like in case of Kosi.
 - That occur in the delta regions.
 - That occur in rivers which carry extreme sediment load.
- Avulsions are the **natural processes by which flow diverts out of an established river channel** into a new permanent course on the adjacent floodplain abandoning the former channel.
- The study has found that **they are rare, occurring only once a decade or century, or even less.**
- Avulsions though having catastrophic effects are less focussed upon because of their infrequent nature.

❖ Role of Embankments in Kosi's Avulsion

- Kosi has shifted westward for about 150 km in the past 200 years.
- A large **flood** forced the **Kosi River** to abandon its established channel for an older one in **2008, displacing 3 million people** and claiming more than 250 human lives.
- However, according to experts, the embankment played a substantial role in Kosi's channel avulsion.
- **Kosi-like systems bring a lot of sediments** from the Himalayas. **After embankments were made on either side of the river in the 1950s, it became much more unstable.**
- Before the embankment, the river could distribute sediments along the 200-kilometre stretch which has now been reduced to 10 km only.
- **Natural sediment dispersal** helps to create additional channels for the river and divert a part of the flow. This distributes the flow of the water and sediments across channels, **dissipating floods and avulsion.**

Permanent Indus Commission



❖ Context

- The **118th** meeting of the **Permanent Indus Commission (PIC)** comprising of **Indus Commissioners of India** and Pakistan was recently held in New Delhi.

❖ Key Highlights

- It is a **bilateral commission** consisting of officials from India and Pakistan, created to implement and manage the goals and objectives and outlines of the **Indus Waters Treaty (IWT).**
- The Commission appreciated the commitment of the two sides to interact frequently and resolve issues through bilateral discussions under the Indus Water Treaty.
- It was agreed to hold the next meeting of the PIC in Pakistan on mutually convenient dates.
- During the meeting, the annual report of the PIC was finalised and signed.

❖ Indus Water Treaty:

- The IWT was signed in September 1960 with **World Bank** standing guarantee for any dispute resolution.
- Broadly, according to this treaty, waters of the **three western rivers (the Jhelum, the Chenab, and the Indus itself)** were allocated to Pakistan, and those of the three eastern rivers **(the Ravi, the Beas, and the Sutlej)** were **allocated to India.**
- All these six rivers together called as **Indus System of Rivers (ISR).**
- PIC is the channel of correspondence between the two countries for the purpose of IWT and first step for conflict resolution.
- If an agreement cannot be reached at the PIC level, the dispute can be referred to a **Neutral Expert for the differences already identified in the treaty** or referred to the two governments for approaching the Permanent Court of Arbitration (PCA). If the governments too fail to reach an agreement, the Treaty provides an arbitration mechanism.



Shire Lily Festival 2022



❖ Context

- In Manipur, the **4th Edition** of State-Level **Shirui Lily Festival 2022** began recently.

❖ Key Highlights

- This annual festival is organised by the **Department of Tourism, Government of Manipur**.
- Different events including traditional dances, songs and music, trekking, beauty contests, indigenous games and sports will be organised at different sites in **Ukhrul district**. The festival is held around April and May as it is the blooming season of **Shirui Lily**.
- The flower is found in **Ukhrul district** of Manipur only and cannot be replanted anywhere in the world.
- **Aim:** To create and raise awareness on **Shirui Lily flower** which is also the **State Flower of Manipur**.

Sela Macaque



❖ Context

- In a positive development for mother nature, a new species of primate has been **discovered in Arunachal Pradesh**.

❖ About Sela Macaque

- Discovered by the **Zoological Survey of India** scientists, the species is called Sela Macaque, **named after the Sela pass**.
- **Sela macaque (M. selai)** is a new macaque species that **exhibited high intra-specific genetic variation**.
- The species was found in **western and central Arunachal Pradesh** while exploring the Arunachal macaque's wild population for genetic insights.
- The Sela macaque is genetically different from the other species of monkeys reported from this region.
- Sela macaque was geographically separated from the Arunachal macaque of the Tawang district by Sela.
- **Features:** Sela macaque has a **longer tail compared** to Tibetan macaque, Assamese macaque, Arunachal macaque and the white-cheeked macaque but shorter than the bonnet macaque and toque macaque.
- Other features of the species include brown **collar hair and muzzle**, **thick brown hair around the neck**, and the **absence of chin whiskers**.

PM CARES for Children



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❖ Context

- Releasing the benefits under the **PM CARES for Children scheme**, Prime Minister recently announced, a **series of schemes** for **students and children** affected by the pandemic.

❖ About PM CARES For Children Scheme

Children Benefits		
Financial Support - Amount of Rs 10 lakh for all children	Support for boarding & Lodging - Rehabilitation of all children	Assistance for School Education - Admission in schools
Assistance for Higher Education - Educational loans for higher education	Health Insurance - Health insurance cover of Rs 5 lakhs	Scholarship - Rs 20,000 for all school going children

- It **aims** to support children who have lost both the Parents or legal Guardian or Adoptive Parents or Surviving Parent to COVID-19 pandemic during the period starting from 11th March 2020.
- The **objective** of the Scheme is to ensure comprehensive **care and protection of Children** in a sustained manner, and enable their well being through health insurance, empower them through education and equip them for self-sufficient existence with financial support on **reaching 23 years of age**.
- **Ministry of Women and Child Development:** Nodal Ministry for execution of the scheme at the **central level**.
- **Department of the State/UT government** dealing with the **Juvenile Justice:** Nodal Agency at State level.
- The **District Magistrates:** Nodal authority at District level.

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