Electronic Voting Machines (EVM) | Jammu & Kashmir | 25 Sep 2024

Why in News?

Recently, elections are being conducted in Jammu and Kashmir, with Electronic Voting Machines (EVMs) playing a crucial role in the polling process.

Key Points

- **About:** EVM is a device used to record votes electronically. They were first used in the **Paravur Assembly Constituency of Kerala in the year 1982.**
    - **Since 1998**, the Election Commission has increasingly used EVMs instead of ballot boxes.
    - **In 2003,** all state elections and by-elections were held using EVMs.
        - **Encouraged by this, in 2004,** the Commission took a historic decision to use only EVMs for the Lok Sabha elections.
- **Development:** It has been devised and designed by the **Technical Experts Committee (TEC)** of the Election Commission in collaboration with two Public Sector undertakings: **Bharat Electronics Ltd, Bangalore (under Ministry of Defence) and Electronic Corporation of India Ltd, Hyderabad (under Department of Atomic Energy).**
- **Functionality:** It has two parts, a Control Unit and a Balloting Unit connected by a cable.
    - The Control Unit stays with the polling officer, while the Balloting Unit is in the voting booth.
    - The voter has to simply press the blue button on the **Ballot Unit** against the candidate and symbol of his choice and the vote is recorded.
- **Key Features:**
    - An EVM being used by **ECI can record a maximum of 2,000 votes.**
    - They do not require electricity. They run on an ordinary battery assembled by Bharat Electronics Limited/Electronics Corporation of India Limited.
    - The microchip used in EVMs is a **one-time programmable/masked chip,** which can neither be read nor overwritten.
        - Furthermore, the EVMs are stand-alone machines and there is no operating system used in these machines.
- **Benefits:**
    - Accuracy: EVMs eliminate the occurrence of 'Invalid Votes' seen frequently with paper ballots, ensuring a more accurate reflection of voter choice and reducing complaints and legal disputes.
    - **Efficiency:** EVMs streamline the voting process, making it faster and more efficient. They eliminate the need for manual counting, reducing the time required to declare election results.
    - **Transparency:** EVMs enhance transparency in the electoral process by providing a clear and verifiable record of votes cast. **With features like VVPAT,** voters can verify that their votes are recorded accurately.
    - **Cost-effectiveness**: EVMs offer cost savings in terms of paper, printing, transportation, and storage, as they eliminate the need for millions of printed ballot papers for each election cycle.

VVPAT

- **About**: Voter Verifiable Paper Audit Trail (VVPAT) is an independent system attached with the EVM

that allow the voters to verify that their votes are cast as intended.

- It was introduced in the bye-election of the **Noksen Assembly Constituency of Nagaland in 2013.**
- In the 2019 Lok Sabha elections, VVPATs were used in all the constituencies.
- **Functionality:** When a vote is cast, a slip is printed containing the serial number, name and symbol of the candidate and remains exposed through a transparent window for 7 seconds.
  - Thereafter, the printed slip automatically gets cut and falls in the sealed drop box of the VVPAT.
  - The machines can be accessed by polling officers only.
- **Related Supreme Court Ruling: In a 2013 Subramanian Swamy V/S ECI case,** the Supreme Court emphasised the necessity of implementing VVPAT in elections conducted through EVMs.
  - Presently, the **M3 Model of ECI-EVM and VVPAT are used**.

Election Commission of India | Haryana | 25 Sep 2024

Why in News?

Recently, the Election Commission of India has intensified its efforts in Haryana to ensure free and fair elections, focusing on real-time monitoring of campaign finances, voter outreach initiatives, and strict adherence to the Model Code of Conduct.

Key Points

- The Election Commission of India (ECI) is an autonomous constitutional authority responsible for administering Union and State election processes in India.
  - It was established in accordance with the Constitution on 25th January 1950 (celebrated as National Voters' Day). The secretariat of the commission is in New Delhi.
- The body administers elections to the Lok Sabha, Rajya Sabha, and State Legislative Assemblies in India, and the offices of the President and Vice President in the country.
  - It is not concerned with the elections to panchayats and municipalities in the states. For this, the Constitution of India provides for a separate State Election Commission.
- **Constitutional Provisions:**
  - **Part XV (Article 324-329):** It deals with elections and establishes a commission for these matters.
  - **Article 324:** Superintendence, direction and control of elections to be vested in an Election Commission.
  - **Article 325**: No person to be ineligible for inclusion in, or to claim to be included in a special, electoral roll-on grounds of religion, race, caste or sex.
  - **Article 326**: Elections to the House of the People and to the Legislative Assemblies of States to be based on adult suffrage.
  - **Article 327**: Power of Parliament to make provision with respect to elections to Legislatures.
  - **Article 328**: Power of Legislature of a State to make provision with respect to elections to such Legislature.
  - **Article 329:** Bar to interference by courts in electoral matters.
- **Structure of ECI:**
  - Originally the commission had only one election commissioner but after the **Election Commissioner Amendment Act, 1989,** it was made a multi-member body.
  - The Election Commission shall consist of the **Chief Election Commissioner (CEC)** and such number of other election commissioners, if any, as the President may from time-to-time fix.

- Presently, it consists of the CEC and two **Election Commissioners (ECs).**
  - At the state level, the election commission is helped by the **Chief Electoral Officer.**
- **Appointment & Tenure of Commissioners:**
  - The President appoints CEC and Election Commissioners as per [the CEC and Other ECs (Appointment, Conditions of Service and Term of Office) Act, 2023.](#)
  - They have a fixed tenure of six years, or up to the age of 65 years, whichever is earlier.
  - The salary and conditions of service of the CEC and ECs will be equivalent to that of the [Supreme Court Judge.](#)
- **Removal:**
  - They can resign anytime or can also be removed before the expiry of their term.
  - The **CEC can be removed from office only through a process of removal similar** to that of a **SC judge by Parliament**, while ECs can only be removed on the recommendation of the CEC.
- **Limitations:**
  - The Constitution has not prescribed the qualifications (legal, educational, administrative or judicial) of the members of the Election Commission.
  - The Constitution has not specified the term of the members of the Election Commission.
  - The Constitution has not debarred the retiring election commissioners from any further appointment by the government.

1.78 lakh PVTGs Enrolled | Jharkhand | 25 Sep 2024

Why in News?

Recently, the [Election Commission of India](#) has taken significant steps to ensure inclusive, participative elections in Jharkhand, focusing on the enrollment of [Particularly Vulnerable Tribal Groups (PVTGs).](#)

Key Points

- **100% Enrollment of PVTGs**: 1.78 lakh voters from **eight PVTGs** have been fully enrolled in the electoral roll.
- **Electoral Roll Statistics:** A total of **2.59 crore electors are registered,** including 1.28 crore women voters and over **11.05 lakh first-time voters (18-19 years).**
- **Special Summary Revision (SSR)**: The second SSR for the State was completed and the electoral roll was published on 27th August, 2024.
- **Election Commission's Directive:** Emphasis on **zero tolerance for the use of money power,** as conveyed during meetings with enforcement agencies, political parties, and security forces.

Particularly Vulnerable Tribal Groups (PVTGs)

- In India, tribal population makes up for **8.6% of the total population.**
- PVTGs are more vulnerable among the tribal groups. Due to this factor, more developed and assertive tribal groups take a major chunk of the tribal development funds because of which PVTGs need more funds directed for their development.
- In **1973, the** [Dhebar Commission](#) created **Primitive Tribal Groups (PTGs)** as a separate category, who are less developed among the tribal groups. In 2006, the Government of India renamed the **PTGs as PVTGs.**
- In this context, in **1975,** the Government of India initiated to identify the most vulnerable tribal groups as a separate category called PVTGs and declared **52 such groups,** while in 1993 an additional 23 groups were added to the category, making it a total of 75 PVTGs out of **705**

- Scheduled Tribes.
  - PVTGs have some basic characteristics i.e., they are mostly **homogenous, with a small population, relatively physically isolated, absence of written language, relatively simple technology and a slower rate of change etc.**
  - Among the **75 listed PVTG's the highest number are found in Odisha.**

Lightning Killed Many | Chhattisgarh | 25 Sep 2024

Why in News?

Recently, a devastating lightning strike in Chhattisgarh's Rajnandgaon claimed the lives of several people, including children, during heavy rainfall.

Key Points

- **Lightening in India:**
  - Lightning is a powerful and visible electrical phenomenon that takes place when there is a buildup of electrical charges within clouds and between clouds and the ground.
    - The discharge of this electrical energy results in a brilliant flash of light and a rapid expansion of air, creating the characteristic thunder that accompanies lightning.
    - Cloud-to-ground (CG) lightning is dangerous because it can electrocute people due to its high electric voltage and current.
  - India ranks among the five countries worldwide with an early warning system for lightning.
    - The system provides forecasts ranging from five days to as close as three hours before the occurrence of lightning.
- **Lightning Fatalities: Statistics and Trends**
  - National Crime Records Bureau (NCRB) Data: In 2021, lightning accounted for 2,880 deaths, comprising 40% of all accidental deaths caused by "forces of nature."
    - The trend indicates an increase in lightning-related fatalities compared to other natural events.
- **Geographical Distribution in India:**
  - Lightning frequency is highest in northeastern states and **West Bengal, Sikkim, Jharkhand, Odisha, and Bihar.**
    - However, the number of lightning-related deaths is higher in central Indian states like **Madhya Pradesh, Maharashtra, Chhattisgarh**, and **Odisha.**
  - Bihar is one of the most vulnerable states to lightning strikes, with a significant number of deaths reported annually.
    - In 2023, till July 6, Bihar recorded **107 deaths** due to lightning.
- **Union Government's View About Lightning**:
  - The Union government opposes declaring lightning a natural disaster. The government believes that education and awareness can help prevent lightning-related deaths effectively.

Possible Factors Behind the Increasing Trend of Lightning Strikes

- **Climate Change:** Global warming and climate change could potentially influence atmospheric conditions, leading to an increase in thunderstorms and lightning activity.
  - As the planet's temperature rises, there may be changes in the distribution of moisture, instability, and convective processes that could favor more frequent lightning occurrences.
  - Kalbaisakhi is a localised thunderstorm occurrence that is accompanied by lightning,

typically observed during the pre-monsoon season in the Indian subcontinent.

- **Urbanization**: The expansion of urban areas can create what is known as the "urban heat island effect."
    - Cities tend to be warmer than surrounding rural areas due to increased human activity, energy consumption, and impervious surfaces.
    - These localized heat islands may lead to the formation of more thunderstorms and, consequently, an increase in lightning strikes.
- **Land Use Changes**: Deforestation, changes in agricultural practices, and alterations of natural landscapes may disrupt local atmospheric conditions.
    - Such changes might contribute to the development of thunderstorms and, consequently, more lightning.
- **Pollution and Aerosols**: Air pollution, including aerosols and particulate matter, can affect cloud formation and electrical activity within storms.
    - Anthropogenic emissions might influence the frequency and intensity of thunderstorms, potentially leading to more lightning strikes.

Monsoon Withdraws from Parts of Rajasthan | Rajasthan | 25 Sep 2024

Why in News?

Recently, the Southwest monsoon has started withdrawing from parts of Rajasthan, marking a delayed retreat this year.

Key Points

- **Delayed Monsoon Withdrawal:** The Southwest monsoon began withdrawing from West Rajasthan and Kachchh, a week later than scheduled, with further withdrawal expected from Punjab, Haryana, and Gujarat in the next 24 hours (as per Indian Meteorological Department (IMD).
    - Overall, monsoon rainfall has been **5% higher than normal, despite a 3% deficit in September.**
    - August received **15% more rainfall than normal, compared to the 6%** projected by the IMD, due to multiple depressions from the **Arabian Sea and Bay of Bengal.**
- **La Niña's Impact:** Contrary to **IMD's forecast of a 9% increase** in September rainfall due to La Niña, the month saw a 3% shortfall.
- **Full Withdrawal Timeline:** The complete withdrawal of the Southwest monsoon **is expected by mid-October,** making way for the northeastern monsoon in southern states like Tamil Nadu, Kerala, and Andhra Pradesh.

Monsoon in India

The Indian monsoon is a **seasonal wind system** that plays a critical role in determining the climate and agricultural patterns of the country. It is marked by a distinct wet and dry period, with the **Southwest Monsoon bringing significant rainfall between June and September.**

Key Characteristics of the Indian Monsoon:

- **Seasonal Wind Reversal:**
    - Monsoon winds are characterized by a reversal of wind direction**. During summer (June to September), moist winds blow from the Indian Ocean towards the land**

(Southwest Monsoon), while in winter (October to December), dry winds blow from land towards the sea (Northeast Monsoon).

- **Southwest Monsoon:**
    - Dominates during the summer months (June to September) and is divided into two branches: the **Arabian Sea Branch** and the **Bay of Bengal Branch.**
    - These winds bring heavy rainfall, particularly to the western coast, northeastern regions, and the Indo-Gangetic plains.
    - The **Southwest Monsoon supports India's agriculture,** accounting for most of the Kharif crop season's irrigation.
- **Northeast Monsoon:**
    - Occurs during the winter months (October to December) and primarily affects southern India, especially Tamil Nadu, Andhra Pradesh, and Kerala.
    - It brings lesser rainfall compared to the **Southwest Monsoon and contributes to the rabi crops.**
- **Retreating Monsoon:**
    - As the monsoon withdraws, the dry winds from the north bring cooler temperatures, marking the transition to winter, particularly in northern India.

UP and MP Collaborate on 8 GW Solar Power Projects | Uttar Pradesh | 25 Sep 2024

Why in News?

Recently, Madhya Pradesh (MP) and Uttar Pradesh (UP) governments have partnered to develop **8 gigawatts** (GW) of solar power plants, marking a significant first-of-its-kind renewable energy collaboration between two Indian states.

Key Points

- **Collaboration Overview:**
    - The power generated will be shared between the two states, **alternating every six months,** aligning with their respective peak demand seasons.
    - **Madhya Pradesh:** Peak demand occurs from **October to March,** coinciding with the rabi crop season.
    - **Uttar Pradesh:** Peak demand occurs between **April and September,** aligning with the kharif crop season.
    - Solar power will be distributed based on these seasonal demand patterns.
- **Project Phases and Development:**
    - In the first phase, a **2 GW project will be developed, with Morena (MP)** identified as a possible site.
- **State Renewable Energy Goals:**
    - **Madhya Pradesh:** Aims to achieve **20 GW of renewable energy capacity by 2030, up from its current 9 GW.**
    - **Uttar Pradesh:** Targets **22 GW of solar capacity by 2026-27,** up from its current **6.8 GW.**

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POWER SHARING

8 Gw pipeline to supply both states;
6 months each

UTTAR PRADESH

Apr–Sep (kharif crop season)

■ **22 Gw**: Solar power target by 2026–27

■ **6.8 Gw**: Current solar capacity

MADHYA PRADESH

Oct–Mar (rabi crop season)

■ **20 Gw**: Solar power target by 2030
■ **9 Gw**: Current RE capacity