CLONED COW-CALF

Recently, the National Dairy Research Institute (NDRI), Karnal has produced cloned female calves of the desi breed Gir.

About Cloned Cow-calf:

- It is India's first cloned Gir female calf named Ganga.
- To clone the Gir, **oocytes** are isolated from live animals using ultrasound-guided needles, and then, matured for 24 hours under control conditions.
- The **somatic cells of elite** cows are used as donor genomes, which are fused with OPU-derived enucleated oocytes. Following chemical activation and in-vitro culture, the developed blastocysts are transferred into recipient mothers to deliver the Gir calf.

What is cloning?

- The term cloning describes a number of different processes that can be used to produce **genetically identical copies of a biological entity.**
- Cloning can be **natural or artificial**. Examples of cloning that occur naturally are as follows:
  - **Vegetative reproduction** in plants, e.g. water hyacinth producing multiple copies of genetically identical plants through apomixis
  - Binary fission in bacteria.
- Clones can also be produced through artificial means. Biotechnological methods are employed to produce such clones.
  - **Molecular cloning**, where copies of specific gene fragments are produced
  - **Cellular cloning**, where single-celled organisms with the exact genetic content of the original cell are produced in cell cultures.
  - **Organism cloning,** or reproductive cloning, where a multicellular clone is created generally through somatic cell nuclear transfer

What are somatic cells?

- The word "somatic" is derived from the Greek word soma, meaning "body". Hence, all body cells of an organism – apart from the sperm and egg cells, the cells from which they arise (gametocytes) and undifferentiated stem cells – are somatic cells

RECYCLABLE PLASTIC

Recently, scientists from Boise State University in the US have just developed a new kind of plastic that, unlike existing plastics, isn't made from crude oil and its derivatives.

About Recyclable Plastic:

- The new recyclable plastic is based on **Poly(ethyl cyanoacrylate) or PECA**, which is prepared from the monomer used to make Super Glue.
- It is formed through a **process of polymerization** where single, repeating monomer units are strung together in a chemical reaction to make one long chain.
- It has comparable properties to existing plastics and **is stable in hot, humid environments.**
- The long polymer chains of the PECA plastic can be thermally 'cracked' at temperatures of 210 °C and the resulting monomers distilled into a clean product to use again.

What is Ethyl cyanoacrylate?

- Ethyl cyanoacrylate is a **highly reactive monomer** that has been used nearly exclusively to make Super Glue and related fast-setting adhesives
- It is produced on the ton scale from **methanol, chloroacetic acid, and sodium cyanide**, which themselves are sourced from hydrogen, nitrogen, methane, carbon monoxide, chlorine, and sodium hydroxide.

What is polymerization?

- It is a process in which relatively small molecules called **monomers combine chemically to produce** a very large chainlike or network molecule, called a polymer.
- The monomer molecules may be all alike, or they may represent two, three, or more different compounds.

RAJASTHAN RIGHT TO HEALTH BILL

Why in news?

- Thousands of doctors took to the streets in Rajasthan to protest against the Right to Health Bill, hitting healthcare services across the state.

- The Indian Medical Association (IMA), the country's largest physician association, has announced its support to the Rajasthan doctors.

News Summary: Rajasthan Right to Health Bill

What is the Rajasthan Right to Health (RTH) Bill?

- **Right to avail free treatment**

  o RTH gives every resident of the state the right to avail free Out Patient Department (OPD) services and In Patient Department (IPD) services at all public health facilities and select private facilities.

  o The Bill extends a total of 20 Rights to the residents of the

- **Emergency treatment**

  o Also, all residents will be entitled to emergency treatment and care without prepayment of any fee or charges.

  o The hospital can't delay treatment on grounds of police clearance if it is a medico-legal case.

  o After emergency care, stabilisation and transfer of patient, if patient does not pay requisite charges, the healthcare provider shall be entitled to receive requisite fee and charges or proper reimbursement from the state government.

- **Punishment**

  o As per the Bill, anyone found in contravention of the Act will be punishable with a fine of up to:

  ▪ Rs 10,000 for the first contravention, and

  ▪ up to Rs 25,000 for the subsequent contraventions.

  Why are the doctors protesting?

- **Bill penalises doctors and hospitals**

  o The protesters claim that the Bill doesn't help patients much, but penalises doctors and hospitals.

- **Contentious emergency provision**

- o One of the most contentious issues of the RTH was emergency care, leading to protests by doctors.

- o As per the bill, emergency treatment can be availed without prepayment of requisite fee or charges.

- o The Act does mention that the government will reimburse the hospitals, but the protesters say there is no clarity on how or when these funds will come.

- o Also, the bill has not defined what an emergency is. It could range from a heart attack to a delivery of a child coming in with stomach ache in the middle of the night.

- o The bill does not say who should treat what. If one runs an eye clinic, he/she cannot treat a heart attack case.

- o The government has said that more clarification will be provided when the rules for the Bill are framed.

- **Redressal mechanisms**

- o Protestors claimed that the redressal mechanisms mentioned in the Bill will not let doctors work in peace.

- o As per the bill, local politicians and government-nominated members would be a part of the district authority to look into patients' complaints.

- o Protestors claim that if a doctor has a tiff with someone, they can lodge a complaint to impede the functioning of private hospitals.

- o In such cases, it will just become another machine of corruption.

NPCI RECOMMENDS ADDITIONAL CHARGES FOR MERCHANT TRANSACTIONS VIA UPI

Why in news?

- The National Payments Corporation of India (NPCI) has advised **Prepaid Payment Instruments (PPI)** fees be applied to merchant transactions on Unified Payments Interface (UPI) beginning on April 1.

What is National Payments Corporation of India (NPCI)?

- NPCI is an umbrella organisation for operating retail payments and settlement systems in India.

- It is an initiative of RBI and Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007.

- The objective of NPCI is to create a robust Payment & Settlement Infrastructure in India.

- For this, NPCI was incorporated as a "Not for Profit" Company under the provisions of Section 25 of Companies Act 1956 (now Section 8 of Companies Act 2013).

Journey of NPCI

- NPCI, during its journey, has made a significant impact on the retail payment systems in the country. Few widely used products include:

- **RuPay card** - an Indigenously developed Payment System which supports the issuance of debit, credit and prepaid cards by banks in India

- **IMPS** - With Immediate Payment Service (IMPS), India has become the leading country in the world in real time payments in retail sector.

- **NACH** - National Automated Clearing House (NACH) provides electronic mandate platform to register mandates facilitating paper less collection process for the corporates and banks.

- **UPI** – Unified Payment System (UPI) has been termed as the revolutionary product in the payment system.

- **Bharat Bill Payment System** – It offers one-stop bill payment solution for all recurring payments with 200+ Billers in the categories Viz. Electricity, Gas, Water, etc.

- **NETC** - National Electronic Toll Collection (NETC) program meets the electronic tolling requirements of the Indian market.

- It provides an electronic payment facility to customer to make the payments at national, state and city toll plazas by identifying the vehicle uniquely through a FASTag.

What is UPI?

- UPI is a system that powers **multiple bank accounts** into a single mobile application (of any participating bank), merging several banking features, seamless fund routing & merchant payments into one hood.

- It also caters to the "Peer to Peer" collect request which can be scheduled and paid as per requirement and convenience.

  News Summary: NPCI recommends additional charges for merchant transactions via UPI

- **Prepaid Payment Instrument (PPI)** charges is to be applied from April 1 for merchant transactions made using the Unified Payments Interface (UPI).

  o PPI is a type of **payment card/ gift cards or digital wallet** that is loaded with a specific amount of money in advance by the user.

  o The money loaded onto the PPI can then be used to make purchases or payments at participating merchants, either online or offline.

- This was suggested by a recent circular issued by the NPCI.

  What has been advised by the NPCI?

- For amounts over Rs 2,000, using PPIs on UPI will result in interchange at 1.1 per cent **of the transaction value.**

  o The **interchange fee** is the fee to be paid to **wallet issuers** like banks, payment banks, etc by **payment service providers** like Paytm, Phonepe, Google Pay, etc. to cover the costs of accepting, processing, and authorising transactions.

  o The fee will **not be applicable** for **person-to-person transactions** or **person-to-merchant transactions** between a bank and the prepaid wallet. This means you don't have to pay any additional fees for using UPI yet.

  o For UPI transactions of over Rs 2,000 made **via PPI,** there would be an **interchange fee of 1.1 percent** and then there will be **wallet loading charges**.

  ▪ So, the issuer of pre-paid instruments like Paytm or Ola Financial Services etc will have to pay **15 basis points as wallet loading charges** to the remitter bank, i.e. the account holder's bank if more than Rs 2,000 is loaded.

  o NPCI has specified that interchange rates will **vary depending** on the profile of the merchants. For specific industries, charges range from 50 percent of the transaction value to 1.10 percent.

  o For example, UPI payments made to fuel service stations using a prepaid instrument will carry an interchange of 0.5 percent, for education fees paid using UPI, the charge will be 0.70 percent

capped at Rs 15 per transaction…and so on. NPCI however has said that this pricing will be reviewed on or before September 30 this year.

o **To illustrate**: If I have an ICICI Bank account and use a Paytm wallet. Now if I load Rs 5,000 to my wallet from my bank, Paytm will have to pay **15 basis points** as wallet loading fee to ICICI Bank.

o Let's say I now go to a retailer to buy a laptop using UPI **via my Paytm wallet.** So, the bank or payment provider who acquired the retailer as a merchant on their platform- like Axis Bank or Google Pay or whoever- will have to pay 1.1 percent as an **interchange fee** to Paytm wallet for facilitating the transaction.

PUTTING CITIZEN ENGAGEMENT AT THE HEART OF GOVERNANCE

Context

- The article highlights the significance of citizen-centric and citizen-enabled governance to respect the voice of the citizenry and to ensure that all development reaches the person standing at last mile, thus enriching democracy.

Meaning of Citizen Engagement

- It refers to how citizens participate in the **decision-making processes** such as **voting, attending public meetings and town halls, volunteering, etc**.

- It leads to a range of outcomes, including **more effective services and more responsive and accountable states and enlightened citizenry.**

- Moreover, citizen engagement is **not about confrontation** or merely about expressing restlessness and dissatisfaction.

o It is more about **collaborative partnerships** and **dialogue** intended towards inclusion, empowerment and is a political process.

- It is a **core component of any governance** system and is highly embedded in the nature of the political and governance context and existing power relations.

o In **democracies**, **citizen engagement is a basic principle** because it is understood that governments derive their authority and power from the people.

- o Also, citizen engagement should neither be viewed as the "citizen against the state" nor as the "state against the citizen", but as two **complementary forces** working together to ensure the overall development of a community or a nation.

- The Indian democracy is mature in the sense that there is an intentional attempt by the state to make development citizen-centric.

- o The PM's call for citizen centricity should be seen as a part of the **social compact** that the **government is now creating** between the citizens and the public service delivery systems.

- o He has repeatedly referred to "**Jan Bhagidari**" and that all development must keep the person at the last mile in mind (**Antyodaya**).

Relevance of Discourse in Citizen Engagement

- Citizen engagement towards democratizing the process of development necessarily involves a **constructive dialogue between and amongst all stakeholders -** state, citizenry, private sector, media, civil society and academia.

- o This needs to be accompanied by **redrawing boundaries of engagement** and **roles** that stakeholders have traditionally assumed for themselves.

- Also, this meaningful dialogue among multiple stakeholders can **sustain** only when there is **mutual trust**.

- o It also requires an **appreciation of interdependence** and **reciprocity**, hence giving equal and dignified spaces in the decision making and execution process.

- However, multi-stakeholder engagement would involve **challenges** as the adoption of the partnership approach by all parties involved will require **shedding biases** about each other.

- o The citizenry or community is not necessarily a homogenous mass of people and caution must be taken of **elite capture** within citizen groups as well and respecting the last citizen's voice.

Mission Karmayogi - National Programme for Civil Services Capacity Building

- It has been carefully designed for capacity building of the civil servants so that they are entrenched in **Indian Culture and sensibilities** and remain connected, with their roots, while they **learn from the best institutions** and practices across the world.

- It aims at building a **future-ready civil service** with the right attitude, skills and knowledge, aligned to the vision of New India.

- The Mission envisages a **comprehensive reform** of the capacity building apparatus at the individual, institutional and process levels for efficient public service delivery.

- Hence, it has been strategically working to build the capacities of civil servants through various **innovative interventions** to sensitise and **reframe the fabric of citizen participation**.

Demonstration of Capacity Enhancement of the Service Personnel

- The railway employees, Gramin Dak Sevaks, police personnel in the UTs and employees of BSNL recently went through an outcome-based capacity-building programme.

o This was aimed at shifting them from thinking like a "karmachari" to acting like a "karmayogi".

- Several personnel from the ministries of civil aviation, mines, ports and shipping, and steel have also **immersed** themselves in **private sector ecosystems.**

o This is aimed to better appreciate the challenges faced by the latter and how these personnel can enhance the ease of living and doing business from a citizen's perspective.

Conclusion

- The PM's emphasis to make a paradigm-shift towards citizen-centric governance and that citizen should be at the centre of everything that the government did provides the **catalytic first step to ensure strengthening of grassroot democracy in the nation.**

- This could be furthered by proper channels of information dissemination, gathering valuable inputs and indigenous knowledge of the citizenry and **putting appropriate grievance redressal mechanisms in place.**

DATABASE HELPING IN PREVENTING, SOLVING SEXUAL OFFENCES: AMIT SHAH

Why in News?

- Union Home Minister Amit Shah recently reviewed cyber security infrastructure and functioning of the Indian Cyber Crime Coordination Centre (I4C).

- He appealed to spread awareness to curb the menace of cybercrime.

  About Indian Cyber Crime Coordination Centre (I4C):

- Indian Cyber Crime Coordination Centre is an initiative of the Ministry of Home Affairs (MHA) **to combat cyber-crime in the country, in a coordinated and effective manner**.

- It acts as a nodal point in the fight against cybercrime.

- The centre is located in **New Delhi**.

  Functions of I4C:

- To prevent misuse of cyber space for furthering the cause of extremist and terrorist groups

- Suggest amendments, if required, in cyber laws to keep pace with fast changing technologies and International cooperation

- To coordinate all activities related to **implementation of Mutual Legal Assistance Treaties (MLAT) with other countries** related to cybercrimes in consultation with the concerned nodal authority in MHA.

  What is the National Database on Sexual Offenders (NDSO)?

- The Ministry of Home Affairs launched the National Database on Sexual Offenders (NDSO) in 2018.

- NDSO is a **central database of sexual offenders in the country** which is being maintained by the National Crime Records Bureau (NCRB).

- Currently, the database has a **registry of over 13 lakh individuals** involved in sexual offences, like rape, molestation, stalking, child abuse, etc.

- The database allows investigation officers to track habitual sex offenders, besides initiating preventive measures against sexual offences.