communication systems of India. Now India should focus on expanding the technology to carry out a payload of about 6-7 tonnes (many developed countries have this capacity). This would help in improving the telecommunication density in India with the rising aspirations of the population of the country.

**WAY FORWARD**

Indigenous engine in the first step is to expand the capability of the communication systems of India. Now India should focus on expanding the technology to carry out a payload of about 6-7 tonnes (many developed countries have this capacity). This would help in improving the telecommunication density in India with the rising aspirations of the population of the country.

**BACKGROUND**

The first experimental flight of LVM-3, the LVM-2C/GSAT mission with off from Nokia in 2014, successfully tore the atmospheric phase of flight. Crew Indus Atmospheric Entry Experiment was also carried out in this flight. This was the first testing of the indigenous cryogenic engine.

**NEED**

Currently ISRO’s geosynchronous satellite (GSLV MK II) can carry satellites weighting only 2.5 tonnes. It is the heaviest rocket to be launched from India till now. It can lift payloads of up to 4000 kg to Geosynchronous Transfer Orbit and 10000 kg into the Low Earth Orbit.

**FEATURES**

- It is a three-stage vehicle with an indigenous cryogenic upper stage engine (C25).
- It has been designed to carry heavier communication satellites into the Geosynchronous Transfer Orbit.
- Apart from the upper cryogenic stage, the vehicle has two solid strap-on motors (S200) and a core liquid booster (L110).

**SIGNIFICANCE**

- It would also save foreign exchange reserves of the government provided that presently the heaviest Indian communication satellites are launched from the French Guiana.
- This spacecraft would have advanced technologies including micro-electromechanical Systems (MEMS) accelerometer.
- It would also save foreign exchange reserves of the government provided that presently the heaviest Indian communication satellites are launched from the French Guiana.
- The indigenous components of the rocket would help India to become self-reliant in heavy-lift launch vehicles. The indigenous batteries developed can also be used to power electric vehicles in India.
- It would also act as a carrier to travel people/astronauts into space.
- It would also be a foreign exchange earner with foreign customers using the services of GSLV MK III provided by ISRO.
- The cost of launches would also be reduced because of introduction the cryogenic engine.
- It would boost India’s communication resources given the fact that there has been a boom in the communication industry in India and there is a high demand for transponders in space.

**WAY FORWARD**

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