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सत्यमेव जयते



MK Yadav Sir

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BUSINESS STANDARD

Page 1

PLI SCHEME FOR IT HARDWARE

(Syllabus: GS Paper 3 - Economy)

Cabinet nod for ₹17,000-crore IT hardware PLI 2.0

Move to boost local production of tablets, laptops

SOURABH LELE
New Delhi, 17 May

The Union Cabinet on Wednesday approved the modified production-linked incentive (PLI) scheme for information technology (IT) hardware to boost local manufacturing of products like tablets and laptops, and more than doubled its budgetary outlay to ₹17,000 crore from the previous provision of ₹7,325 crore.

The revised scheme may offer incentives of up to 9 per cent on the incremental sales of tablets, laptops, all-in-one personal computers, servers, and edge computing devices manufactured in the country to attract investment in the sector. The tenure of the scheme has been extended to six years from four years announced in 2021.

The scheme received a lukewarm response from the industry in the past, mainly due to lower incentives and a slump in demand after a boom during the Covid-19 pandemic. Only two of the 14 firms that applied for benefits under the scheme's earlier version could meet their targets in the first year.

Turn to Page 7

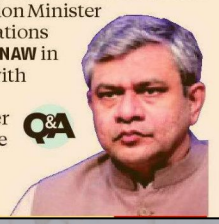
PRODUCTION PUSH



- **The modified scheme is likely to generate** around 300,000 jobs over six years
- **Govt expects investments of ₹2,430 cr** in the sector in this period
- **Scheme may add incremental production** value of ₹3.35 trillion
- **Average incentives for OEMs** may go up to 9% of incremental sales

'New PLI to attract global firms to shift from China'

The new PLI scheme for IT hardware is likely to see top global firms shifting base from China and setting up units to assemble laptops, PCs and tablets in India, says Union Minister of Communications **ASHWANI VAISHNAW** in an interview with **Surajeet Das Gupta**, just after unravelling the details of the scheme. 4



Context: The Union Cabinet approved the modified **production linked incentive (PLI) scheme for information technology (IT) hardware** to boost local manufacturing of products like tablets and laptops, and more than doubled its budgetary outlay to ₹ 17,000 crore from the previous provision of ₹ 7,325 crore.

Key Points

- The revised scheme may **offer incentives of up to 9 per cent** on the incremental sales of tablets, laptops, allinone personal computers, servers, and edge computing devices manufactured in the country to attract investment in the sector.
- The tenure of the scheme has been **extended to six years** from four years announced in 2021.
- **Only two of the 14 firms** that applied for benefits under the scheme´s earlier version could meet their targets in the first year.

PLI Scheme

- **About**: PLI scheme is an initiative that **provides incentives to domestic industries** to boost local production.
  - Through this scheme the Government aims to **give companies incentives on incremental sales** from products manufactured in domestic units.
  - PLI has been introduced to boost domestic manufacturing and **cut down on import bills.**
- **Eligibility**: A **company registered in India** that proposes to produce items related to the Target Segments there and submits an application for approval under the Scheme is an applicant for the purposes of the Production Linked Incentives Scheme.
  - The applicant is **permitted to run either brand-new or current production facilities** to produce goods for the Target Segments.
- **Sectors Included:** Automobile and auto components, electronics and IT hardware, telecom, pharmaceuticals, solar modules, metals and mining, textiles and apparel, white goods, drones, and advanced chemistry cell batteries.
- **Incentives Under the Scheme**: The incentives, **calculated on the basis of incremental sales**, range from as low as 1% for the electronics and technology products to as high as 20% for the manufacturing of critical key starting drugs and certain drug intermediaries.
  - In some sectors such as advanced chemistry cell batteries, textile products and the drone industry, the **incentive to be given will be calculated on the basis of sales, performance and local value addition** done over the period of five years.

ECONOMIC TIMES

Page 11

LIBERALISED REMITTANCE SCHEME

(Syllabus: GS Paper 3 - Economy)

Credit Card Use Abroad Comes Under RBI Remittance Limit

Travel industry protests, says it will add to pain from 20% TCS rule that will apply from July 1

Our Bureau

New Delhi: International credit card spends by individuals when they are abroad will be included in the annual limit of $250,000 under the liberalised remittance scheme (LRS) of the Reserve Bank of India, according to a government notification on Wednesday. RBI approval will be required for spending beyond the LRS cap. The travel and tourism industry said the move will hurt Indians travelling overseas, adding to pain from the 20% tax collected at source (TCS) rule that comes into effect July 1.

The Department of Economic Affairs has scrapped Rule 7 of the Foreign Exchange Management (Current Account Transactions) Rules, 2000, under which such an exemption had been granted. The change is with immediate effect.

Some experts said the new rules will extend to the transactions through such credit cards in foreign land by Indian travellers for the purpose of gifts, donations, medical treatment and even study expenses.

A senior government official aware of the details said the new rules are not applicable to "payments (through such credit cards) for the purchase of foreign goods and services" by people when they are in India. However, some experts still await further clarity on this issue.

Separately, the February budget had raised the tax collected at source (TCS) rate to 20% from 5% on overseas tour packages and funds remitted under LRS, other than for education and medical purposes. Those new rates will come into effect on July 1.

The latest move is "draconian," said Ajay Prakash, board director of the Federation of Associations in Indian Tourism and Hospitality. "It will severely impact the Indian travel industry, and innovative travellers will find ways and means to circumvent the law," he said. "We have been pleading for a rollback of the proposed 20% TCS on overseas tours, but instead, we have this new, misconceived and ill-timed amendment to contend with."

Nischal S Arora, partner at Nangia Andersen India, said the now-omitted Rule 7 was introduced almost 20 years ago as a liberalisation measure.

"Thus, the use of ICC (international credit cards) by residents on a visit outside India or even for international purchases on the internet were hitherto not supposed to be included while computing the overall LRS limit of $250,000 per person per financial year," he said. "The same now having been omitted makes sure that ICC transactions are also considered for the purposes of determining the LRS limit."

Jyoti Prakash Gadia, managing director at consultancy firm Resurgent India, said the rule change could have "far-reaching" consequences. "This implies that the foreign exchange spending on personal transactions of expenses and gifts, etc., will be subject to a ceiling of $250,000," he added.

Rahul Garg, managing partner of tax and regulatory consultant Asire Consulting, said this would have consequential implications under the TCS provisions of the Income Tax Act.

"Card companies would have to collect 20% TCS on these payments as well, which would increase the overall outgo of the people making such remittances and they would have to claim the said TCS as refund in their tax returns as they may not have any corresponding income to offer against such credit," he said.

Another Blow to Indian Travellers

The Dept of Economic Affairs scraps Rule 7 of the Foreign Exchange Management (Current Account Transactions) Rules, 2000

Earlier, the use of global credit cards for payments abroad was not included in the LRS limit

Some experts said the new rules will extend to the transactions for the purpose of gifts, donations, medical treatment and even study expenses

Now, any remittance beyond $2.5 lakh would require RBI approval



"Move will severely impact the Indian travel industry, and innovative travellers will find ways and means to circumvent the law"

AJAY PRAKASH, Federation of Associations in Indian Tourism and Hospitality

Context: International credit card spends by individuals when they are abroad will be included in the annual limit of $250,000 under the **liberalised remittance scheme (LRS)** of the Reserve Bank of India.

- RBI approval will be required for spending beyond the LRS cap.

Key Points

- The Department of Economic Affairs has scrapped Rule 7 of the **Foreign Exchange Management (Current Account Transactions) Rules, 2000,** under which such an exemption had been granted.
- The new rules will **extend to the transactions through such credit cards in foreign land** by Indian travellers for the purpose of gifts, donations, medical treatment and even study expenses.
- The new rules are **not applicable to "payments (through such credit cards)** for the purchase of foreign goods and services" by people when they are in India.

Liberalised Remittance Scheme

- **About**: LRS is **facility provided by RBI** for all resident individuals including minors to freely remit up to certain amount in terms of US Dollar for current and capital account purposes or combination of both.
- **Origin**: The scheme was introduced in February 2004 and its regulations are provided under **Foreign Exchange Management Act (FEMA), 1999.**
- **LRS Limit**: After it was launched, the **LRS limit was US $25,000,** but it has been revised in stages consistent with prevailing macro and micro economic conditions.
    - At present, LRS limit for all resident individuals, including minors, is **US $2,50,000** (Rs. 1.5 crore) per financial year.
- **Benefits**: Under LRS, individuals can make **remittances for overseas education**, travel, medical treatment, maintenance to relatives living abroad, gifting and donations.
    - The remitted money can be **used for purchase of shares and property as well.**
    - Individuals can also **open, maintain and hold foreign currency accounts** with overseas banks for carrying out transactions under it.

TIMES OF INDIA

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GREEN ENERGY OPEN ACCESS RULES

(Syllabus: GS Paper 3 - Infrastructure)

Centre fumes as state panels fail to toe green power tariff norms

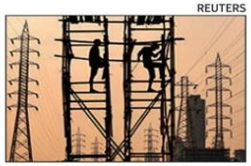
Sidhartha & Sanjay Dutta | TNN

New Delhi: The power ministry has come down hard on state tariff regulators for not playing by the Centre's rules to encourage renewable energy supply, either by setting high tariffs or laying down norms that are out of line with the Electricity Act provisions.

"It may be noted that rules framed under the (Electricity) Act have the force of law and any violation of the law is liable for action under the provisions of the law," the ministry last week said in a letter to state regulatory commissions (SERCs).

The ministry asked the regulators to immediately take corrective action, including framing of green power tariff norms in states where these are yet to be notified, and report compliance.

REUTERS



The power ministry has asked regulators to take corrective action and report compliance

The issue pertains to the Electricity (Promoting Renewable Energy Through green Energy Open Access) Rules notified last year to promote consumption of renewable energy. The ministry had issued a directive on the issue to the Central regulator in January 2021, invoking special powers under the Act. According to these rules, tariff for supply of renewable power by discoms are to be set separately. The rates were to be indexed to the pooled price of renewable power procured by discoms from different suppliers, any cross subsidy and service charges to cover "prudent" costs incurred by discoms for supplying green power.

The ministry said "only a few" states have determined the green tariffs but at rates higher than allowed. In states where regulators have notified open access norms for green power, the ministry said they are not aligned with the Central rules. It sought prompt action from SERCs that are yet to frame the norms in their states.



Context: The power ministry has come down hard on state **tariff regulators** for not playing by the Centre's rules to encourage renewable energy supply, either by setting high tariffs or laying down norms that are out of line with the Electricity Act provisions.

- The issue pertains to the **Electricity (Promoting Renewable Energy Through green Energy Open Access) Rules** notified last year to promote consumption of renewable energy.

Key Points

- The ministry had **issued a directive** on the issue to the Central regulator in January 2021, invoking special powers under the Act.
- According to these rules, **tariff for supply of renewable power by discoms** are to be set separately.
- The rates were to be **indexed to the pooled price of renewable power** procured by discoms from different suppliers, any cross subsidy and service charges to cover "prudent" costs incurred by discoms for supplying green power.
- Only a few" states have determined the green tariffs but at rates higher than allowed.
- In states where regulators have notified **open access norms for green power**, they are not aligned with the Central rules.

THE HINDU

Page 2

INDIA'S FERTILISER SUBSIDY

(Syllabus: GS Paper 3 - Agriculture)

Fertilizer sops to overshoot budget outlay by ₹50,000 cr

Cabinet clears the decks for subsidy of ₹1.08 trillion for 2023-24 kharif season

Puja Das
puja.das@livemint.com
NEW DELHI

India's fertilizer subsidy bill is set to overshoot the budgeted amount of ₹1.75 trillion by ₹50,000 crore to ₹2.25 tn in the current financial year, chemical and fertilizers minister Mansukh Mandaviya said on Wednesday.

As part of the overall amount, the Cabinet approved a subsidy of ₹1.08 trillion for the 2023-24 kharif season in a meeting.

In the Union budget 2023-24, the subsidy on fertilizers had been cut to ₹1.75 trillion from the last year's revised estimates of ₹2.25 trillion.

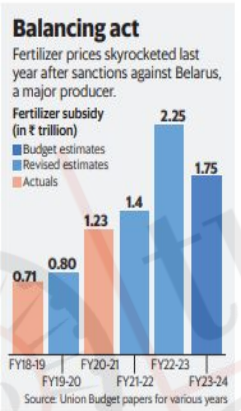
The Union cabinet approved ₹38,000 crore for phosphatic and potassic (P&K) fertilizer subsidy. This will take the total fertilizer subsidy for the 2023-24 (April-September) Kharif season to ₹1.08 trillion, including ₹70,000 crore of urea subsidy earmarked in the Budget for the Kharif season 2023-24.

"A total of ₹1.08 trillion will be spent on fertilizer subsidy for the Kharif season (April-September)," he said after the cabinet meeting.

The price of urea at present is ₹276 per bag and Diammonium phosphate (DAP) is ₹1,350 per bag. The subsidy is likely to benefit about 120 million farmers.



In Budget 2023-24, fertilizers subsidy had been cut by ₹50,100 crore. HT



15 mt is the total government stock of fertilizers

"The situation in 2022-23 was such that fertilizer subsidy had to be increased sharply due to the Russia's invasion of Ukraine," Mandaviya said, adding that the government had ensured rising global fertilizer prices did not hurt India's farmers.

Fertilizer prices skyrocketed last year after sanctions against Belarus, a major producer. Belarus supported Russia in its war against Ukraine. This prompted global fertilizer firms to boost purchases and ship massive amounts of fertilizers to avoid supply chain issues and trade restrictions in export markets like Russia. Urea futures contracts jumped by around 85% in the two weeks following the outbreak of the war in Ukraine on 24 February last year. This was mainly due to high prices of energy, including natural gas, well before Russian troops set foot in Ukraine. The price of urea typically tracks that of natural gas quite closely.

Urea, which is the most used fertilizer in the world, provides nitrogen to crops to promote their green, nutritional leafy growth, in part by aiding the process of photosynthesis. It is also manufactured from ammonia that requires significant quantities of natural gas to produce.

Black Sea urea prices in March and April last year had gone up to $908 and $925 per tonne, while US DAP prices hit $938.13 per tonne in March and $954 per tonne in April 2022. Black Sea urea prices plunged 52% between May 2022 and January 2023, while the decline in US DAP prices during the same duration has been 33.8%.

Despite the spike in fertilizer prices globally last year, the government did not hike the maximum retail price (MRP) of fertilizers, thus requiring a higher subsidy. As per the 2023-24 Budget documents, the revised estimate for the fertilizer subsidy given in 2022-23 is ₹2.25 trillion. However, Mandaviya said on Wednesday that the Centre's fertilizer subsidy bill in the previous financial year ended March was ₹2.54 trillion.

The fertilizer minister said there will be no change in the MRP of fertilizers this year.

120 mn farmers to benefit from the fertilizer subsidy

"The Cabinet decision will have the two-fold benefit of ensuring availability of DAP and other P&K fertilizers to farmers at subsidized, affordable and reasonable prices in the Kharif season. This will also ensure rationalisation of subsidy on P&K fertilizers," the government said in a statement.

Mandaviya further said the government has sufficient fertilizer stocks of about 15 million tonnes (MT) for the kharif season.

Context: India's fertilizer subsidy bill is set to overshoot the budgeted amount of ₹1.75 trillion by ₹50,000 crore to ₹2.25 tn in the current financial year.

- In the **Union budget 2023-24**, the subsidy on fertilizers had been cut to ₹1.75 trillion from the last year's revised estimates of ₹2.25 trillion.

Fertiliser Subsidy

- **About**: The government pays a subsidy to fertiliser producers to **allow farmers to buy fertilisers at below-market rates.**
  - The difference between the cost of production/import of a fertiliser and the actual amount paid by farmers is the subsidy portion borne by the government.
- **Nutrient Based Subsidy Scheme**
  - **Origin**: was initiated in the year 2010.
  - **Nodal Ministry**: administered by the **Department of Fertilizers under the Ministry of Chemicals & Fertilizers.**
  - **Key feature**: **All Non-Urea based fertilisers** are regulated under Nutrient Based Subsidy Scheme.
    - The MRPs of non-urea fertilisers are **decontrolled or fixed by the companies.**
    - The **Centre pays a flat per-tonne subsidy** on these nutrients to ensure they are priced at reasonable levels.
    - **Examples of non-urea fertilisers**: Di-Ammonium Phosphate (DAP), Muriate of Potash (MOP).
- **Urea Subsidy Scheme**
  - **About**: It is **part of Central Sector Scheme (CSS)** of Department and is wholly financed by Central Government of India through budgetary support.
    - It also **includes Imported Urea subsidy** which is directed towards import to bridge gap between assessed demand and indigenous production of urea in the country.
    - It **also includes freight subsidy** for movement of urea across the country.
  - **Subsidy on Urea**: The Centre pays subsidy on urea to fertiliser manufacturers on the **basis of cost of production at each plant** and the units are required to sell the fertiliser at the government-set Maximum Retail Price (MRP).

DTE

MAY 18

KENDU LEAVES

(Syllabus: GS Paper 3 - Agriculture)



Context: Climate change is playing spoilsport in three states of eastern India where **kendu (as tendu is called in the region) leaf** collection season is at its peak.

- Those collecting leaves from forests are being **bothered by small black flies,** which have proliferated across the area due to unusual climatic conditions.

Kendu Leaves

- **About**: Kendu leaf (Tendu Leaf, Diospyros Melanoxylon) is a **nationalized product like Bamboo and Sal seed.**
  - Kendu Leaf is one of the most important **non-wood forest products of Odisha.**
  - Due to its unique characteristics, viz. **Matching aroma with Tobacco**, Hygroscopic nature of dry leaves to withstand crack, Thinness and pliability, gradual combustion, resistance to fungus attack etc. these valuable leaves are used for wrapping Bidis.
- **Producing states:** The states producing kendu leaves in India comprise mainly **Madhya Pradesh, Chhattisg**arh, Odisha, Andhra Pradesh, Jharkhand, Gujarat, and Maharashtra.
  - **Odisha is the third-largest producer** of kendu leaf after Madhya Pradesh and Chhattisgarh.
- **Recent Developments:** Recently, the GST council meeting chaired by Union Finance Minister Nirmala Sitharaman turned down Odisha's demand for exemption of tax on kendu leaf.
  - It has contended that **18 percent GST** is adversely affecting the livelihood of lakhs of tribals, who are traditionally engaged in plucking Kendu leaves.

THE HINDU

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HYSTERECTOMY

(Syllabus: GS Paper 2 - Health)

Take steps to reduce unnecessary hysterectomies, Centre tells States

Missive from the Health Ministry comes after Supreme Court judgment flagged the violation of women's right to health; order was based on a petition that said some hospitals were carrying out the procedure to claim fees via insurance

Bindu Shajan Perappadan
NEW DELHI

Worried that poor, less-educated women, particularly in rural areas, continue to be at higher risk of undergoing unnecessary and often unjustified hysterectomies, the Health Ministry has written to all stakeholders to work towards plugging "such hysterectomies performed by certain medical institutions".

The action comes following the Supreme Court's direction last month, where the States and Union Territories were instructed to implement health guidelines formulated by the Centre to monitor "unnecessary" hysterectomies within three months. Hysterectomy is a surgical procedure to remove the uterus.

A public interest litigation (PIL) petition filed before the Supreme Court had said that in Bihar, Chhattisgarh, and Rajasthan, "unnecessary hysterectomies" were carried out under the Rashtriya Swasthya Bima Yojana as well as other government schemes related to healthcare.

The petition was filed in 2013 by Narendra Gupta, a doctor and public health expert, who based the petition on his fieldwork.



In 2022, the Health Ministry had issued guidelines to prevent unnecessary hysterectomies. FILE PHOTO

It also highlighted the involvement of private hospitals in performing such hysterectomies.

Dr. Gupta said that women who should not have been subjected to hysterectomies but should have been provided alternative treatment, were told to undergo the procedure, seriously endangering their health in the process.

The petitioner also submitted that most women who were subjected to hysterectomies of this kind belonged to the Scheduled Castes, Scheduled Tribes, or Other Backward Communities. It was also noted with concern that several healthcare institutions were found to be misusing the procedure only to claim expenses under various health insurance schemes offered by the government.

Audit plan

The recent letter from Health Secretary Rajesh Bhushan said, "States are requested to share the hysterectomy status and data before and after the implementation of these guidelines."

"They are also advised to undertake compulsory audits for all hysterectomies, as is already being done for maternal mortality in all healthcare institutions – both public and private," it added.

In 2022, the Health Ministry had issued 'Guidelines to prevent unnecessary hysterectomies', and asked States to comply with them.

The recent judgment also noted that the guidelines indicate that while in developed countries hysterectomies are typically conducted among premenopausal women above the age of 45, in India, community-based studies have consistently found rising hysterectomy rates among young women, ranging from 28 to 36 years of age.

"The right to health is an intrinsic element of the right to life under Article 21 of the Constitution. Life, to be enjoyed in all its diverse elements, must be based on robust conditions of health. There has been a serious violation of the fundamental rights of the women who underwent unnecessary hysterectomies," said the judgment.

Context: Worried that poor, less-educated women, particularly in the rural areas, continue to be at higher risk of undergoing unnecessary and often unjustified hysterectomies, the Health Ministry has written to all stakeholders to **work towards plugging "such hysterectomies performed by certain medical institutions".**

- Recently, Supreme Court's instructed States and Union Territories to implement health guidelines formulated by the Centre to monitor "unnecessary" **hysterectomies** within three months.
- In 2022, the Health Ministry had issued **'Guidelines to prevent unnecessary hysterectomies',** and asked States to comply with them.

Hysterectomy in India

- The National Family Health Survey-4 in India provided the **first nationally representative estimates of hysterectomy** amongst women aged 15-49.
- According to the National Family Health Survey 2015-16, the median age for having undergone the procedure in the country is 34.
- According to th**e National Family Health Survey (2015-2016)**, that studied the prevalence of hysterectomy for the first time, 3.2 per cent women, between 15-49 years had had a hysterectomy. The prevalence of the procedure among women in the age of 30-39 years was found to be 3.6 per cent.
- Four states show high numbers of women among 40-49 years having undergone the surgery. These include **Bihar, Andhra Pradesh, Telangana, and Gujarat.** In Andhra Pradesh, up to 22 per cent women (40-49 years) reported having had a hysterectomy. In Gujarat, the corresponding number stood at 12.6 per cent, and in Telangana, it is 20.1 per cent.
- The National Family Health Survey data show that the **rate of hysterectomies in Maharashtra is 2.6%, while the national average is 3.2%.**

Hysterectomy

- **About**: It is a **surgical procedure to remove the uterus,** and sometimes surrounding organs and tissues.
  - When only the uterus is removed, it is called a **partial hysterectomy**. When the uterus and cervix are removed, it is called a total **hysterectomy**.
  - When the uterus, cervix, part of the vagina, and a wide area of ligaments and tissues around these organs are removed, it is called a **radical hysterectomy.**
  - These procedures may be done through the vagina (with no incisions in the abdomen) or through an incision (cut) in the abdomen.
- **Reasons and Causes:**
  - **Gynaecological problems** such as white discharge, heavy bleeding or abdominal pain along with anaemia make these women visit doctors who set aside medical ethics to offer them an 'easy' and 'permanent' solution.
  - **Early marriage**, early motherhood, heavy work during pregnancy and the lack of menstrual hygiene are some social drivers that cause uterine problems. Menstrual taboo and the problems women face during menstruation make it easy for the healthcare providers to convince them for hysterectomy.
  - Poor women are often instilled with the **fear of cancer to persuade** them into having their uterus removed at a young age.
  - **Malpractice stems from privatisation** of the healthcare sector which is becoming increasingly profit-driven. The government lacks the political will to regulate the hospitals.

DTE

MAY 18

ARIDITY ANOMALY

(Syllabus: GS Paper 3 - Env & Eco)

Arid conditions in 78% of India; may affect summer crops

Southwest monsoon season in Kerala expected around June 4; 80% chance of El Niño event in May-June-July

NEXT NEWS >

By Shagun
Published: Wednesday 17 May 2023



Eco-system	Region	States represented	Eco-region	Soil type
Arid	Western Himalaya	Jammu & Kashmir, HP	Cold arid	Shallow Skeletal
	Western plain, Kutch and of Kathiawar Peninsula	Gujarat, Rajasthan, Haryana, Punjab	Hot arid	Desent & Saline
	Deccan plateau	AP, Karnataka	Hot arid	Red & Black
Semi-arid	Northern plain and Central Highlands including Aravallis	Gujarat , Rajasthan, UP, MP, Haryana, Punjab Gujarat, MP	Hot semi-arid	Alluvium-derived
	Central (Malwa) Highlands, Gujarat plains & Kathiawar Peninsula	Karnataka, AP, Maharashtra, MP	Hot semi-arid	Medium & Deep black
	Deccan Plateau	AP	Hot semi-arid	Shallow and Medium (with inclusion of deep) black
	Deccan (Telangana) Plateau and Eastern Ghats	Karnataka, TN, Kerla	Hot semi-arid	Red & Black
	Eastern Ghats, TN uplands and Deccan (Karnataka) Plateau		Hot semi-arid	Red loamy

Context: At least 78 per cent of total districts across India were facing arid conditions, according to the **aridity anomaly** outlook index for May 11-17 issued by India Meteorological Department (IMD).

Aridity anomaly

- The **aridity anomaly index** refers to the water stress a growing plant suffers due to a shortage of available moisture (both rainfall and soil moisture).
- An a**nomaly from a normal value** would thus signify the water shortage from a long-term climatic value.
- **Normal values** of this index for successive weeks are worked out for different agroclimatic zones of the country.
- Every week the **actual aridity at different places is computed** from the weekly total rainfall and antecedent soil moisture conditions.
- The **difference between the actual aridity for the week and the normal aridity** comes out to be the anomaly.
- A **negative or a zero value** of this anomaly would imply that, as compared to the normal, the place had experienced less arid/drought conditions.
- A **positive value** would indicate that the place had experienced more arid/drought conditions than the average.
- This positive value is classified into three categories of **mild, moderate and severe arid conditions.**
- The **index monitors agricultural drought**, a situation when rainfall and soil moisture is inadequate to support healthy crop growth till maturity, causing crop stress.

INDIAN EXPRESS

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ASTR

(Syllabus: GS Paper 3 - Sci & Tech)

DoT's AI-based facial recognition tool: How it works?

SOUMYARENDRA BARIK
NEW DELHI, MAY 17

INSURANCE REGULATOR IRDAI hThe Department of Telecommunications (DoT) has developed an artificial-intelligence based facial recognition tool that it claims has the capability of running checks on subscriber databases of telecom operators to deduce whether it contains multiple connections associated with the same person.

The department claims that the tool – called Artificial Intelligence and Facial Recognition powered Solution for Telecom SIM Subscriber Verification (ASTR) – can potentially bring down cyber frauds by detecting and blocking possible fraudulent mobile connections.

EXPLAINED E.

The origins of ASTR

In 2012, the DoT had issued an order to all telecom operators that they will have to share their subscriber database including users' pictures with the department. These images from the core database on which authorities run their facial recognition algorithm using ASTR. The ASTR project was conceptualised and designed between April 2021 and July 2021 by the DoT's unit in Haryana. A pilot project was launched in Haryana's Mewat region to test ASTR's feasibility. It is understood that before the ASTR pilot project, there were approximately 16.69 lakh SIMs in Mewat, of which close to 5 lakh SIMs across all telecom operators were detected to be fraudulent.

After that, a face comparison is carried out for each face against all faces in the database and similar faces are grouped under one directory. Two faces are said to be identical by ASTR if they match 97.5 per cent or more. As per Jakhar's paper, ASTR is capable of detecting all SIMs against a suspected face in less than 10 seconds from a database of 1 crore images.

Once the faces are matched, ASTR's algorithm uses what it describes as "fuzzy logic" to find similarity or approximate matches for the subscriber names. For instance, if one were to look up for the phrase Apple Inc. the algorithm would produce related results including Apple Incorporated, Apple Park, iPhone etc. It also accounts for any typographical errors that might have occurred while filling the subscriber acquisition form.

The DoT mandates that a person can take nine legitimate mobile connections using one identity proof. In essence, what the ASTR does is – 1) first it looks up if there are more than nine connections taken using the same person's photograph; 2) and then it runs a search through the database to see if the same person has taken SIM cards under different names.

During a press briefing on Tuesday, Minister of Communications Ashwini Vaishnaw said that in one case ASTR detected that 6,800 connections were taken against the same image of the subscriber (same face, different names). In another case, 5,300 connections were taken against the same image.

Context: The **Department of Telecommunications (DoT)** has developed an artificial-intelligence-based facial recognition tool that it claims has the capability of running checks on subscriber databases of telecom operators to deduce whether it contains multiple connections associated with the same person.

- The DoT claims the tool - called **Artificial Intelligence and Facial Recognition powered Solution for Telecom SIM Subscriber Verification (ASTR)** - can potentially bring down cyber frauds by detecting and blocking possible fraudulent mobile connections.

ASTR

- In 2012, DoT had issued an order to all telecom operators that they would **have to share their subscriber database** including users' pictures with the department.
- These images **constitute the core database** on which authorities are running their facial recognition algorithm using ASTR.
- A **pilot project was launched in Haryana** Mewat region to test ASTR's feasibility.
- Human faces in subscribers' images are encoded using **convolutional neural network (CNN) models** in order to account for the tilt and angle of the face, opaqueness and dark colour of the images.
- After that, a **face comparison is carried out** for each face against all faces in the database, and similar faces are grouped under one directory.
- Two faces are **concluded to be identical by ASTR** if they match to the extent of at least 97.5 per cent.
- ASTR is **capable of detecting all SIMs** against a suspected face in less than 10 seconds from a database of 1 crore images.

PIB

MAY 18

ASSISTIVE TECHNOLOGY

(Syllabus: GS Paper 3 - Sci &Tech)

Cabinet approves signing of Project Collaboration Agreement between the Department of Health Research (DHR) and the World Health Organization (WHO) on Assistive Technology

Context: The Union Cabinet chaired by the Prime Minister was apprised of signing of Project Collaboration Agreement between the Department of Health Research (DHR) and the World Health Organization (WHO) for promoting access to high quality affordable **assistive technology** mainly through fostering research, innovation, and capacity building.

Assistive Technology

- **About**: These include any item, piece of equipment, **software programme or product system** that is used to increase, maintain, or improve the functional capabilities of persons with disabilities. These aids could be:
  - **Physical products** such as wheelchairs, eyeglasses, hearing aids, prostheses, walking devices or continence pads.
  - **Digital** such as software and apps that support communication and time management.
  - **Adaptations** to the physical environment, for example, portable ramps or grab-rails.
- **Objectives**: Different disabilities require different assistive technologies, and these are designed to help people who have difficulty **speaking, typing, writing, remembering, seeing, hearing, learning, or walking.**

Steps have been taken for persons with disabilities

- **Rights of Persons with Disabilities Act, 2016**: The Act, increased the number of disabilities from 7 to 21. It made provision for reservation in higher education and government jobs. It mandated free education for children between 6 to 18 years. It also mandates the Government to take measures to promote health, education, skill development, and employment opportunities for PwDs.
- **Assistance to Disabled Persons for Purchase/Fitting of Aids and Appliances (ADIP) scheme**: Under this aid and assistive devices are distributed to divyangjan to improve their mobility. This helps them in carrying out daily living activities independently and earn a living.
- **Accessible India Campaign**: It focuses on accessibility in the built-up environment, transportation system, and ICT ecosystem.

Global Efforts

- **Universal Declaration of Human Rights (UDHR):** It places an obligation on member states to provide assistive technology to persons with disabilities.
- **United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)**: The UNCRPD in its preamble emphasizes mainstreaming disability and acceptance of persons with disabilities as part of human diversity and humanity.
- **Priority Assistive Products List:** The WHO launched the Priority Assistive Products List in 2018. These include hearing aids, wheelchairs, communication aids, spectacles, artificial limbs, pill organizers, memory aids and other essential items for the elderly and persons with disabilities.
- **Global Report on Assistive Technology**: in 2022, the World Health Organization (WHO) and UNICEF have released the first Global Report on Assistive Technology (GReAT).

PIB

MAY 18

BL LACERTAE

(Syllabus: GS Paper 1 - Geography)

Observations from 11 global telescopes lead to detection of the brightest flare of a century-old blazar

Context: The brightness of **BL Lacertae (BL Lac)**, a blazar located about 950 million light years from the Earth and discovered almost a century ago has been found to have reached its maxima.

- In 2021, Indian Astronomers have detected one of the strongest optical flares in one of the oldest astronomical objects that is **supermassive black hole or blazar called BL Lacertae.**
- The flaring up and its decay of the **emissions from BL Lac** was detected using the continuous observations made by an ensemble of eleven optical telescopes located in across the world.
- One among them was the **Himalayan Chandra Telescope located in Ladakh's Hanle.**

BL Lacertae blazar

- This blazar is situated **10 million light-years away** from the Earth.
- It is **one among the 50 most prominent blazars** that can be seen with small telescope.
- This blazar was predicted to be experiencing flares with the help of the **Whole Earth Blazar Telescope (WEBT).**
- It is a type of **active galactic nucleus (AGN)** or a galaxy which has been named after its prototype, BL Lacertae.
- They are characterized by a **rapid and a large-amplitude flux variability.**
- They also show significant **optical polarization.**
- These properties of the blazar are **very similar to that of variable star.**
- It **comprises of spectra** which is dominated by a featureless non-thermal emission continuum.

Blazars

- Blazars are the **feeding supermassive black holes** situated in the heart of distant galaxies.
- The blazars receive a lot of attention due to their **complicated emission mechanism.**
- They **emit jets** of charged particles.
- The jets travel equally at the **speed of light.**
- They are the one among the most **luminous and energetic objects** found in the Universe.

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