

Crew Module Recovery Model (CMRM)

- A Crew Module Recovery Model (CMRM) that simulates the mass, center of gravity, outer dimensions, and externals of the actual crew module at touchdown were used for the trials.
- The sequence of operations required for the recovery of the crew module was carried out as part of the trials.
- As the safe recovery of the crew is the final step to be accomplished for any successful human spaceflight, it is of paramount importance and it has to be carried out with the minimum lapse of time.
- Hence the recovery procedures for various scenarios need to be extensively practiced by carrying out a large number of trials.
- The Standard Operating Procedures (SoPs) for the recovery of crew and the crew module need to be finalised.
- The project is accomplished through an optimal strategy by considering in-house expertise, the experience of Indian industry, the intellectual capabilities of Indian academia & research institutions along with cutting-edge technologies available with international agencies.
- The pre-requisites for Gaganyaan mission include the development of many critical technologies including a human-rated launch vehicle for carrying the crew safely to space, a Life Support System to provide an earth-like environment to the crew in space, crew emergency escape provision, and evolving crew management aspects for training, recovery, and rehabilitation of crew.
- Various precursor missions are planned for demonstrating the Technology Preparedness Levels before carrying out the actual Human Space Flight mission.
- These demonstrator missions include Integrated Airdrop Tests (IADT), Pad Abort Tests (PAT), and Test Vehicle (TV) flights. The safety and reliability of all systems will be proven in unmanned missions preceding manned missions.

Gaganyaan

- Gaganyaan project envisages a demonstration of human spaceflight capability by launching a crew of 3 members to an orbit of 400 km for a 3 days mission and bringing them back safely to earth, by landing in Indian sea waters.
- **Human rated LVM3 - HLVM3**
- LVM3 rocket - The well-proven and reliable heavy lift launcher of ISRO, is

identified as the launch vehicle for the Gaganyaan mission.

- It consists of the solid stage, liquid stage, and cryogenic stage.
- All systems in the LVM3 launch vehicle are re-configured to meet human rating requirements and christened Human Rated LVM3.
- HLVM3 will be capable of launching the Orbital Module to an intended Low Earth Orbit of 400 km.

THE HINDU

Collegium

- Under the “collegium system” itself the product of a 1993 judgment of the Supreme Court the three senior-judges of the Supreme Court make recommendations for appointments to High Courts;
- While the government may provide inputs, and ask for reconsideration, if a recommendation is reiterated, then formally, the government is bound to accept it
- The controversy indicates certain continuing, structural problems with the process of judicial appointments.

The first problem is opacity

- Once a collegium recommendation has been made, the only way of contesting it is through a legal challenge.

- However, that challenge must be before the Supreme Court itself, leading to a set of awkward situations: the decision of the collegium the three (or five) senior judges of the Supreme Court must be challenged before their own junior colleagues (and these colleagues will be assigned the case by the CJI, who is himself the head of the collegium).
- , the appointments body (the collegium), the body for the constitution of Benches (the CJI’s office), and the judicial review body (the Supreme Court) are all effectively one and the same, but trying to play different and functionally independent roles, correction becomes very difficult.

THE HINDU

Nordic –India

- At the Nordic- India Summit held in Copenhagen in May 2022, the five Nordic Prime Ministers and India’s Prime agreed to intensify cooperation on digitalization, renewable energy, maritime industries, and the circular economy
- The Nordic countries are a geographical and cultural region in Northern Europe and the North Atlantic. It includes the sovereign states of Denmark, Finland, Iceland, Norway, and Sweden; the

autonomous territories of the Faroe Islands and Greenland; and the autonomous region of Åland.

- India has grown to become a priority country for Finland.
- A great illustration of this is that Finland opened a new Consulate General in Mumbai, which will be inaugurated tomorrow (February 10).
- Several Indian companies are looking towards Finland for its expertise in areas of technology and innovation, sustainability, digitalization, carbon neutrality, and more.
- An increasing number of Indian students, researchers, and experts have been moving to Finland as well
- Trade between Norway and India has doubled in the last three years.
- The Norwegian Sovereign Wealth Fund is likely to become one of India's largest single foreign investors (around \$17.6 billion).
- The Norwegian government has also recently established a new Climate Investment Fund for investments in renewables abroad, and India has been defined as a focus country.
- Both Norway and Finland have ongoing free trade agreements and investments negotiations (FTA) with India.

- Finland, as a member of the European Union (EU), is a part of the EU-India FTA negotiations, and Norway is negotiating through the European Free Trade Association.
- In addition, trade in services is an area of significant potential, especially with tourism, education, IT, energy, maritime and financial services.
- As India takes rapid strides into a green, digital, and innovative future, Nordic countries such as Finland and Norway stand ready to share experiences and be a part of India's transition.

THE HINDU

Fjord

- A fjord is a long, deep, narrow body of water that reaches far inland.
- Fjords are often set in a U-shaped valley with steep walls of rock on either side.
- Fjords are found mainly in Norway, Chile, New Zealand, Canada, Greenland, and the U.S. state of Alaska.



THE HINDU

Disinvestment

What is disinvestment?

- Disinvestment or divestment, in this context, is when the government sells its assets or a subsidiary, such as a Central or State public sector enterprise.
- Minority disinvestment, majority disinvestment, and complete privatization are the three main approaches to disinvestment.
- On fruition of minority disinvestment, the government retains a majority in the company, typically greater than 51%, thus ensuring management control.
- In the case of majority divestment, the government hands over control to the acquiring entity but retains some stake whereas, in complete privatization, 100% control of the company is passed on to the buyer.
- The Union Finance Ministry has a separate department for undertaking disinvestment-related procedures called the Department of Investment and Public Asset Management (DIPAM).
- The government may disinvest in order to reduce the fiscal burden or bridge the revenue shortfall for that year.

- It also uses disinvestment proceeds to finance the fiscal deficit, to invest in the economy and development or social sector programs, and to retire government debt.
- Disinvestment also encourages private ownership of assets and trading in the open market.
- If successful, it also means that the government does not have to fund the losses of a loss-making unit anymore
- The Centre is not going to add new companies to the list of CPSEs to be divested in 2023-24 and the aspirational divestments of two public sector banks and one general insurance firm, announced in the Budget two years ago, will also not be a part of the plan.

THE HINDU

German policy on Russia

How has the war in Ukraine impacted Germany's foreign policy?

- As Russia invaded Ukraine on February 24, 2022, Germany's policy underwent a fundamental shift. Chancellor Scholz declared the war a Zeitenwende (turning point), and since then, Germany's policy has moved away from an emphasis on dialogue and diplomacy to a more

assertive stance, culminating in the decision to send Leopard 2 MBTs to Ukraine.

- In the initial phases of the war, Berlin believed that a diplomatic solution was possible to bring an end to the conflict.
- However, as the war progressed, Germany amended several of its previous policies that shaped its orientation towards Russia.

What has been Germany's response since the war?

- One of the key factors driving this change in policy is Germany's recognition of the need to reduce its dependence on Russian energy.
- Soon after Mr. Putin recognized Ukraine's Donetsk and Luhansk provinces as independent republics, Germany stalled the Nord Stream 2 pipeline, which was ready for operation.
- Subsequently, it announced the construction of four floating terminals and two permanent onshore sites for enhanced LNG imports, struck an energy deal with Qatar, and supported numerous rounds of EU sanctions against Russian entities.
- Germany also worked with other European capitals to assure the swift delivery of arms and aid to Ukraine.

- Germany's gradual shift towards a more robust policy towards Russia is a testament to the changing realities of Europe's security landscape.

THE HINDU

QRSAM

- Quick reaction surface-to-air missile (qrsam)
- Application: quick reaction surface-to-air missile (qrsam) is a quick reaction surface air missile capable of search on move, track on move, and fire on short halts.

FEATURES

Length	4364 mm
Weight	270 kgs
Range & Altitude	05 to 30 Km & 6 Km
SSKP	> 80%
Length & Dia	4.4 m & 0.225 m
Propulsion	Single Stage Solid Rocket Motor
Guidance	Mid-Course Inertial + Seeker Target Update Terminal Active Homing
Warhead	Pre-Fragmented & High Energy

Launch	Canisterized Inclined Launch
Engagement	Simultaneous 6 Targets

manure" (snow) and are adopting new varieties and techniques to sustain.

- Temperatures are low in December and January but adequate moisture is not available due to scanty snowfall.
- As a result, the cropping pattern is changing with apple growers taking to high-density apple plantations,

THE HINDU

THE HINDU

Why Shimla losing snow??

- Local residents and environmentalists blame unchecked urbanization for the shrinking snowline
- The hill city has lost its green cover as trees have been cut down mercilessly.
- Vehicular pollution has increased the temperatures, which is the primary reason why snow eludes Shimla"
- Reckless cutting of hills, construction of multi-story concrete buildings, manifold increase in population, and increasing human activity have become the bane of Shimla and the town is now warmer than plains during winters
- Apple growers in the upper Shimla region are now deprived of "white