

GOVERNMENT OF INDIA
DEPARTMENT OF SPACE

RAJYA SABHA

UNSTARRED QUESTION NO. 3166

TO BE ANSWERED ON THURSDAY, MARCH 27, 2025

TRAINING OF INDIAN ASTRONAUTS BY NASA

3166. SHRI YERRAM VENKATA SUBBA REDDY:

Will the PRIME MINISTER be pleased to state:

- (a) whether it is a fact that NASA is going to train Indian scientists/astronauts for sending them to International Space Station (ISS);
- (b) if so, the details thereof;
- (c) whether it is also a fact that NASA is going to launch NASA-ISRO Synthetic Aperture Radar (NISAR) satellite which is an earth observing mission from India to monitor resources, rise in sea level etc.; and
- (d) if so, the details thereof and the manner in which it helps our scientists and whether students are also going to be benefited?

ANSWER

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

- (a) Yes, Sir. NASA is involved in training Indian astronauts (Gaganyatris) for the upcoming joint ISRO-NASA mission to the International Space Station (ISS).
- (b) Training of Gaganyatris for the joint ISRO-NASA mission to ISS primarily involves acquaintance with the Crewed Transportation Vehicle to/from ISS, different onboard systems of the US Orbital Segment (USOS) of ISS and associated day to day operations, familiarisation with various stressors of spaceflight as well as preparations for conducting microgravity/ human research experiments onboard ISS.
In this regard, training of the two Gaganyatris (one prime & one backup) on the NASA modules in the USOS of ISS was completed in NASA facilities. Besides familiarisation with onboard systems and daily operations routine on ISS, these

training sessions also addressed response to various types of emergencies in space, including medical emergencies. Further training of Gaganyatris for conducting shortlisted microgravity research experiments is planned before the mission.

- (c) NASA and ISRO have jointly developed the NASA-ISRO SAR (NISAR) satellite, having L & S band Synthetic Aperture Radar (SAR) payloads, to map the entire globe systematically once in every 12 days. NISAR will be launched by ISRO on-board GSLV-MkII launch vehicle from SDSC-SHAR, Sriharikota in 2025.
- (d) NISAR is expected to help the scientists to address science questions that are global in scale, fine in resolution, densely sampled in time, and are uniquely observed by SAR. NISAR will help monitoring of agriculture, soil moisture, mangroves, wetlands and forest above-ground biomass. It will also help monitoring of surface changes due to seismic, volcanic and slope movement processes. NISAR will provide measurements to investigate the nature and cause of changes of Earth's ice sheets, sea ice and mountain glaciers. It will help monitoring of coastal erosion processes and assessment of coastal vulnerability to sea-level rise. NISAR is also important for responding to natural disasters.

New insights on the dynamics of ecosystem, solid earth, cryosphere etc. expected from the NISAR mission would ignite the interest of the student community, motivating them to pursue research in such domains.
