

CSB IAS ACADEMY

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PRELIMS EDGE – 2025 – 07/11/2024

Generalized System of Preferences (GSP)

Context: As Donald Trump comes back to the US leadership, India's GSP Status is back into the mainstream India USA negotiations.



About GSP :

- It is a **voluntary trade measure implemented by developed countries that provides an advantageous, or "preferential", tariff treatment to imports from developing countries.**
- It was instituted in 1971 under the aegis of the United Nations Conference on Trade and Development (UNCTAD).
- The preferences are in the form of **either elimination or reduction in customs duty** when the list of eligible products from the beneficiary developing country (BDC) is exported to the developed country.
- However, an exporter under the GSP is required to fulfil the **rules of origin** under the GSP scheme. The rules of origin are the criteria required to ensure that the product exported originates from the country of export and is not being diverted from another country.
- The GSP is a unilateral customs duty preference scheme i.e. there is no need for India or other BDCs to provide reciprocal customs duty preferences for the developed country.
- The major countries who grant GSP preferences to developing countries are Armenia, Australia, Azerbaijan, Belarus, Canada, European Union (EU), Japan, Kazakhstan, Kyrgyz Republic, New Zealand, Norway, Russian Federation, Switzerland, Tajikistan, Turkmenistan, Turkey, United Kingdom (UK), United States (US), and Uzbekistan.
- Each of these developed countries has its own regulatory frame work under which it provides the GSP tariff preferences.
- The GSP provided also varies in terms of the products on which preferences are provided and the developing countries exports to which the tariff preferences are granted.
- In terms of trade volumes, the GSPs granted by the EU and the US are the most comprehensive and, hence, the most important for developing countries.
- Some of the GSP schemes also provide additional tariff preferences to a specified class of developing countries, with most providing the largest coverage of GSP customs duty preferences to exports from Least Developed Countries (LDCs).
- India is one of the primary beneficiaries in terms of export volume realized under the GSP.
- Around **40% of India's exports to the EU are under the EU GSP, while prior to the USGSP withdrawal by the previous Trump administration, around 10% of India's**

total exports to the US were under the GSP.

Source: *What Trump 2.0 means for India (The Hindu)*

CRISPR/Cas9

Context: Scientists are going forward with RNA editing developments after the success of CRISPR/Cas9



About CRISPR/Cas9

- CRISPR, short for Clustered Regularly Interspaced Short Palindromic Repeats, is a **gene-editing technology** that can be used to alter the genetic sequence of a specific gene by removing, adding, or altering sections of the DNA sequence.
- It makes it possible to correct errors in the genome and turn on or off genes in cells and organisms quickly, cheaply, and with relative ease.

How was it developed?

- Some **bacteria** have a similar, built-in gene editing system to the CRISPR-Cas9 system that **they use to respond to invading pathogens like viruses, much like an immune system.**
- Using CRISPR, the bacteria snip out parts of the virus DNA and keep a bit of it behind to help them recognise and defend against the virus next time it attacks.
- Researchers adapted this immune defense system to edit DNA.

- The CRISPR-Cas9 system consists of **two key molecules** that introduce a change (mutation) into the DNA. These are:
 - An enzyme called Cas9. This acts as a pair of **'molecular scissors'** that can cut the two strands of DNA, at a specific location in the genome so that bits of DNA can then be added or removed.
 - A piece of RNA called **guide RNA (gRNA)**. This consists of a small piece of pre-designed RNA sequence (about 20 bases long) located within a longer RNA scaffold.
- The scaffold part binds to DNA and the pre-designed sequence 'guides' Cas9 to the right part of the genome.
- This makes sure that the Cas9 enzyme cuts at the right point in the genome.
- The guide RNA is designed to find and bind to a specific sequence in the DNA.
- **Cas9 follows the guide RNA to the same location in the DNA sequence and makes a cut across both strands of the DNA.**
- Once the DNA is cut, researchers use the cell's own DNA repair machinery to add or delete pieces of genetic material, or to make changes to the DNA by replacing an existing segment with a customized DNA sequence.
- CRISPR-Cas9 has a lot of potential as a tool for treating a range of medical conditions that have a genetic component, including cancer, hepatitis B, or even high cholesterol.

Source: *RNA editing is promising to go where DNA editing can't (The Hindu)*

Terms in News

Dedicated Freight Corridors (DFCs)

- DFCs are **special railway routes dedicated to freight transportation**.
- They enable faster transit, allow double-stacked containers, and carry heavy haul trains, increasing capacity and efficiency.
- Purpose of DFCs: The need for DFCs arose due to the overutilization of the Railways' golden quadrilateral (Delhi, Mumbai, Chennai, Howrah), which carried over half of the Railways' freight traffic.
- The Railways sought to increase its share in freight traffic, aiming for 45% by 2030, as outlined in the National Rail Plan.
- Establishment and Development: It was announced in the Railway Budget for FY 2005-06, with foundation stones laid in 2006 by then Prime Minister Dr. Manmohan Singh.



Two main DFCs :

- **The Eastern Dedicated Freight Corridor (EDFC)** starts at Sahnewal (Ludhiana) in Punjab and ends at Dankuni in West Bengal.
- **The Western Dedicated Freight Corridor (WDFC)** runs from Dadri in Uttar Pradesh to Jawaharlal Nehru Port Trust in Mumbai, touching all major ports along the way.
- **Operational Impact and Current Performance:** On average, 325 DFC trains

run daily, a 60% increase from last year. DFCs have carried over 232 billion Gross Tonne Kilometres (GTKMs) and 122 billion Net Ton Kilometers (NTKMs). Over 10% of Indian Railways' freight operations are now managed by DFCs.

- **Economic Contribution:** DFCs reduced freight costs and travel times, leading to up to a 0.5% decrease in commodity prices.
- They contributed to a 2.94% revenue increase in Indian Railways from FY 2018-19 to FY 2022-23.
- The Western DFC has significantly reduced freight costs, benefiting both industries and consumers in economically weaker states.

Future Corridors in Development:

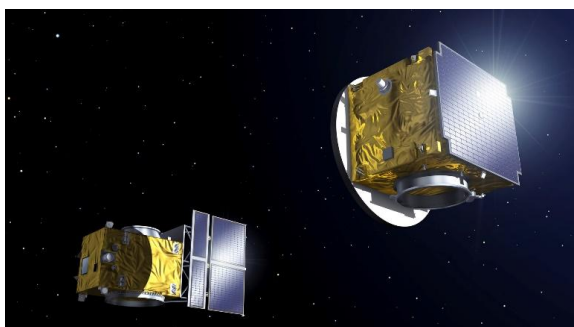
Corridor	Distance
East Coast Corridor	Kharagpur to Vijayawada (1,115 km)
East-West Sub-corridor I	Palghar to Dankuni (2,073 km)
East-West Sub-corridor II	Rajkharsawan to Andal (195 km)
North-South Corridor	Vijayawada to Itarsi (975 km)

- DFCs are anticipated to have long-term benefits for India's logistics, industry, and social equality across regions with varying GDPs.

Proba-3 Space Satellite

- India, in collaboration with the **European Union**, is set to launch the Proba-3 Space Satellite, a solar observatory mission, in December 2024.
- **Objective:** Solar observation, specifically focusing on the dynamics of the Sun's corona.
- **Collaboration:** Joint mission by the European Union and India, highlighting international cooperation in scientific research.
- **Launch Date:** Scheduled for early December 2024 from Sriharikota, India.

- **Significance:** Marks the third Proba satellite launch by ISRO for the EU, building on past successful launches of Proba-1 and Proba-2.
- **Technology and Science:** Equipped to provide high-resolution images and data on solar corona behavior, advancing space weather research.



Places in News

Ranthambore Tiger Reserve

- As many as 25 tigers, out of a population of around 75 in the tiger reserve in Ranthambore National Park (RNP) in Rajasthan, have “disappeared” within the last year.



About Ranthambore Tiger Reserve

- It lies on the junction of **Aravalis and Vindhyan ranges in Eastern Rajasthan.**
- It is one of the largest tiger reserves in northern India.

- It was once a royal hunting ground for the Maharajas of Jaipur.
- The scenery changes significantly from the gentle and steep slopes of the Vindhyas to the sharp and conical hills of the Aravali valley.
- The Rivers Chambal in the south and the Banas River in the north bound the tiger reserve.
- The reserve is dotted with steep rocky hills, and the dominant architecture of Ranthambor Fort (built in the 10th era and a **UNESCO World Heritage Site**) adds to its landscape.
- A major environmental feature is the '**Great Boundary Fault**' where the Vindhyas plateau meets the Aravali range.
- **Vegetation:** Tropical dry deciduous and tropical thorn type.
- **Flora:** Pure sands of Dhok tree (*Anogeissus pendula*) interspersed with grasslands at the plateaus; meadows in valleys and luxuriant foliage around the canals make the jungle.
- **Fauna:** Tiger, Leopard, wild boar, sloth bear, striped hyena, rhesus macaque etc are found here.
- RNP currently holds around 75 tigers in a space suitable for about 40, leading to intense competition.
- Due to overcrowding, many tigers engage in territorial disputes, sometimes resulting in fatal conflicts.
- The proximity of villages in the buffer zone exacerbates human-tiger conflicts, creating challenges for coexistence.

Schemes in News

PM-Vidyalaxmi Scheme

- Recently, the union cabinet approved PM Vidyalaxmi scheme, which seeks to provide

financial support to meritorious students in their pursuit of higher education

- It is a **Central Sector Scheme**.

Features :

- Under this scheme any student who gets admission in quality Higher Education Institution (QHEIs) will be eligible to get collateral free, guarantor free loan from banks and financial institutions to cover full amount of tuition fees and other expenses related to the course.
- The scheme will be administered through a simple, transparent and student-friendly system that will be inter-operable and entirely digital.
- It will be applicable to the top quality higher educational institutions of the nation, as determined by the NIRF rankings - including all HEIs, government and private, that are ranked within the top 100 in NIRF in overall, category-specific and domain specific rankings; state government HEIs ranked in 101-200 in NIRF and all central government governed institutions.

Loan provision :

- For loan amount up to ₹ 7.5 lakhs, the student will also be eligible for a credit guarantee of 75% of outstanding default.
- This will give support to banks in making education loans available to students under the scheme.
- In addition to the above, for students having an annual family income of up to ₹ 8 lakhs, and not eligible for benefits under any other government scholarship or interest subvention schemes, 3 percent interest subvention for loan up to ₹ 10 lakhs will also be provided during moratorium period.
- The interest subvention support will be given to one lakh students every year.

Preference will be given to students who are from government institutions and have opted for technical/ professional courses.

- The **Department of Higher Education** will have a unified portal “PM-Vidyalaxmi” on which students will be able to apply for the education loan as well as interest subvention, through a simplified application process to be used by all banks.
- Payment of interest subvention will be made through **E-voucher** and Central Bank Digital Currency (CBDC) wallets.

Practice Questions

Q1 : Consider the following statements regarding The Generalized System of Preferences (GSP)

1. It is a voluntary trade measure implemented by developed countries that provides an advantageous, or “preferential”, tariff treatment to imports from developing countries.
2. It was instituted under the aegis of the United Nations Conference on Trade and Development
3. India is one of the primary beneficiaries in terms of export volume realized under the GSP.

How many of the above statements are incorrect?

- A. Only One
- B. Only Two
- C. All of the Above
- D. None of the Above

Q2 : Consider the following statements regarding genome editing

1. CRISPR-Cas9 is one of the techniques of genome editing.
2. CRISPR is an enzyme used to edit the DNA

3. Cas9 is used to determine the DNA segment to be altered.

How many of the above statements is/are true?

- A. Only One
- B. Only Two
- C. All of the Above
- D. None of the above

How many of the above statements are correct?

- A. Only One
- B. Only Two
- C. All of the above
- D. None of the Above

Q3: The Proba-3 Space Satellite which is set to be launched in collaboration between ISRO and European Union is focused on which of the following research areas?

- A. Sun's Corona
- B. Neptune's surface
- C. Water in Titan
- D. Mars Mission

Q4: The Ranthambore Tiger Reserve is located at which of the following states?

- A. Madhya Pradesh
- B. Rajasthan
- C. Uttarakhand
- D. Maharashtra

Q5: Consider the following statements regarding India's Dedicated Freight Corridors?

1. It is a high speed and high capacity railway corridor that is exclusively meant for the transportation of freight, or in other words, goods and commodities.
2. The Eastern Dedicated Freight Corridor (EDFC) starts at Sahnewal (Ludhiana) in Punjab and ends at Dankuni in West Bengal.
3. The Western Dedicated Freight Corridor (WDFC) runs from Dadri in Uttar Pradesh to Jawaharlal Nehru Port Trust in Mumbai.

Answers

- 1. D
- 2. A
- 3. A
- 4. B
- 5. C