**GOVERNMENT OF INDIA**
**DEPARTMENT OF SPACE**

**LOK SABHA**
**UNSTARRED QUESTION NO.3601**

**TO BE ANSWERED ON WEDNESDAY, JANUARY 02, 2019**

**SCRAMJET ENGINE**

**3601. SHRIMATI KAVITHA KALVAKUNTLA:**

**Will the PRIME MINISTER be pleased to state:**

**(a) whether ISRO has successfully tested the scramjet engine technology recently;**

**(b) if so, the details thereof and it's benefits for future uses;**

**(c) whether this technology will help in the realisation of an air breathing propulsion system for space-crafts in future; and**

**(d) if so, the details thereof?**

**ANSWER**

**MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PG & PENSIONS AND IN THE PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH):**

**(a) Yes, Madam.**

**(b) The first experimental mission of a sub-scale Scramjet engine, towards the realization of an Air Breathing Propulsion System, was successfully conducted on August 28, 2016 from Satish Dhawan Space Centre, Sriharikota. With this experimental flight, critical technologies such as ignition of air breathing engines at supersonic speed, holding the flame at supersonic speed, air intake mechanism and fuel injection**

**systems have been successfully demonstrated. The Air breathing propulsion technology will be useful during the atmospheric phase of the flight of launch vehicle as the oxidizer for the fuel is derived from the atmosphere itself. This reduces the need for carrying the oxidizer along with the fuel and will benefit in bringing down the cost of access to space.**

**(C) & (d)**

**The present developed technology is useful for launch vehicles and missiles and is not directly applicable for spacecraft propulsion.**

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