

1. 5 G Spectrum Auction

Topic: Economy



In News: India's biggest ever auction of telecom spectrum for 5 G has ended recently.

More on the Topic:

- The auction was held for spectrum in various low (600 MHz, 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz, 2500 MHz), mid (3300 MHz), and high (26 GHz).

About Spectrum:

- Spectrum here refers to **the invisible radio frequencies that wireless signals travel over.**
- Spectrum auction relates to **the radio frequencies allocated to the mobile industry and other sectors for communication over the airwaves.**
- Those signals are what enable to make calls from mobile devices, tag friends on Instagram, call an Uber, pull up directions to a destination, etc. on mobile devices.

5G Spectrum:

- **5G mainly works in 3 bands, namely low, mid and high frequency spectrum** — all of which have their own uses as well as limitations.
- **Low Band Spectrum:** In terms of coverage and speed of Internet and data exchange, the maximum speed is limited to 100 Mbps (Megabits per second).
- **Mid Band Spectrum:** It offers higher speeds compared to the low band, but has limitations in terms of coverage area and penetration of signals.
- **High Band Spectrum:** It offers the highest speed of all the three bands, but has extremely limited coverage and signal penetration strength.

- This band greatly enhances futuristic 5G technology applications like **Internet of Things (IoT) and smart technology but will require considerable infrastructure.**

Spectrum Auction:

- A spectrum auction is **a process whereby a government uses an auction system to sell the rights to transmit signals over specific bands of the electromagnetic spectrum and to assign scarce spectrum resources.**
- Union government owns all the publicly available assets within the geographical boundaries of the country, which also include the airwaves spectrum.
- Most of the radio spectrum is reserved in countries for defence. The rest is available for public use.
- With the expansion in the number of cellphone, wireline telephone and internet users, the need to provide more space for the signals arises from time to time.
- To sell these assets to companies willing to set up the required infrastructure to transport these waves from one end to another, **the central government through the DoT auctions these airwaves from time to time.**

Source: Indian Express

2. National Legal Service Authority

Topic: Polity and Governance



In News: Prime Minister has addressed inaugural session of first all India district legal services authorities (DLSAS) meet under NALSA.

More on the Topic:

- The National Legal Services Authority (NALSA) has been constituted under **the Legal Services Authorities Act, 1987 to provide free Legal Services to the weaker sections of the society.**
- It also organizes **Lok Adalats for amicable settlement of disputes.**
- It monitors and reviews various legal aid programs. It provides rules and principles for legal services under the Act.
- It also distributes **funding and grants to state legal services authorities and non-profit organisations** to help them execute legal aid systems and initiatives.



- The Chief Justice of India is the Patron-in-Chief. NALSA is housed at Supreme Court of India.

What are SLSA and DLSA?

- In every State, **State Legal Services Authority** has been constituted to give effect to the policies and directions of the NALSA.
- It aims to give free legal services to the people and conduct **Lok Adalats in the State**.
- The State Legal Services Authority is headed by **Hon'ble the Chief Justice of the respective High Court** who is the Patron-in-Chief of the State Legal Services Authority.

What are District Legal Service Authorities?

- Similarly, in every District, **District Legal Services Authority** has been constituted to implement Legal Services Programmes in the District.
- There are **a total of 676 DLSAs in the country**. They are headed by District Judge who acts as Chairman of DLSA.
- DLSAs also contribute towards **reducing burden on courts by regulating Lok Adalats conducted by National Legal Services Authority**.

What are the objectives of Legal Services Authorities?

- Provide **free legal aid and advice**.
- Spread **legal awareness**.
- **Organise lok adalats**.

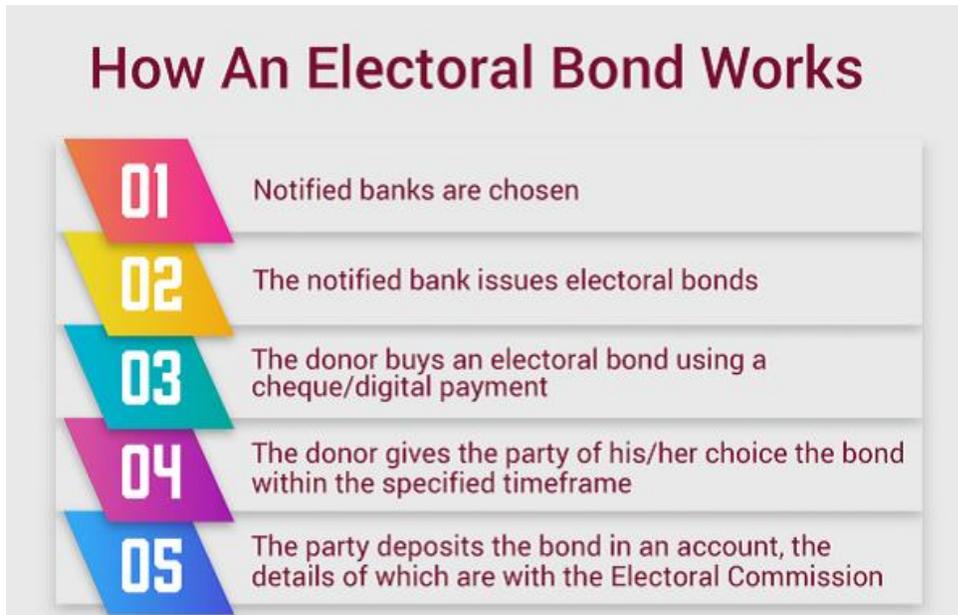
What are various Constitutional provisions related to NALSA?

- **Article 39A of the Constitution of India:** It provides that State shall secure that the operation of the legal system promotes justice on a basis of equal opportunity, and shall in particular, provide free legal aid, by suitable legislation or schemes or in any other way, to ensure that opportunities for securing justice are not denied to any citizen by reason of economic or other disability.
- **Articles 14 and 22(1)** also make it obligatory for the State to ensure equality before law and a legal system that promotes justice on a basis of equal opportunity to all.

Source: The Hindu

3. Electoral Bonds

Topic: Economy



In News: The latest data from the department of economic affairs (DEA) under the Union finance ministry has revealed that the sale of bonds has now crossed Rs 10,000 crore.

More on the Topic:

- Introduced with the Finance Bill, 2017, the Electoral Bond Scheme was notified on January 29, 2018.
- An Electoral Bond is like a promissory note that may be purchased by a person who is a citizen of India or incorporated or established in India.
- **The bonds are like banknotes that are payable to the bearer on demand and are interest-free.**
- **Only the Political Parties registered under Section 29A of the Representation of the People Act (RPA), 1951 (43 of 1951)** and which secured not less than one percent of the votes polled in the last General Election to the House of the People or the Legislative Assembly of the State, shall be eligible to receive the Electoral Bonds.
- The State Bank of India (SBI) has been authorised to issue and encash Electoral Bonds through its 29 Authorized Branches.

Arguments in Favor of Electoral Bonds:

- The purchaser would be allowed to buy electoral bond(s) only on due fulfilment of all the extant KYC norms and by making payment from a bank account.
- Donations through Electoral Bonds will only be credited in the party bank account disclosed with the ECI. **This measure ensures accountability.**
- The bond also **limits the use of cash in political funding.**

- **As it is mandatory to be a registered political party to receive Electoral bond it eliminate fraudulent political parties.**
- **The donors name would be anonymous thus protecting donor from political victimization.**
- **As the bond is only through public sector bank channel it curbs black money getting in to political parties.**

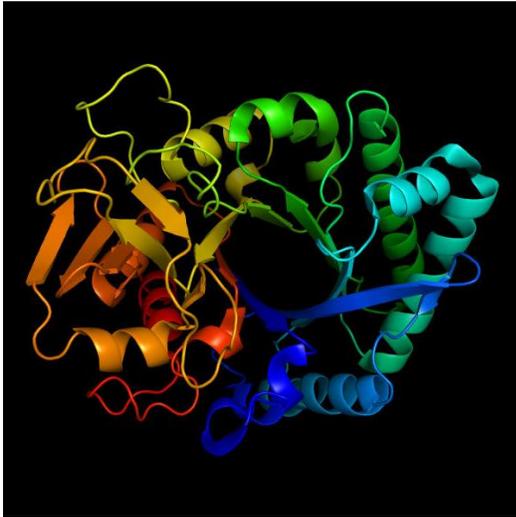
Arguments Against Electoral Bonds:

- **Anonymous donation may compromise with the principle of free and fair election.**
- **Allowed possibility of corporate misuse as it removes limits and disclosure requirements on Company donations to Political Parties.**
- **It restricts the electoral fund to only a few political parties thus limiting the level playing field.**

Source: Hindu

4. Alpha Fold

Topic: Science and Technology



In News: AlphaFold has released 200 million protein structures, revealing the 'protein universe'.

More on the Topic:

- **AlphaFold is an artificial intelligence program developed by Alphabet's/Google's DeepMind which performs predictions of protein structure.**
- **The program is designed as a deep learning system.**

How AlphaFolds Deep Learning Worked?

- The first step uses the available structures of 1,70,000 proteins in the Protein Data Bank (PDB) to train the computer model.
- Then, it uses the results of that training to learn the structural predictions of proteins not in the PDB.
- Then, it uses the high-accuracy predictions from the first step to retrain and relearn to gain higher accuracy of the earlier predictions.

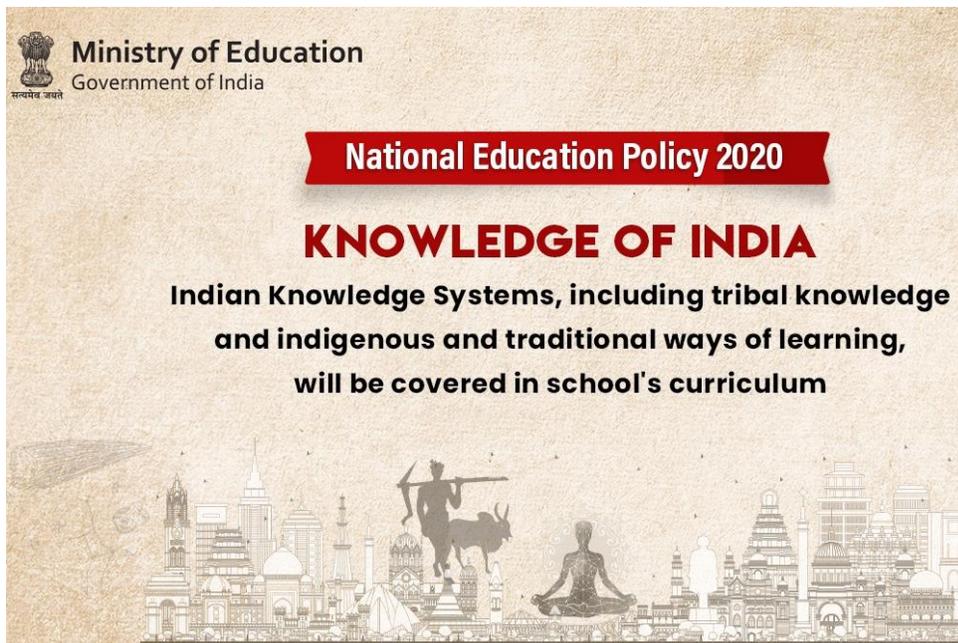
Significance of AlphaFold:

- For molecules that can be made up of only a couple of dozen different amino acids, proteins are incredibly complex.
- Each fold, twist and position can change how the protein works, and so understanding these complicated 3D structures can tell us a lot about what the protein does.
- The scientists can take advantage of the AlphaFold database and learn **how to use the structures to design better vaccines and drugs.**

Source: Indian Express

5. Indian Knowledge System

Topic: Government Schemes



In News: “Gilli danda”, “yubi lakpi”, different forms of “kabbadi” and “kanche” are among 75 “Bharatiya games” the Centre has announced it will introduce in schools under the education ministry’s Indian Knowledge Systems (IKS) initiative.

More on the Topic:

- The list of “Bharatiya games” compiled with the help of experts also includes “langdi” (hopscotch), javelin throw, “patang uddayan” (kite-flying), “seeta uddhar” (prisoner’s

base), “mardani khel” (a form of martial arts) and “vish amrit”. “Santhal katti”, a version of “gilli danda” played by Odisha’s Santhal tribe, is also part of the list.

- **“Yubi lakpi” is a game played in Manipur** using a coconut. It has similarities to rugby.
- The idea is not just to simply promote Indian games in schools. The actual idea is **to make sports more inclusive at the school level.**

Indian Knowledge System:

- Indian Knowledge System (IKS) is **an innovative cell under Ministry of Education (MoE) at AICTE, New Delhi.**
- IKS division was established in 2020.

Key Functions:

- Promote interdisciplinary research on all aspects of IKS,
- Preserve and disseminate IKS for further research and societal applications,
- Actively engage for spreading the rich heritage of our country and traditional knowledge in the field of Arts and literature, Agriculture, Basic Sciences, Engineering & Technology, Architecture, Management, Economics, etc.

Source: Business Standard

6. Non Fungible Token - Gas Fee

Topic: Science and Technology

HOW TO MINT NFTS FOR FREE

Non-Fungible Token or NFTs are digital tokens minted on the blockchain which can be owned only by one unique owner

In News: Creating a non-fungible-token (NFT) and selling it on any marketplace comes with a significant cost (also known as gas fee).

More on the Topic:

- **Crypto Gas Fees is the transaction fees paid to miners on a block-chain network** in order to get a user’s transaction to be included in the block.
- Gas fees is not of fixed value but it keeps fluctuating with time.
- It can range starting \$10 to even \$1000 dollars depending on the blockchain and the platform you use.
- The system of crypto gas fee operates on a basic supply and demand model.
- If there is a higher demand for transactions on the blockchain, miners can opt to include transactions that pay more instead of those that pay less.
- **Lazy Minting and Polygon Blockchain method** are associated term with crypto block chain gas fee.

A Fungible Token:



- A non-fungible token is a **financial security consisting of digital data stored in a blockchain, a form of distributed ledger.**
- The ownership of an NFT is recorded in the blockchain, and can be transferred by the owner, allowing NFTs to be sold and traded.

Source: Hindu
