IIT Hyderabad - A Modern and Sustainable Academic Campus

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IITH campus built on ~600 acres is designed to eventually accommodate a total population of 30,000, including 20,000 students, with a total built-up area of 2.1 million square meters. The campus master plan was developed based on the concepts of conservation and sustainability, energy-efficient and green urban framework with 60% greenery. The campus consists of an academic area, a residential area for students, a residential area for faculty and staff and other support facilities. The campus is planned to grow in phases with a corresponding increase in the physical infrastructure and support facilities to accommodate an increase in the number of students in established programs and new programs of the future.

The IITH campus is envisioned as a self-contained township based on sustainable development and living concepts. IITH has a unique relationship with Japan, with JICA supporting the infrastructure development at IITH and strong collaboration with Japanese universities and industry through the FRIENDSHIP program. We will be soon completing the Phase-II construction activities which are supported by the Japan International Cooperation Agency (JICA). In addition, Phase III construction is planned to accommodate additional student hostels, faculty and staff housing using precast technology and is expected to be completed within six months. Additional hostels for about 1000 boarders are under construction using complete precast technology.

IITH offers independent living spaces with natural ventilation and diffused lighting in hostels. It boasts of a radiant cooling system for students to explore themselves, still providing a lot of interaction spaces in the hostel living and academic zones.

Convention Centre

The convention centre is ground plus a three-storey structure. It consists of five towers with large auditorium and halls of several sizes to accommodate parallel sessions. The convention centre is designed to host international conferences and seminars. The Convention Center has primarily fair-faced exposed concrete buildings. It has a nice open courtyard with a Japanese Garden and a tensile fabric roof structure to provide sunscreen.

Knowledge Resource Centre

The Knowledge Resource Centre is a ground plus three-storey structure. It was modelled as a library with a large digital collection, multimedia rooms and digital archives. Complex roof construction consisting of a central square surrounded by four hyperbolic paraboloid shell roofs. The façade includes dry-stone cladding up to 11.00 m with a combination of exposed and plaster surfaces. It has fair-faced exposed concrete parabolic arches of various heights and widths at multiple locations.

The academic zone is a crucible of interdisciplinary research to promote a sense of excellence and inspire inventions and innovations. We have recently added nine more academic blocks in Phase II construction from the three academic blocks in Phase I construction. A state-of-the-art Knowledge Centre (library), Research Centre Complex, Lecture Hall Complex with an 800-seater capacity hall, Technology Incubation Park, and Sports and Cultural Complex with international standards are some of the highlights of the Phase-II development.

IITH is a sustainable campus with a comprehensive wastewater and solid waste management system. From banning the usage of paper cups, replacing packed water with UV water dispensers, setting up waste segregation and recovery facilities, bio-digester, and sewage treatment plants to growing more than 15000 trees in the last 2 years, IITH has considerably reduced its carbon footprint. We are making every effort to turn our campus into a green and sustainable habitat. All the buildings are designed to meet GRIHA Green Buildings rating 4 and are made energy efficient by using performance double-glazed units for the windows and façade, by using occupancy sensors to save energy, and by ensuring sufficient daylight in all the rooms.

In summary, our construction and management division is putting its best effort into providing world-class facilities and infrastructure. I am sure our campus will be one of the most liveable, vibrant, and dynamic campuses with international standards in India. The following buildings will be soon completed and inaugurated and some salient features in these buildings are listed here.

Hostels

The residential campus for students supplemented by indoor and outdoor sports activities and common pavilions for recreation is embedded in the planning of our campus. Each hostel building is a ground plus 10-storey structure. Each building of 316 capacity consists of four clusters on one level and is provided with four extra-sized rooms. Each cluster includes eight single bedrooms with shared toilets and a common sitting area. The building design includes several unique features. The Façade is characterized by vertical fins with standing performance and more privacy. Fin angles are with two modes to reduce solar impact. The radiant cooling system is used for efficient power consumption. Solar photovoltaics are fitted at the top to generate renewable energy.

Sports and Cultural Complex

SNCC is a ground plus one-storey facility. It includes a main arena, swimming pool, outdoor theatre, and cultural facilities. It comprises indoor sports courts, locker rooms, indoor games facilities and external development of track, athletic field with soccer field and basketball court. It boasts of a complex roof construction with doubly curved concrete shell roof up to a 45-meter span, one of longest in IIT system.

Lecture Hall Complex

The lecture hall complex is located centrally on the campus and has 15 lecture halls of various seating capacities planned on two levels. The lower floor has a seating capacity of 2086 students, and the upper floor has been designed to accommodate 1254 students. The lower floor consists of (1) one 800-seater hall, one 400-seater hall, two 200-seater halls, two 120-seater halls and two 72-seater halls. The upper floor consists of 7 Lecture halls: one 400-seater hall, two 200-seater halls, two 120-seater halls, and two 72-seater halls. It consists of an 800-seater amphitheatre, a standalone theatre, and a large student hall.

Academic Quadrant (AD2)

Academic Quadrant consists of buildings for three departments, namely Physics, Mathematics and Liberal Arts. This quadrant is designed to have a complete mix of labs, classrooms and faculty rooms. The physics department consists of two wings: left and right wing. The right-wing consists of G+4, which consists of labs, and the left-wing consists of the office block ground +4 structure, which mainly consists of faculty offices. The landscape around the building is provided with Tandoor flooring, pebble beds and plantings. It consists of murals and lobbies with anti-skid vitrified tiles.

Academic Quadrant (AD1)

The electrical engineering building is jointly located with the computer science engineering. The complex is a mix of Labs, classrooms, and Faculty rooms. The complex is mainly divided into two parts. The larger block is a ground plus four-storey structure comprising labs and office blocks. The next block majorly comprises faculty rooms. The ground floor consists of seminar rooms for 150 students. The lobbies of antiskid flooring, classrooms, and slabs of concrete flooring. The Landscape around the building was provided with tandoor flooring, fixed landscape seating, pebble beds and planters.

Dinning Facility

IITH has a common dining facility for its Students, Staff, and Faculty. Both North Indian and South Indian varieties are served in the dining hall. New dining hall designed for 2000 students. It has two floors, with a simultaneous dining capacity of 500 on each floor. It also has state-of-the-art facilities meeting the needs of modern cooking. Structural features include fair-faced concrete. It has a large column-free space that enables an open ambience.

Core Labs

Core laboratories are large-scale labs with the capacity to conduct large-size laboratory classes. It is designed to accommodate lab courses of 1st year BTech students who take core labs to learn core science and engineering labs. These laboratories are designed to cater to the needs of the students in the relevant areas of teaching, irrespective of the departments. These large labs are designed to accommodate the core labs in physics, chemistry, computer science, engineering graphics, etc. It's a ground-plus two-floor structure with an area of 2805 square meters.

Department of Design Building

The DOD building designed to provide a vibrant environment for learning, practising, research, and exploring several facets of design. DOD building is designed to have state-of-the-art technology labs and facilities such as Photography Studio, Animation Studio, Clay Studio, Wood & Metal Workshop, Printing Lab, IT Labs, 3D Printing Facility, Book Binding, Silk Screen Printing, and a library. The landscape around the building is provided with Tandoor flooring, pebble beds and plantings.

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