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MK Yadav Sir

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BUSINESS STANDARD

Page 1

HIGH GST COLLECTIONS

(Syllabus: GS Paper 3 - Economy)

GST mop-up hits new high of ₹1.87 trillion in April

SHRIMI CHOUDHARY
New Delhi, 1 May

India's goods and services tax (GST) collection in April rose 12 per cent year-on-year to hit an all-time high of ₹1.87 trillion, the finance ministry data showed on Monday. The robust mop-up was mainly driven by a boost in year-end sales, data analytics ensuring better compliance, and sustained economic growth.

The previous highest collection was ₹1.68 trillion in April last year, while the mop-up stood at ₹1.60 trillion in March this year.

April 2023 also saw the highest ever tax collection on a single day. "On April 20, ₹68,228 crore was paid through 9.8 lakh transactions," the ministry said in a release.

Prime Minister Narendra Modi hailed it as "great news for the Indian economy". "Rising tax collection despite lower tax rates shows the success of how GST has increased integration and compliance," he tweeted.

Of the gross GST collection, Central GST stood at ₹38,440 crore, SGST at ₹47,412 crore, IGST at ₹89,158 crore (including ₹34,972 crore collected on import of goods), and cess at ₹12,025 crore, according to the data.

The finance ministry said that after the settlement of interstate transactions, the Centre collected ₹84,304 crore as Central GST, while states collected ₹85,371 crore as SGST.

Turn to Page 6

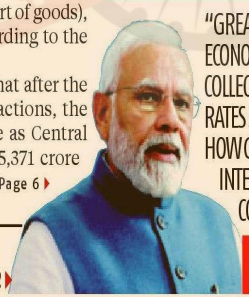
GST COLLECTION TREND



Source: Finance ministry

Highest tax collected in a single day ever on April 20 at **₹68,228 cr**

Total number of e-way bills generated in March was 90 million, 11% higher than the previous month



"GREAT NEWS FOR THE ECONOMY! RISING TAX COLLECTION DESPITE LOWER RATES SHOWS THE SUCCESS OF HOW GST HAS INCREASED INTEGRATION AND COMPLIANCE"

Narendra Modi
Prime Minister

AIRLINES CARRY 9,500 MORE DOMESTIC FLIERS PER DAY P2

Manufacturing PMI hits 4-month high in April

India's purchasing managers' index (PMI) for manufacturing in April increased to a four-month high of 57.2 from 56.4 in March, driven by new orders and output, said a private survey on Monday. A survey print above 50 indicates expansion in manufacturing, and below marks contraction. The March data pointed to a consecutive 22-month rise in manufacturing production. 4

Automakers step on sales pedal amid sturdy orders

Domestic passenger vehicle (PV) wholesales jumped 12.9 per cent to 331,747 units in April due to a sturdy demand, especially for SUVs. "It is actually good growth. However, retail sales are a bit muted," Shashank Srivastava, Maruti Suzuki India senior executive officer for marketing and sales, told reporters. Srivastava said retail sales jumped by just 3.7 per cent year-on-year to 285,700 units. 2

Context: India's **goods and services tax (GST) collection in April rose 12 percent** year year to hit an all time high of ₹ 1.87 trillion, the finance ministry data showed.

- The robust mopup was mainly **driven by a boost in year end sales**, data analytics ensuring better compliance, and sustained economic growth.

Possible Reasons

- **High inflation rate,** increase in retail prices of many consumption goods, the festive season demand, and actions taken to ensure compliance supported the rise in GST collections.
- This growth clearly indicates that the **economy is recovering** at a fast pace.
- Coupled with **economic growth, anti-evasion activities,** especially action against fake billers have also been contributing to the enhanced GST collections.

Impact on Economy

- While the higher GST collections could help in **meeting budget targets**.
- If the robust GST collections seen in the current fiscal continue on the back of sustained growth of the economy, it would be likely that the **GST collection targets** for the year would be exceeded.
- This would provide some **fiscal space** to absorb the increased healthcare costs etc.

Concerns

- Though GST revenues are picking up pace after the impact of the Covid-19 pandemic, **revenue buoyancy** under GST is being seen as a concern.
  - When a **tax collects greater revenue** without changing the rate of taxing, it is said to be buoyant.
- While GST collections have been consistently buoyant, which is reflective of a **vibrant economy,** taxpayers do face challenges at times, specifically in areas related to input tax reconciliations in the absence of an appellate tribunal.
- With the **GST Appellate Tribunal** likely to be set up this year, tax experts believe this could further stabilize the regime.

LIVE MINT

Page 1

LOAN WRITE-OFFS OF PSB

(Syllabus: GS Paper 3 - Economy)

₹2 tn recovery target for PSBs

Subhash Narayan
subhash.narayan@livemint.com
NEW DELHI

India's state-run banks face a stiff loan recovery target for this fiscal year: The finance ministry wants them to recover at least ₹2 trillion from the loans they have written off over the years, using all available avenues. For perspective, this is more than double the amount these banks have recovered from written-off loans in the last five years.

According to two officials aware of the development, finance ministry officials instructed executives of public sector banks (PSBs) at a recent meeting to maintain their focus on written-off debt and vigorously pursue recovery using all available channels, platforms, and proceedings, including negotiating with the National Asset Reconstruction Construction Co. Ltd, India's bad bank, to sell some of these assets.

As banks focused on cleaning up their books over the years, they made higher provisions and wrote off chunks of bad and doubtful debt. Accord-

TURN TO PAGE 6



The target is over double of what is already recovered. MINT

Context: India's state-run banks face a stiff **loan recovery target** for this fiscal year: The finance ministry wants them to recover at least ₹2 trillion from the loans they have written off over the years, using all available avenues.

- For perspective, this is more than double the amount these banks have recovered from written-off loans in the last five years.

RBI data on loan write-offs

- According to RBI data, banks have **written off Rs 10,09,510 crore** over the last five years.
- **Public Sector Banks (PSBs)** accounted for most of these write-offs.
- Banks were able to **recover only 13 %** of this amount subsequently despite lending funds against assets or collaterals.

Loan write-offs

- **About**: Writing off a loan essentially means it will **no longer be counted as an asset.**
- **Significance:** By writing off loans, a bank can **reduce the level of non-performing assets (NPAs)** on its books.
  - The amount so written off reduces the **bank's tax liability.**
- **Reason:** The bank writes off a loan after the borrower has **defaulted on the loan** repayment and there is a very low chance of recovery.
  - It may be important to realise that **all loan write-offs are not lost money.**
  - Many **write-off cases** continue to be on birth register of banks/financial institutions.
  - Write-off is resorted to even in cases where the bank has **not exhausted all avenues f**or recovery of dues.
  - Such write-offs **do not affect the right of the bank** to proceed against the borrowers to collect the dues.
  - Any recovery made against the borrower is considered as **a profit for the bank in that financial year.**

DTE

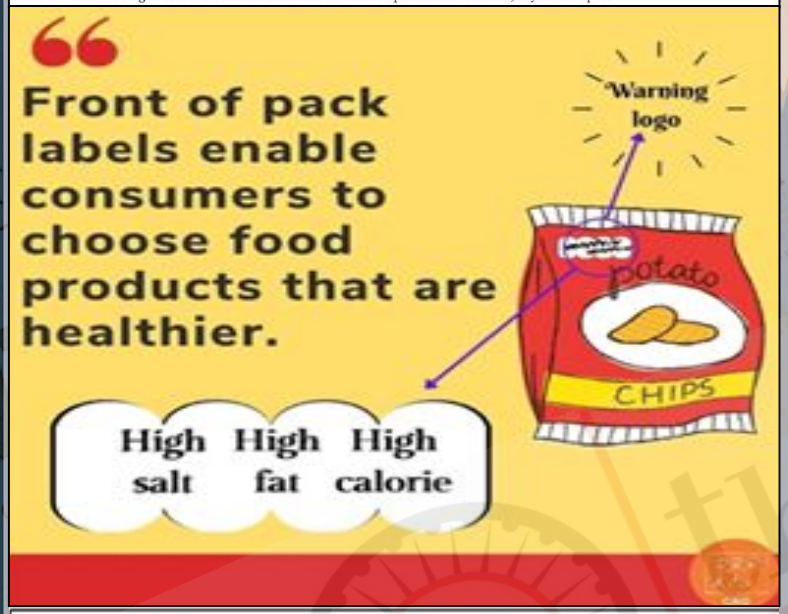
MAY 2

FRONT-OF-PACKAGE LABELLING

(Syllabus: GS Paper 3 - Economy)

What's in your food? Bournvita row rekindles front-of-package labelling discourse

Nutrition fat labelling is difficult to understand and allows companies to hide facts, says CSE expert



Front of Packaging Labelling (FoPL)

- Front-of-Package Labelling (FOPL) is a format of labelling that is used to indicate to consumers which products contain excessive **amounts sugars, total fats, saturated fats, trans fats, and sodium.**
- It aims to **bring a transformational reform in the society** as it will **encourage healthy eating and in turn reduces the burden of Non- Communicable Diseases (NCDs) in** the country.
- At present, countries such as the **UK, Chile, Mexico, New Zealand, and Australia have FoPL.**

Context: Bournvita, the 'health drink' part of many childhoods, is currently facing the ire of the **National Commission for Protection of Child Rights (NCPCR).**

- The product allegedly has an absurdly high sugar content, which remains hidden or missing in its a**dvertising, packaging and labelling.**

Key Points

- The ongoing row brings to the fore the **front-of-package labelling debate**, a change which has been in the making for nearly a decade in India but is yet to see the light of day. Its need stems from what the current system lacks.
- The **nutrition fat labelling** is difficult to understand and often in one language. It allows companies to hide facts.
- The **front-of-pack labelling** is a simple and effective way to inform the consumer so they can choose well.
- This change in labelling is critical since it specifically addresses foods with high quantities of salt, sugar and fat.
- **Controlling the consumption** of such items is vital in addressing the shift in the disease burden of India.
- The **World Health Organization (WHO) defines front-of-package labels** as "nutrition labelling systems that are presented on the front of food packages in the principal field of vision; and present simple, often graphic information on the nutrient content or nutritional quality of products, to complement the more detailed nutrient declarations provided on the back of food packages."
- In September 2022, the statutory body Food Standards and Safety Authority of India (FSSAI) issued a **draft notification on front-of-package labelling** that proposed the "Indian Nutrition Rating".
- The **health star system**, which is being proposed in India, has been rejected by most other countries for being industry-friendly and is currently only being used in New Zealand and Australia.
- The **front-of-package labelling system** is characterised by symbols and is not number heavy, so it is comprehensible.
- There is a **good amount of evidence from countries** across the world in favour of how useful the warning labels have been in affecting consumer behaviour.
- **Simpler alternatives** like designating colours like green, amber and red to healthy, relatively healthy, and unhealthy foods is a more suitable solution to caution consumers effectively.

PIB

MAY 2

NATIONAL SC-ST HUB SCHEME

(Syllabus: GS Paper 3 - Economy)

PM appreciates success of National SC-ST Hub Scheme

Context: The Prime Minister has praised National SC-ST Hub Scheme which crossed more than a lakh beneficiary registrations.

National SC-ST Hub Scheme

- **About**: The National SC/ST Hub has been set up to provide **professional support to Scheduled Caste and Scheduled Tribe Entrepreneurs** to fulfil the obligations under the Central Government Public Procurement Policy for Micro and Small Enterprises Order 2012, adopt applicable business practices and leverage the Stand-Up India initiative.
- **Nodal Ministry**: The Hub would be implemented by the **Ministry of MSME** through National Small Industries Corporation (NSIC), a public-sector undertaking under the administrative control of this Ministry of MSME.
- **Scheme applicable for:** Existing and Aspiring SC/ST Entrepreneurs.
- **Key Benefits:**
  - To achieve **4% Public Procurement target** from SC-ST entrepreneurs.
  - **Facilitating SC/ST Entrepreneurs** to be part of vendor development programs and mentoring support.
  - **Collection, collation and dissemination of information** regarding SC/ST enterprises and entrepreneurs.
  - Distribution of **trade specific tool kits** to trained candidates.
- **Key action areas**: Vendor development, participation in public procurement, building reliable database, credit facilitation, technology upgradation, marketing support, and special subsidies under various schemes etc.

TIMES OF INDIA

Page 1

DEFAULT BAIL

(Syllabus: GS Paper 2 - Polity & Governance)

No default bail even if chargesheet is filed without sanction: SC

New Delhi: The Supreme Court on Monday ruled that an accused is not entitled to default bail if an investigating agency files its chargesheet within the time limit but without the sanction for prosecution, **reports Dhananjay Mahapatra**. The question of sanction and its legitimacy would be considered by the court at the time of taking cognisance of the chargesheet, it said.

A bench of CJI D Y Chandrachud and Justice J B Pardiwala gave this judgment while dismissing the default bail plea of two accused under the Unlawful Activities (Prevention) Act on the ground that though the NIA filed the chargesheet, it had not obtained sanction for their prosecution.

Writing the verdict, Justice Pardiwala said, "We find no merit in the principal argument...of the appellants that a chargesheet filed with no sanction is an incomplete chargesheet, which could be termed as not in consonance with Section 173 (5) of the Criminal Procedure Code (CrPC)."

For now, SC suspends verdict on default bail

The SC has temporarily suspended the application of its recent judgment allowing default bail to the accused in cases where probe agencies, on filing a chargesheet, reserve the right to file a supplementary. The Enforcement Directorate had sought recall of the order, pointing out that the ruling contrasted with earlier verdicts of the court. **P 11**

▶'Only to help court', P 14

Context: The Supreme Court ruled that an accused is not **entitled to default bail** if an investigating agency files its charge sheet within the time limit but without the sanction for prosecution.

- The question of sanction and its legitimacy would be considered by the court at the time of taking **cognisance of the chargesheet.**

Default bail

- **About**: Default or statutory bail is a **right to bail** that accrues when police fail to complete investigation within a specified period in respect of a person in judicial custody.
- **Legal Aspects**: It is enshrined in S**ection 167(2) of the Code of Criminal Procedure (CrPC).**
  - Under **Section 167(2) of the Code,** a Magistrate can order an accused person to be detained in the custody of the police for 15 days.
  - Beyond the police custody period of 15 days, the Magistrate can authorize the detention of the accused person in judicial custody i.e., jail if necessary. However, the **accused cannot be detained for more than:**
    - **ninety days,** when an authority is investigating an offense punishable with death, life imprisonment or imprisonment for at least ten years; or
    - **sixty days,** when the authority is investigating any other offense.
    - In some other special laws like **Narcotic Drugs and Psychotropic Substances Act,** this period may vary. For eg: In Narcotic Drugs and Psychotropic Substances Act, the period is 180 days.
  - At the end of this period, if the **investigation is not complete,** the court shall release the person "if he is prepared to and does furnish bail". This is known as default bail.
- **Fundamental Right**: The Supreme Court while hearing an appeal regarding default bail said that **default bail under first proviso of Section 167(2) of the Cr.P.C. is a fundamental right** and not merely a statutory right as it is, a procedure established by law under Article 21 of the Constitution.

PIB

MAY 2

AIME-2023

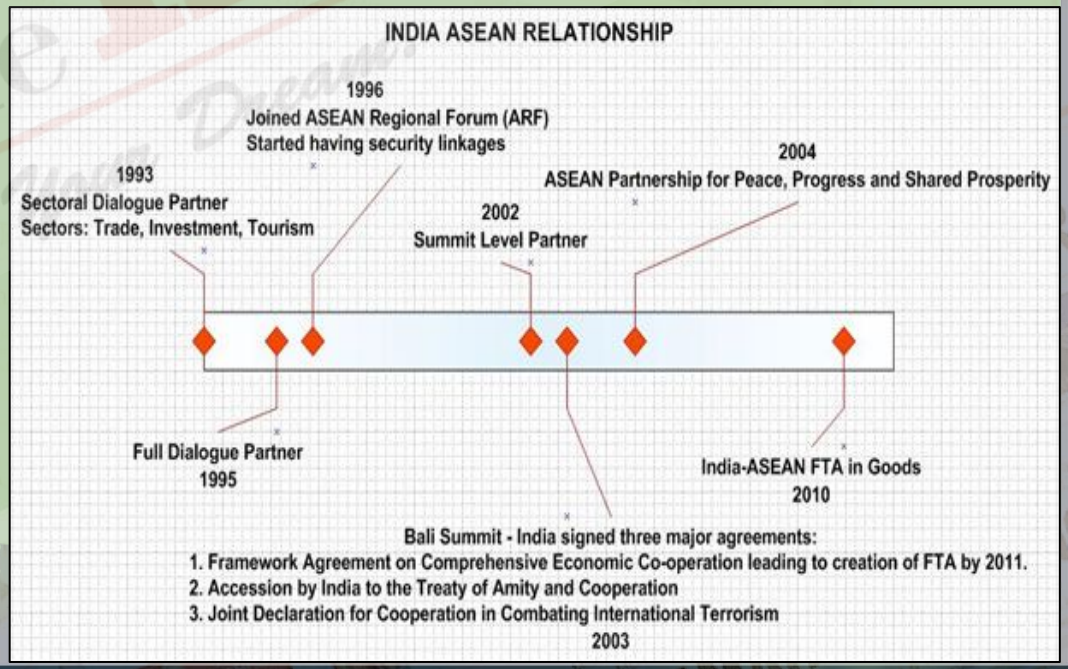
(Syllabus: GS Paper 2 - International Relations)

ASEAN INDIA MARITIME EXERCISE (AIME-2023)

Context: Two frontline warships of the Indian Navy arrived in Singapore to participate in the inaugural edition of the **ASEAN-India Maritime Exercise.**

Key Points

- The two Indian naval ships that arrived in Singapore are **INS Satpura and INS Delhi.**
- The **ASEAN-India Maritime Exercise (AIME-2023)** will provide an opportunity to the Indian Navy and ASEAN navies to work closely with each other and conduct seamless operations in the maritime domain, the defence ministry said.
- INS Delhi is **India's first indigenously-built guided missile destroyer,** while INS Satpura is an indigenously-built guided missile stealth frigate.
- Both the ships are part of the **navy's Eastern Fleet** based in Visakhapatnam.
- The ships are fitted with **state-of-the-art weapons and sensors.**
- The ships, during their port call at Singapore, will also participate in the **International Maritime Defence Exhibition (IMDEX-23)** and the International Maritime Security Conference (IMSC) being hosted by Singapore.



INDIAN EXPRESS

Page 1

GROUND OF MARRIAGE

(Syllabus: GS Paper 1 - Issue related to women)



CITES POWERS UNDER ARTICLE 142(1)

SC: Can grant divorce on irretrievable breakdown, waive 6-month wait period

Not a matter of right, must consider several factors, use caution: 5-Judge Bench

ANANTHAKRISHNAN G
NEW DELHI, MAY 1

THE SUPREME Court on Monday held that it can exercise its powers under Article 142(1) of the Constitution to grant divorce on the ground of "irretrievable breakdown" of a marriage — whether it is by mutual consent, or even if one of the parties opposes it. It also said that it can waive the six-month waiting period mandated under the Hindu Marriage Act, 1955, under certain conditions.

Under Article 142(1), the Supreme Court may pass decrees or orders "as is necessary for doing complete justice in any cause or matter pending before it".

The five-judge Constitution Bench led by Justice S K Kaul, however, said that the "grant of divorce on the ground of irretrievable breakdown of marriage... (is) not a matter of right, but a discretion which is to be exercised with great care and caution, keeping in mind several factors ensuring that 'complete justice' is done to both parties".

EXPLAINED

SC'S POWER TO DO 'COMPLETE JUSTICE' UNDER ARTICLE 142

PAGE 15

Similarly, it said that "the waiver (of six-month waiting period) is not to be given on mere asking, but on the court being satisfied beyond doubt that the marriage has shattered beyond repair."

"This discretionary power is to be exercised to do 'complete justice' to the parties, wherein this Court is satisfied that the facts established show that the marriage has completely failed and there is

CONTINUED ON PAGE 4

EXPLAINED

Easing the process

RECOGNITION OF "irretrievable breakdown" as a condition for divorce is a departure from the existing law, and lays stress on doing "complete justice" to both parties without apportioning blame, where the court is convinced that the marriage is dead.

Context: The Supreme Court held that it can exercise its powers under **Article 142(1) of the Constitution** to grant divorce on the ground of "irretrievable breakdown" of a marriage - whether it is by mutual consent, or even if one of the parties opposes it.

- It can waive the six-month waiting period mandated under the **Hindu Marriage Act, 1955,** under certain conditions.
- Under **Article 142(1),** the Supreme Court may pass decrees or orders "as is necessary for doing complete justice in any cause or matter pending before it".

Grounds for divorce under Hindu Law

- The **Hindu Marriage Act, 1955,** lays down the law for divorce, which applies to Hindus, Buddhists, Jains, and Sikhs.
  - Under **Section 13 of the Act,** the grounds for divorce include: "voluntary sexual intercourse with any person other than his or her spouse"; "cruelty"; desertion "for a continuous period of not less than two years immediately preceding the presentation of the petition"; "ceas(ing) to be a Hindu by conversion to another religion"; and being "incurably of unsound mind".
  - In addition, **Section 13B** provides for "divorce by mutual consent".
- **Section 27 of The Special Marriage Act, 1954** provides the grounds for grant of divorce in the case of marriages solemnised under that Act.
- However, neither of the two Acts provide for "irretrievable breakdown of marriage" as a ground for divorce.

Irretrievable breakdown of marriage

- The situation that exists when either or both spouses are **no longer able or willing to live with each other,** thereby destroying their husband and wife relationship with no hope of resumption of spousal duties.
- Currently, Hindu marriage law **does not include "irretrievable breakdown of marriage"** as a ground for divorce.
- However, the apex court in a number of cases has provided the said relief using its extraordinary powers that allow it to do **"complete justice".**

SMART CITIES MISSION
(Syllabus: GS Paper 1 - Society)

Smart Cities Mission Deadline Extended Again

Mission's initial deadline was June 2021; was extended to June 2023; now it's June 2024

Nidhi.Sharma@timesgroup.com

New Delhi: The Centre has decided to extend the Smart Cities Mission deadline by one year, from June 2023 to June 2024. The flagship mission, which involves development of 100 cities into smart cities, had an initial deadline of June 2021. This would be the second extension of the mission, which was launched on June 25, 2015. The decision to extend the mission period follows an extensive review of all 100 cities by the housing and urban affairs ministry.

According to sources, the review showed that only 50 cities would be able to complete projects conceived under the mission by June 2023. The extension would help cities to complete 100% of the projects by June 2024.

The 100 cities to be made smart were selected through a two-stage competitive process from January 2016 to June 2018. According to sources, 66 cities are small with less than 1 million population. A senior ministry official told **ET**: "Two-thirds of the mission projects are being executed by small cities, which have so far not handled projects of this magnitude."

The Centre has suggested rationalisation of projects. This means that instead of initiating complicated new projects, the cities have been asked to expand the ambit of projects already underway. Another source told **ET**, "If there are 150 buses to be acquired for the city fleet and slum redevelopment project to be initiated, we have urged cities to not begin on the slum redevelopment as it could take time. Instead, the city could use the money and buy over 150 buses. This kind of rationalisation would help cities complete projects in the extended time."

Statistical Track

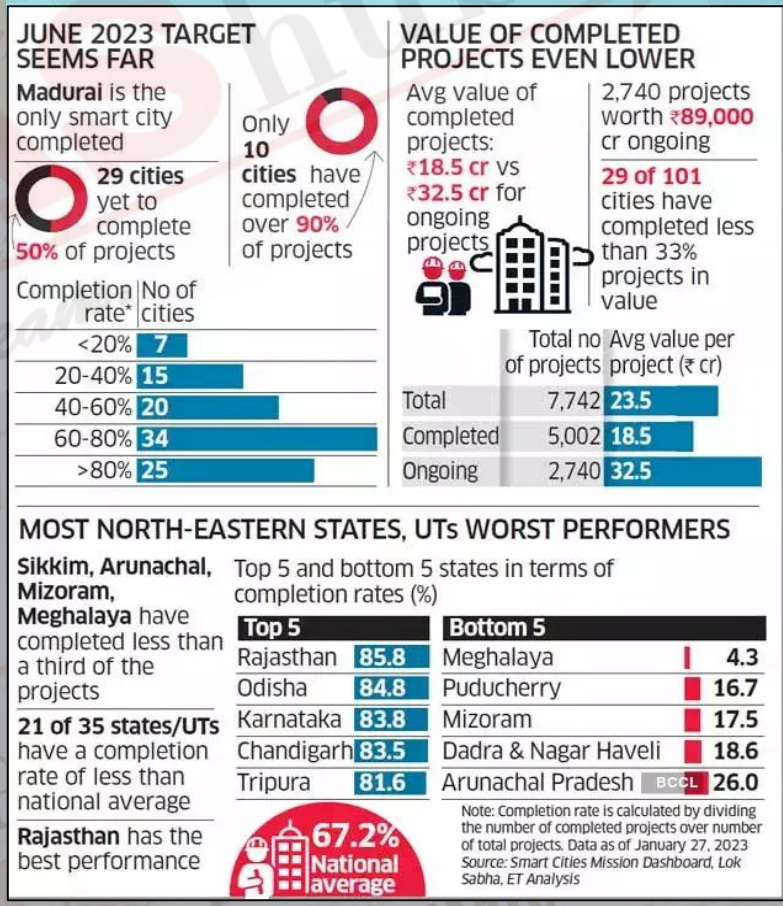
As per housing and urban affairs ministry, 7,742 projects worth ₹**1,81,561 crore** sanctioned under the mission

Around 5,700 projects (72%) worth ₹**1,07,000 crore** (60% by value) completed by April 30

Around 50 cities have completed close to 75% of their projects and are on track to complete remaining works by June 2023

Context: The Centre has decided to extend the **Smart Cities Mission** deadline by one year, from June 2023 to June 2024.

- The **flagship mission,** which involves development of 100 cities into smart cities, had an initial deadline of June 2021.
- This would be the second extension of the mission, which was launched on June 25, 2015.



Smart Cities Mission (SCM)

- **About**: The Smart Cities Mission is an initiative of the **Union Housing and Urban Affairs Ministry** that was launched by the Prime Minister on June 25th 2015.
  - Cities across the country were asked to submit proposals for projects to **improve municipal services** and to make their jurisdictions more liveable.
  - Between January 2016 and June 2018, the Ministry selected 100 cities for the Mission over five rounds.
- **Four pillars:**
  - Social Infrastructure,
  - Physical Infrastructure,
  - Institutional Infrastructure,
  - Economic Infrastructure.
- **Integrated Command and Control Centres:** All **100 cities have also constructed Integrated Command and Control Centres** to monitor all security, emergency and civic services.
  - During the peak of the Covid-19 pandemic, these centres were converted into emergency response units by many of the cities.

DTE

MAY 2

KYASANUR FOREST DISEASE

(Syllabus: GS Paper 3 - Sci & Tech)

Restoring Karnataka's forests can curb its monkey menace and Kyasanur disease outbreaks; here is how

Research has shown that the prevalence of Kyasanur Disease and density of ticks are highest in areas where forests are degraded

Context: The Covid-19 pandemic has demonstrated the devastating impact of a zoonotic disease.

- One such zoonotic illness where spillover events appear to have increased, resulting in recurring outbreaks, is **Kyasanur forest disease (KFD) or monkey fever.**

Key Points

- The illness, named after **Kyasanur forest in the Western Ghats,** where it originated, is a haemorrhagic fever borne by the tick, Haemaphysalis spinigera.
- It was **first identified in 1957** after an outbreak in a Kyasanur forest village in Shivamogga district of Karnataka.
- An often-cited reason for the increasing cases of KFD is the growing conflicts between humans and monkeys, particularly **bonnet macaque (Macaca radiata)** that is highly susceptible to KFD virus.
- In areas where natural forests are intact or where **wildlife sanctuaries** are around human settlements, no serious conflicts with macaques was reported. Instead, the respondents highlighted conflicts with other wildlife such as wild boar or Indian gaur.
- The **prevalence of KFD** and density of ticks are highest in areas where forests are degraded.
    - This shows that **habitat loss is the root cause** of the increase in human-macaque conflicts as well as KFD outbreaks.
- **Ecological restoration** of such degraded forests seems to be the only sustainable and ethical solution to mitigate the situation. This may be attained by reconnecting wildlife corridors and forest fragments, which in turn will minimise human-wildlife conflict.

Kyasanur Forest Disease (KFD)

- **Causes**: It is caused by the **Kyasanur Forest Disease Virus (KFDV)** which was identified in 1957 when it was isolated from a sick monkey from the Kyasanur Forest in Karnataka. Since then, between 400-500 human cases per year have been reported.
- **Transmission**: Hard ticks **(Hemaphysalis spinigera)** are the reservoir of the KFD virus.
    - **Transmission to humans** may occur after a tick bite or contact with an infected animal, most importantly a sick or recently dead monkey.
    - No person-to-person transmission has been described.
- **Symptoms**: After an incubation period of 3-8 days, the symptoms of KFD begin suddenly with chills, fever, and headache. **Severe muscle pain with vomiting, gastrointestinal symptoms** and bleeding problems may occur 3-4 days after initial symptom onset.
    - Patients may experience abnormally **low blood pressure, and low platelet, red blood cell, and white blood cell counts.**
    - People with **recreational or occupational exposure** to rural or outdoor settings (e.ghunters, herders, forest workers, farmers) are potentially at risk for infection by contact with infected ticks.
- **Prevention and Treatment**: **No specific treatment** for KFD, but early hospitalisation and supportive therapy is important. Supportive therapy includes the maintenance of hydration and the usual precautions for patients with bleeding disorders.
    - A **vaccine does exist for KFD** and is used in endemic areas of India.
    - **Additional preventative measures** include insect repellents and wearing protective clothing in areas where ticks are endemic.
- **Diagnosis**: Diagnosis can be made in the early stage of illness by molecular detection by PCR or virus isolation from blood.
    - Later, serologic testing using **Enzyme-linked Immunosorbent Serologic Assay (ELISA)** can be performed.

DST

MAY 2

GEOMAGNETIC PEARL OSCILLATIONS

(Syllabus: GS Paper 1 - Geography)

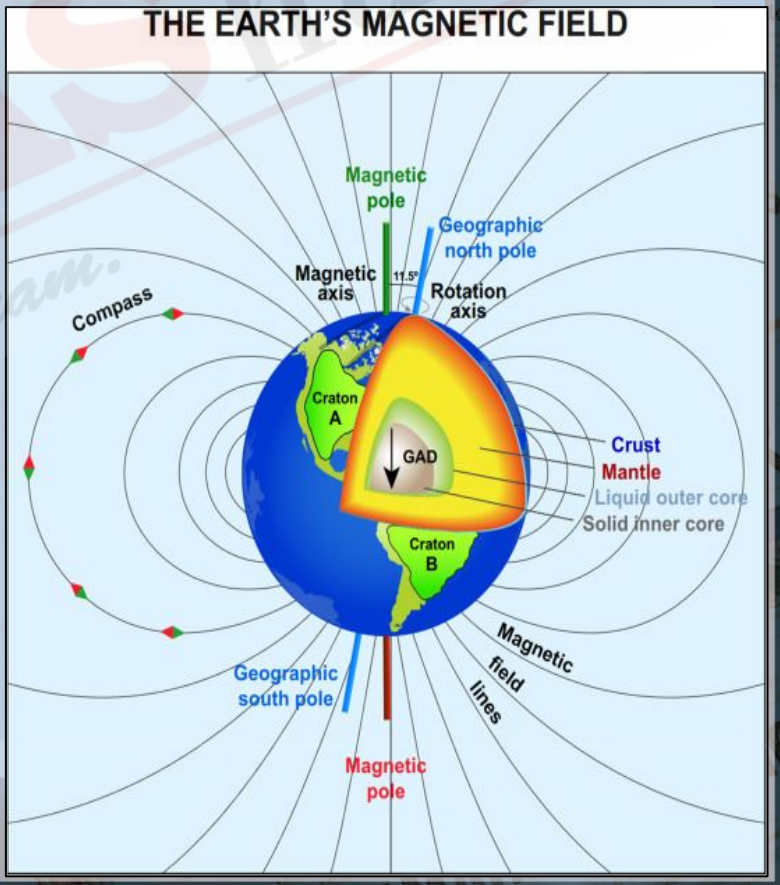
Geomagnetic pearl oscillations increase in the recovery phase of geomagnetic storms

Context: Researchers have traced a very **significant increase in special continuous oscillations** with pearl-type structures called **Geomagnetic Pc1 pearl oscillations** on the surface of the Earth in the recovery phase of geomagnetic storms.

- This study is **significant for investigating of precipitation particles** during geomagnetic storms and can help us understand the radiation hazard to satellites and astronauts.

Key Points

- **Earth's magnetic field** forms a protective shield around us, and various plasma waves are generated in this magnetic field cavity. However, geomagnetic storms often cause a dent in this protection.
- **Energetic particles** are either accelerated or lost from the Earth's radiation belts during these storms.
- This is responsible for changes in **plasma environment** leading to growth of low-frequency waves called **Electromagnetic ion-cyclotron (EMIC) wave** instability which is seen as the magnetic field oscillations (0.1-5 Hz) called as Pc1 pulsations.
- The **Geomagnetic Pc1 pearl oscillations** are amplitude-modulated structured narrow-band signals, which are signatures of low-frequency EMIC waves generated by resonant wave-particle interactions in the Earth's magnetosphere.
- The observation of these oscillations is a proxy for the measurement of particle precipitation in the **Earth's magnetosphere.**
- Evidences of these pulsations are abundant in the mid and high-latitude regions. However, at very low latitude stations, it is not frequent.
- These waves are an **important component of space weather** in the near-Earth environment.



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