



CURRENT AFFAIRS



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LAUNCH VEHICLE MARK 3 (LVM3)

This article covers “Daily Current Affairs for UPSC” and the topic details Launch Vehicle Mark 3 (LVM3). On Sunday 27th March 2023, ISRO launched Launch Vehicle Mark 3 (LVM3), India’s heaviest rocket carrying 36 satellites of UK-based One-Web. This topic “ LVM3” has relevance in the Science and Technology section for the UPSC CSE exam.

Relevance of Launch Vehicle Mark 3 (LVM3)

For Prelims:

- Features of Launch Vehicle Mark 3 (LVM3)
- Other launch vehicles developed by ISRO

For Mains:

- GS 3: Science and Technology
- Technological feats achieved by ISRO over the years
- Importance of Launch Vehicle Mark 3 (LVM3)

Why in the news?

Indian heavy lift rocket Launch Vehicle Mark 3 (LVM 3) successfully carried 36 satellites weighing a total of 5.8 tonnes to outer space. The rocket took off from the launch pad at the Satish Dhawan Space Centre in Sriharikota.

ABOUT ONEWEB GEN-1

OneWeb is a network providing worldwide communication connectivity, utilizing a constellation of satellites in Low Earth Orbit (LEO) to achieve this goal. A major investor and shareholder in OneWeb are India’s Bharti Enterprises. The current launch marks the 18th for OneWeb, and the third for this year, bringing the total number of satellites in its constellation to 618. This launch is a significant

milestone for the company, as it marks the first time an LEO operator has achieved the number of satellites necessary for global service. OneWeb is now poised to commence its global coverage shortly.

ABOUT LAUNCH VEHICLE MARK 3 (LVM3)

LVM3 is a three-stage vehicle with two solid strap-on motors, one liquid core stage (L110), and a cryogenic upper stage (C25).



Launch Vehicle Mark 3

1. Vehicle Specifications

Height: 43.5 m

Vehicle Diameter: 4.0 m

Heat Shield (Payload Fairing) Diameter: 5.0 m

Number of Stages : 3

Lift-Off Mass: 640 tonnes

2. Technical Specification

3. Payload to GTO: 4,000 kg

Launch Vehicle Mark 3 (LVM3) will be capable of placing the 4-tonne class satellites of the GSAT series into Geosynchronous Transfer Orbits.

4. Payload to LEO (Low Earth Orbit): 8,000 kg

The powerful cryogenic stage of LVM3 enables it to place heavy payloads into Low Earth Orbits of 600 km altitude.

5. Stages – 3

• Cryogenic Upper Stage: C25

The C25 is powered by CE-20, India's largest cryogenic engine, designed and developed by the Liquid Propulsion Systems Centre.

– Engine: CE-20

– Fuel : 28 tonnes of LOX + LH₂

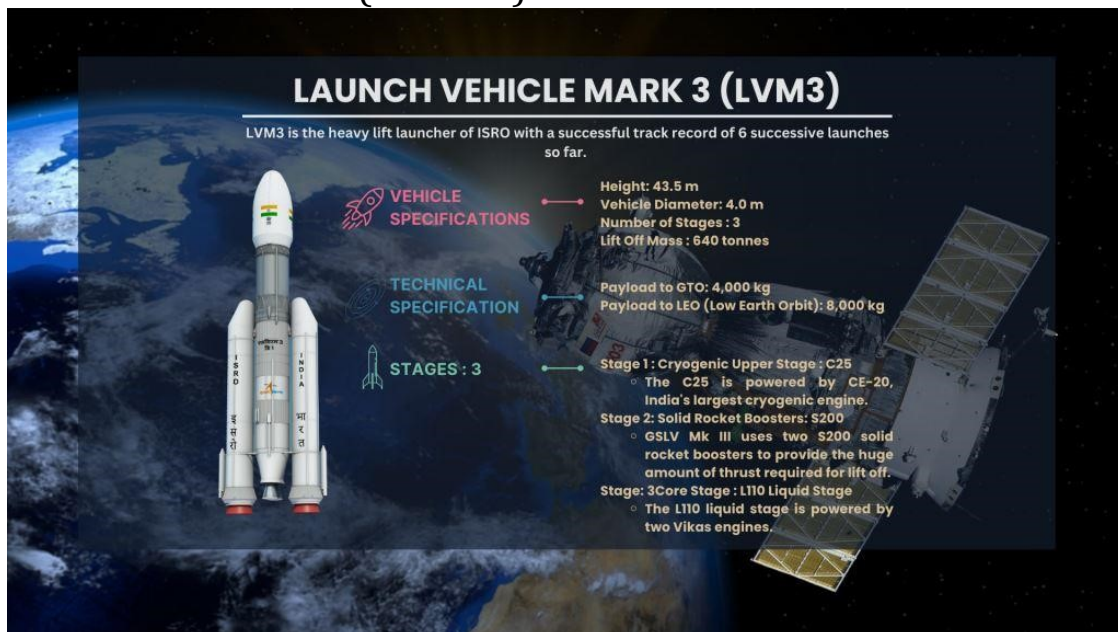
- **Solid Rocket Boosters: S200**

LVM3 I use two S200 solid rocket boosters to provide the huge amount of thrust required for lift-off. The S200 was developed at Vikram Sarabhai Space Centre.

– Booster Height: 25 m

– Booster Diameter : 3.2 m

- Fuel: 205 tonnes of HTPB (nominal)



LVM3

CORE STAGE: L110 LIQUID STAGE

The L110 liquid stage is powered by two Vikas engines designed and developed at the Liquid Propulsion Systems Centre.

- Stage Height: 21 m
- Stage Diameter: 4 m
- Engine : 2 x Vikas
- Fuel: 115 tonnes of UDMH + H₂O

SIGNIFICANCE OF LAUNCH VEHICLE MK 3

It is also known as GSLV Mk III (Geosynchronous Satellite Launch Vehicle Mark III) and is a significant achievement for India's space program. Here are some of the reasons why:

- **Heavy lift capability:** Launch Vehicle Mark 3 (LVM3) is the heaviest and most powerful rocket that India has ever built. With a lift-off weight of 640 tons, it

can carry payloads up to 4,000 kg to Geosynchronous Transfer Orbit (GTO) and up to 10,000 kg to Low Earth Orbit (LEO). This heavy lift capability makes it an essential tool for launching large satellites and missions to the Moon and Mars.

- **Indigenous technology:** The development of LVM3 represents a significant achievement for India's space program because it relies on indigenous technology. The rocket uses an entirely new cryogenic engine that was developed in India, making India one of the few countries in the world to have the technology to build and launch cryogenic engines.
- **Reduced dependency on foreign launch vehicles:** Before the development of Launch Vehicle Mark 3 (LVM3), India was dependent on foreign launch vehicles to launch its heaviest satellites. Now, with the capability to launch heavier payloads using indigenous technology, India has reduced its dependence on foreign launch vehicles.
- **Strategic importance:** LVM3 has strategic importance for India's defense and communication needs. It can help India to launch advanced surveillance and communication satellites, which are critical for national security and defense.

Source:
[Isro.gov.in](https://www.isro.gov.in)

Mohit Pratap Singh

THE FINANCE BILL 2023

This article covers "Daily current events" and the topic is 'The Finance Bill 2023' which is in news, it covers "Polity" In GS-2; "Economy", the following content has relevance for UPSC.

For Prelims: The Finance Bill 2023

For Mains: GS-2, Polity; GS-3, Economy

Why in news:

Lok Sabha passed the Finance Bill, 2023 with 64 official amendments, including the removal of long-term tax benefits for debt funds that have stirred concerns in the fixed-income mutual fund industry that the measure would turn away investors.

ABOUT FINANCE BILL 2023 KEY AMENDMENTS

- Mutual funds with less than 35% of their assets in domestic equity would lose the indexation benefit and will be taxed as short-term capital gains.
- Offshore financial units working in GIFT city will receive enhanced tax benefits, including a 100% income deduction over the next ten years.
- The tax on royalties or technical fees earned by foreign (non-resident) corporations has been raised from 10% to 20%.
- There is no change in the taxation of non-par savings insurance products (the 5 lakh cap remains).
- Notwithstanding representation, there will be no change in the taxation of REITS/InvITs (revenue from REITS will be taxed as 'income from other sources rather than capital gains').
- The securities transaction tax (STT) on the selling of options has been hiked to 2,100 on a turnover of one crore, while the STT on the sale of futures contracts has been raised to 12,500 on a turnover of one crore, representing a 25% rise.

BASIS FOR COMPARISON	MONEY BILL	FINANCE BILL
Meaning	A bill is said to be money bill which exclusively deals with the matters prescribed in article 110 of the constitution.	All the bills, which deals with the provisions concerning revenue and expenditure.
Form	Government Bill	Ordinary Bill
Introduction	Lok Sabha only.	Category A bills are introduced in Lok Sabha while Category B bills can be introduced in any of the two houses.
Approval	Prior approval of President or Government is required.	Prior approval of President is required.
Certification	Certified by the Speaker of the Lok Sabha.	Not certified by the Speaker.
Rajya Sabha	The power of Rajya Sabha is restricted.	Both Lok Sabha and Rajya Sabha has equal powers.
Joint Sitting	No provision of joint sitting.	Provisions are there regarding joint sitting of Lok Sabha and Rajya Sabha.

Finance Bill 2023

ABOUT FINANCE BILL

- The Finance Bill is a Money Bill, according to Article 110 of the Indian Constitution.
- The bill is a component of the Union Budget that specifies all of the legal changes required for the proposed tax changes by the Finance Minister.
- The Speaker of the Lok Sabha has the authority to decide whether or not the Bill is a Money Bill.
- The decision of the Speaker is final.

FEATURES OF THE BILL

- Finance Bills are classified into three types:
 - Finance Bill Category I,
 - Finance Bill Category II, and

- The Money Bill.
- Financial bills are all money bills, but not all money bills are financial bills.
- According to Article 110, a Bill is deemed to be a Money Bill if it contains solely provisions dealing with all or all of the following:
 - The imposition, repeal, remission, modification, or regulation of any tax;
 - The regulation of the Government of India's borrowing of money or the provision of any guarantee;
 - The custody of the Consolidated Fund or the Contingency Fund of India, as well as the payment into or withdrawal from any such Fund;
 - The appropriation of money from India's Consolidated Fund;
 - The declaration of any expense as one charged to the Consolidated Fund of India or the increase in the amount of any such expenditure;
 - The receipt of money on account of the Consolidated Fund of India or the public account of India, or the holding or distribution of such money, or the audit of the Union's or a State's accounts;

THE DISTINCTION BETWEEN A MONEY BILL AND A FINANCE BILL

- According to Section 110 of the Constitution, a Money Bill must be introduced in the Lok Sabha.
 - The bill is then sent to the Rajya Sabha for consideration.
 - The Rajya Parliament has 14 days to return the Bill with suggestions.
 - The Lok Sabha, on the other hand, has the option of rejecting all or any of the suggestions.
- Article 117 of the Constitution states categorically that a Bill shall not be introduced or advanced except with the President's endorsement under certain extraordinary circumstances.

WHY THE BILL REQUIRED

- The Union Budget proposes numerous tax reforms for the coming fiscal year.
- The Finance Bill intends to insert adjustments into all relevant laws without the need for a separate amendment bill for each of those Acts.
- This bill overrides and amends existing legislation as necessary.

Source:

The Hindu

Mohit Pratap Singh