MADHUBEN AND BHANUBHAI PATEL INSTITUTE OF TECHNOLOGY

(THE CVM UNIVERSITY)

REPORT ON

Industrial Visit:

Industry Name:

Vikram Sarabhai Space Exhibition, Ahmadabad

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Industrial Visits provide an excellent opportunity to students to interact with the Industry and know about Industrial Environment. Industrial visits are arranged with an objective of giving the student's functional exposure in different Industrial sectors – IT, Manufacturing and Services, Finance and Marketing.It helps in combining the academic knowledge with practical experience. The visits consist of observations and discussions with the staff in various departments of the organization. The industrial visit is intended to provide students of Information Technology with required exposure to the working environment and practical knowledge. The motive is to learn and supplement the class room teaching.

The Annual Industrial Visit was decided, structured, planned and executed by the Computer Department and Information Technology Department of Madhuben and Bhanubhai Patel Institute of Technology- The CVM University for the A.Y. 2024-2025.The visit was arranged for the students of first -year Computer Engineering and IT Engineering with the objective to provide them with Industrial Exposure and learning about new Technologies.

Company Visited: Vikram Sarabhai Space Exhibition, Ahmadabad

Duration: 1 Day

Number of Students participated: 60

Date of Visit: 8th May, 2025.

Faculty Coordinators: Prof. Sneh Vyas (CE Dept.) Prof. Akash Dave (Computer Dept.) Prof. Palak Dave (IT Dept.) Prof Tapan Patel (ASH Dept.)

Faculties involved in Visit:

Prof. Hitesh Thakwani, Prof. Walsh Christian

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Overview About Company:

Space Applications Centre (SAC), is a major research and development centre of the Indian Space Research Organization (ISRO). It plays a key role in realizing vision and mission of ISRO. Located at Ahmadabad, SAC is spread across two campuses having multi-disciplinary activities.

The core competence of the centre lies in development of space borne and air borne instruments/payloads and their applications for national development and societal benefits. These applications are in diverse areas and primarily meet the communication, navigation and remote sensing needs of the country. Besides these, the centre also contributes significantly in scientific and planetary missions of ISRO the Chandrayan-1, Mars orbiter Mission, etc.

The communication transponders developed at this centre for Indian National Satellite (INSAT) and Geo Synchronous Satellite (GSAT) series of satellites are used by government and private sector for VSAT, DTH, internet, broadcasting, telephony etc. These satellites are instrumental in reaching remote parts of the country. The payloads for major navigation systems of the country - Indian Regional Navigation Satellite System (IRNSS) and GPS Aided Geo Augmented Navigation (GAGAN) are being developed by this centre.

This centre designs and develops the optical and microware sensors for the satellites, signal and image processing software, GIS software and many applications for Earth Observation (EO) programme of ISRO. These applications are in diverse areas of Geosciences, Agriculture, Environment and Climate Change, Physical Oceanography, Biological Oceanography, Atmosphere, Cryosphere, Hydrosphere, etc.

The facilities at SAC includes highly sophisticated payload integration laboratories, electronic and mechanical fabrication facilities, environmental test facilities, systems reliability/assurance group, image processing and analysis facilities, project management support group and a well-stocked library. SAC has active collaborations with industry, academia, national and international institutes for research and development. The centre also has state-of-art in-house and mobile exhibitions to propagate space technology and applications amongst students and public.

The Centre also conducts nine-month post graduate diploma courses for students from the Asia Pacific region under the aegis of the Centre for Space Science and Technology Education (CSSTEAP) in satellite meteorology and communication.

Visit Outcome:

The Vikram Sarabhai Space Exhibition (VSSE) is a permanent, free "mini-ISRO" museum at ISRO's Space Applications Centre in Ahmedabad. It is explicitly designed for public and student outreach: SAC notes it is kept open "for general public and in particular for student community to increase awareness about space programme of ISRO/DOS". The Gujarat Tourism website likewise describes VSSE as a "kid-friendly" center that "encourages children to see the progress of Indian space programmes", with interactive exhibits (labs, workshops, models) to engage young minds. In practice the exhibit draws a large audience (tourism listings cite on the order of millions of visits) and hosts hundreds of school and college groups annually. Key outcomes reported include:

- **Open-access engagement:** VSSE is free and open to all, drawing visitors from school children to families. By situating the exhibit on SAC grounds without entry fees or restrictions, ISRO maximizes public exposure to its activities.
- **Interactive learning environment:** The exhibition uses hands-on models, multimedia presentations and a 3D theater to explain satellites, rockets and space missions. Visitors "get a glimpse of entire range of ISRO activities," and participatory displays (rocket models, simulators, etc.) make complex science tangible.
- **Student-focused outreach:** A central goal is to **"ignite park of interest in space science & technology among students."** Official reports on school visits emphasize that VSSE is meant to make young people aware and interested in scientific pursuits and in India's space achievements. In practice, teachers note that students often emerge "thoroughly enjoying" the visit and "enriched with knowledge", indicating strong educational impact.

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- **Alignment with ISRO outreach:** VSSE's objectives explicitly include *"creating awareness on basic space technologies & applications"* and *"inculcating scientific temper in young minds"*vpscience.org. These aims directly serve ISRO's broader outreach mandate – for example, the national Space Department's outreach office aims to "stoke curiosity of the younger ones in space science, technology and applications". By inspiring students and illustrating real-world space projects, the exhibition helps further ISRO's goal of building a scientifically literate public.

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