

## **1. Falcon Heavy Rocket**

### **Why in News?**

- SpaceX has recently launched the Falcon Heavy rocket into a geosynchronous Earth orbit from Launch Complex 39A at the Kennedy Space Center in Florida, US.

### **Highlights**

- It is the fourth launch of the giant rocket system, and the first one in nearly three years since its last launch in 2019.
- The rocket is carrying satellites to space for the U.S. military in a mission named as US Space Force (USSF)-44.
- The mission deployed two spacecraft payloads, one of which is the TETRA 1 microsatellite created for various prototype missions in and around the geosynchronous earth orbit. The other payload is for national defence purposes.
- It will place the satellites for the Space Systems Command's Innovation and Prototyping.
- SpaceX claims Falcon Heavy to be the most powerful rocket in the world by a factor of two.
- The rocket has a height of 70 m, a width of 12.2 m and a mass of 1,420,788 kg.
- Falcon Heavy has 27 Merlin engines which together generate more than five million pounds of thrust at lift-off, equalling around eighteen 747 aircraft at full power which makes it the most capable rocket flying.
- Merlin is a family of rocket engines developed by SpaceX for use on its Falcon 1, Falcon 9 and Falcon Heavy launch vehicles.
- Merlin engines use RP-1 and liquid oxygen as rocket propellants in a gas-generator power cycle.
- These engines were designed for recovery and reuse.
- The rocket has a lifting capacity of around 64 metric tonnes into orbit.
- The Falcon Heavy uses three boosters for added thrust and lift capacity.
- SpaceX last launched its Falcon Heavy rocket in June 2019 from NASA's Kennedy Space Center.
- It carried 24 satellites as part of the Department of Defense's Space Test Program-2.

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## **2. Provisional State of the Global Climate Report, 2022.**

### **Why in News?**

- The World Meteorological Organization (WMO) has recently released the provisional State of the Global Climate report, 2022.

### **Highlights**

- The full and final report is expected to be published in April, 2023.
- It is produced on an annual basis, complementing the most recent long assessment cycle provided by the sixth IPCC Assessment Report.
- It provides an authoritative voice on the current state of the climate using key climate indicators and reporting on extreme events and their impacts.
- The concentrations of three main greenhouse gases, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and Nitrous oxide (NO<sub>2</sub>), were all at record highs in 2021.
- The emissions of methane, which is 25 times more potent than carbon dioxide in causing global warming, in fact, increased at the fastest pace ever.
- At the climate change conference in Glasgow, countries had pledged to cut global methane emissions by at least 30% by the year 2030.
- The global average temperature in 2022 is estimated to be about 1.15 °C above the 1850-1900 average.
- 2015 to 2022 are likely to be the eight warmest years on record.
- La Niña (a cooling of sea-surface waters in the equatorial Pacific Ocean) conditions have dominated since late 2020 and are expected to continue until the end of 2022.
- Continuing La Niña has kept global temperatures relatively low for the past two years – albeit higher than the last significant La Niña in 2011

### 3. Electoral Bond Scheme

#### Why in News?

- Weeks ahead of elections in certain states, the Central Government has recently amended the Electoral Bond Scheme.

#### Highlights

- Introduced a new para, stating that an additional period of fifteen days shall be specified by the Central Government in the year of general elections to the Legislative Assembly of States and Union territories with Legislature.
- In 2018, when the Electoral Bond Scheme was introduced, these bonds were made available for a period of 10 days each in January, April, July and October, as may be specified by the central government.
- An additional period of 30 days was to be specified by the Central Government in the year of the General election to the House of People
- The Electoral Bonds shall be valid for fifteen calendar days from the date of issue and no payment shall be made to any payee Political Party if the Electoral Bond is deposited after expiry of the validity period. The Electoral Bond deposited by an eligible Political Party in its account shall be credited on the same day.
- Only the political parties registered under Section 29A of the Representation of the People Act, 1951 which secured at least 1% of votes polled in the last General Election to the Lok Sabha or the State Legislative Assembly are eligible to receive Electoral Bonds
- **The central criticism of the electoral bonds scheme is that it does the exact opposite of what it was meant to do:** bring transparency to election funding.
- For example, critics argue that the anonymity of electoral bonds is only for the broader public and opposition parties
- There is a need for effective regulation of political financing along with bold reforms to break the vicious cycle of corruption and erosion of quality of democratic polity.
- It Is crucial to plug the loopholes in the current laws to make the entire governance machinery more accountable and transparent.
- Voters can also help bring in substantial changes by demanding awareness campaigns. If voters reject candidates and parties that overspend or bribe them, democracy would move a step higher.

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#### **4. National Population Register (NPR)**

##### **Why in News?**

- Recently, The Ministry of Home Affairs (MHA) has highlighted the need to update the National Population Register (NPR) database across the country.

##### **Highlights**

- This is to incorporate the changes due to birth, death, and migration for which demographic and other particulars of each family and individual are to be collected.
- NPR is a database containing a list of all usual residents of the country.
- A usual resident for the purposes of NPR is a person who has resided in a place for six months or more and intends to reside there for another six months or more.
- Its objective is to have a comprehensive identity database of people residing in the country.
- It is generated through house-to-house enumeration during the “house-listing” phase of the Census.
- The NPR was first collected in 2010 and then updated in 2015.
- The NPR is prepared under the provisions of the Citizenship Act 1955 and the Citizenship (Registration of Citizens and Issue of National Identity Cards) Rules, 2003.
- It is mandatory for every “usual resident of India” to register in the NPR.

