

SCHOOL OF DESIGN AND INNOVATION

A THESIS

Submitted in partial fulfillment of the requirements for the award of

Bachelor of Architecture degree

By

SUBHASHREE T

(37210038)



**DEPARTMENT OF ARCHITECTURE
SCHOOL OF BUILDING AND ENVIRONMENT**

SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY) Accredited

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**JEPPIAAR NAGAR, RAJIV GANDHI
SALAI, CHENNAI - 600 119**

NOVEMBER 2021



DEPARTMENT OF ARCHITECTURE

BONAFIDE CERTIFICATE

This is to certify that this Thesis Report is the bonafide work of Subhashree.T (37210038) who carried out the Thesis entitled "School of design and innovation" under our supervision from July 2021 to November 2021.

Internal Guide

Ar.Sukirtha Suresh

Internal Review Member

Ar.SuryaRajkumar

External Guide

Ar.Kishore Panikkar

A handwritten signature in blue ink, appearing to read "Devyani", is positioned above the title of the Dean.

Dean and Head of the Department

Dr. DEVYANI GANGOPADHYAY

Submitted for Viva voce Examination held on 08/12/2021

Internal Examiner

Dr.R.Arulmalar

External Examiner

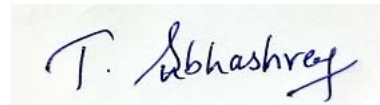
Ar.Ananya Burman

DECLARATION

I, **Subhashree**.Thereby declare that the Thesis Report entitled “**School of design and innovation**” done by me under the guidance of **Ar.Sukirtha Suresh**(Internal Guide), **Ar.SuryaRajkumar**(Internal Review Member) and **Ar.Kishore Panikkar** (External Guide) Sathyabama Institute of Science and Technology is submitted in partial fulfillment of the requirements for the award of Bachelor of Architecture Degree.

DATE: 06/12/2021

PLACE: Chennai

A handwritten signature in blue ink, reading "T. Subhashree", is written on a light green rectangular background.

SIGNATURE OF THECANDIDATE

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THESIS SYNOPSIS

The school of design and innovation acts as a platform that helps in the generation of new ideas and innovation of sustainable products. This school acts as a podium for new realities which result from the process of creativity and innovation. This Design school focuses on fostering and stimulating creative minds through an innovative learning environment. The students will be able to understand through research, teaching, and practice which helps in evaluating and to bring about advances in knowledge and culture.

Each state of India is diverse, they are rich in history, culture, and religion. And the design aspects of each of these Indian states reflect the influence of different cultures, traditions, and values, thereby finally influencing the design itself. Hence the main design intent of the project is to create a design school that is inspired by multiple elements and features of the indigenous art and architecture of Tamil Nadu in a contemporary form.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Design is both the process and the product of transforming visions and ideas into a dimensional reality. Practically design resides in anything and everything that we use and

perceives including the products we use daily the space that we live in and the streets that we walk on. Unlike the other fields of education, design can only be understood and developed through a continuous process of learning and research. Design acts as a creative and technical solution to a problem or a requirement. The design does not exist just in the looks but also in how it functions.

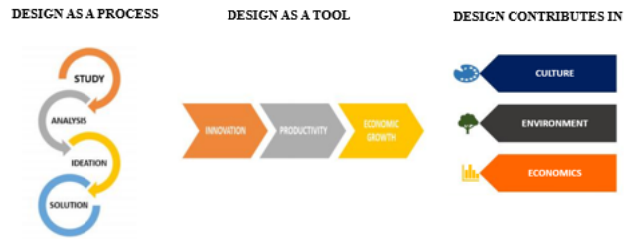


Fig 1.1 : What is design?

1.1.1 Evolution of design in India

The Art and Architecture of India are diverse, rich in history and religion. The aesthetics of each state in India portrays the influence of different Kingdoms and empires. Throughout centuries, crafts have been set and focused on as a culture and tradition within rural communities. Hence they act as a constant source of inspiration for contemporary designers and artists. In ancient India, people lived in colonies and they designed and innovated utility items for their daily needs. This created the base for design ideologies and illustrations, which we further tend to recognize as Indian. These crafts can be diversified into local designs and styles belonging to each state of India. One thing which acts as the driving force in all forms of the craft was the portrayal of the skill of the Indian craftsman and carried forward the local Indian essence. At the initial stages, Indian handicrafts and

designs were solely done and made to utilize them for their daily activities and needs, each craft item had a unique purpose behind its creation. Where today the very same items are viewed as products used to improve aesthetics, as decorative pieces, as these items have lost purpose and need in face of modern technological products. Historically, India has been at the forefront of crafts and innovation and is one of those few cultures which has managed to sustain on this planet for over a thousand years. From the time of the Vedas, there has been a conscious attempt to channelize the forces, to establish a better living for the masses. Another brilliant achievement was that this knowledge was spread to the people in the form of religion and culture – a language that people understood very well. Even the individual attention to the minutest of detail was recorded and was followed by observations, its actions and implication were studied and were decoded in an organized manner.

At a later stage in India's story, the further development in design and art practices continued through the works of connoisseurs of crafts. This period was less focused on its impact on the people but tried to focus more on establishing an identity of itself. However, this period stands as validation of the innate skill and ability of the Indian designer, which has proven itself time throughout history. The Indian design field faced a major setback due to colonization of the land by foreigners, but it is still commendable to observe that it has lived past the foreign influence and brutality. For their benefit, the British constructively decimated the local Indian crafts system, to ensure the success of their machine-based industrial society. The adaptation from craft to modern industries was never really complete as denied the local needs of the population. Hence, we have reached a point where we have a vast historical background, that acts as a driving force to progress in this rapidly growing mechanical world.

Although India has amicably entered the field of a globalized business, it is reasonable to quote that this has happened at price. The foreign agents usually try to export their designs to the Indian market, with severe restrictions and eventually diminish the scope for design development in India itself. This situation coupled

along with the low interest of the government and general public ultimately tends to erode the identity of Indian designers year after year.

Even though there have always been several exceptional achievements in the design field in India, and yet we are still far behind. A greater cause of concern in the design field of India currently is the falling interest of youth in this sector alongwith local opportunities restraining the interested people from denying the chance to contribute to this field. And also another major concern is the disconnected growth of the education sector from the design industry. An imbalance exists between the Indian-based educational institutes and the Indian design industry where most of the ideas are imported and only the replication process happens at a local level.

1.1.2Design School

A design school acts as a platform that helps in the generation of new ideas and innovation of sustainable products.This school acts as a podium for new realities which result from the process of creativity and innovation.This Design school focuses on fostering and stimulating creative minds through a passive and sustainable learning environment. The students will be able to understand through research, teaching, and practice which helps in evaluating and to bring about advances in knowledge and culture. Various design disciplines in a design school can be opted based on the student's interest.

1.1.3Design Disciplines

Automobile Design

Automobile designers tend to learn and combine knowledge of physics with aesthetics to create cars that fascinate the viewers while being safe, energy-efficient, and fun to drive. Automotive design is a competitive career that tends to intrigue many who love cars, trucks, and vans, but it is also a careerthat requires high-level talent to train for and to practice. The students with an interest in motor

vehicles and the desire to turn the dream automobile designs into reality on the road tend to take up this career. With the rapid growth in the Automobile design sector, indigenous development in this sector will be very beneficial for the industry.

Product Design

All the products are a part of our immediate surroundings, our living spaces, and our culture. Product design is the creation of objects of utilitarian value and purpose to people. Products usually function as a part of larger systems, and the product designer's role is constantly growing as they intended to understand the larger implications of products and the relationships with users. Any product that is designed would always have a greater purpose and need for its creation. Product design in itself is a very vast field and has various other types of product design career opportunities, such as glass design, furniture design, jewellery design, ceramic design, and much more.

Glassand Ceramic Design

Glass is a very dynamic material with limitless possibilities and an astonishing amount of impact in the worlds of art and design. Understanding this material requires Knowledge and skill development in glass blowing, mold making, casting, and cold working. Glass has numerous amounts of applications for the requirements such as building facades, partitions, garden curtains, jewellery, etc. Glass Design usually takes inspiration from art and craft traditions, as well as modern techniques of mass production.

Ceramic Design tends to explore and challenge the versatility of clay both as a creative and functional material. Ceramic is a material that is universal and unique, sustainable and enduring, whilst also being both one of the oldest and newest technologies. Its classic characteristics allow for the development of a wide range of products and future contexts.

Designers take their knowledge of the material into an ever-increasing range of careers from ceramic practice to create and innovate a new range of products.

Furniture Design

Furniture has always been a major part of the environment by providing us with comfort and aesthetics. The furniture around us tends to become extensions of our bodies and it directly affects the quality of life. Through sensitive design and innovation, furniture can cater to a variety of human needs such as those of the elderly, children, and differently-abled people.

Graphic and Animation Design

The art of visual storytelling has always been a part of human culture since the beginning of civilization. Animation is one of the many ways in which we tell our stories and communicate with others. Animation is a powerful medium that elevates communication and expression. India is a player in the international framework of animation production and it is still a newly born and developing industry. India does not have any substantial animation history but still, it has the potential animation culture which is still unnurtured. It is a very important time that it develops through learning and practice that is informed by an indigenous sensibility.

Graphic design is created medium to convey a piece of specific information to the targeted audience. Graphic designers tend to use various methods and techniques to create and combine words, symbols, and images to create a visual representation of ideas and messages that tries to communicate with the viewers. Common uses of graphic design include identities such as logos and branding, publications such as magazines, newspapers, and books, print advertisements, posters, billboards, website graphics and elements, signs, and product packaging. Graphic Design in a developing country with its varied cultural heritage has a vital role to play in national development as graphic design is something that expresses itself.

Photography Design

Photographs are something that fascinates everyone and can be taken by anyone, but not everyone is a photographer. It takes an artistic eye, a certain passion, and well-learned technical skills to develop into professional photography. Photography designers usually tend to possess and acquire technical skills and experience to communicate conceptual and creative visions through the medium of photography. Photography has a rich past and a rapidly changing future with the increase in digital photography. Areas of photo imaging that require work and techniques include fashion, sport, wedding, portrait, social, photojournalism, magazine and freelance, landscape and architecture, food and other products, and advertising.

Film Design

The film is one of the exceptional mediums, which is the closest to reality, and it tends and tries to mirror every aspect of the human experience. Film-making is telling a story through moving pictures. Film designers have one of the major creative roles in the creation of motion pictures and television that creates and major impact on the people. Working directly with the director and producer, they must select the settings, background, and style to visually tell the story. India is a country that is rich in living traditions, heritage, and stories and provides a vast live laboratory for film designers.

Fashion Design

Fashion design is the art of applying design and aesthetics into clothing construction and natural beauty to clothing and its accessories. Fashion has always been influenced by culture and different trends which eventually change with time. Hence this field has varied over time and place. A fashion designer is trained to create clothing, including dresses, suits, pants, and skirts, and accessories like shoes and handbags, for consumers. A fashion designer can specialize in clothing, accessory, or jewelry design, or may work in more than one of these design areas.

Fashion designers are responsible for creating and innovation looks for individual garments, involving shape, color, fabric, trimming, and more. Their talent, vision,

and practice play an enormous role in how people present themselves. Fashion designers influence society through the way they choose to express themselves.

1.1.4 Temple architecture of Tamil Nadu

Architecture in Tamil Nadu has been constantly evolving in structure and ornamentation for the last fourteen centuries. There are five stages in the evolution of Tamil Nadu's architectural style.

- The Pallavas and Pandiyar cave temples of the seventh century.
- The Pallavar and Pandiyar structural Temple.
- The single central towered Chola type.
- The Pandiyar massive-entrance tower type.
- Modern style incorporating the Vijayanagar invasions.



Fig 1.2 : Mamallapuram rock cut architecture

Tamil Nadu is famous for its rock-cut architecture. It is seen widely in Tamil Nadu, especially, the Shore Temple Mamallapuram of Kancheepuram district. The features Of Tamil Nadu's temple architecture have always included pillared mandapa's, Nandi the standing guard which faces the sanctum, a water body, and a peepal tree. Mahabalipuram is a memorial by the Pallava Kings to increase their sea trade and as a symbol of their victory over king Chalukya Pulakesin II. This place portrays their reign. Hence it stands as an icon of art and architecture to early Dravidian style architecture. Mahabalipuram's monuments serve as a fusion of religious culture and heritage. These structures are expressions through rocks, on a grand scale, which integrates nature and sculptures. The group of monuments in Mahabalipuram is categorized into,

- Structural temples Rathas (chariot shaped temples)
- Mandapas (cave temples)
- Rock reliefs, and
- Excavations

Phases in Dravidian Architecture

Pallava style 600 AD – 900AD It included all the rock-cut and structural temples. Dravidian style of architecture involved a marked evolution in the planning of the temple and the architectural treatment.

2 nd phase of Pallava architecture – 690-900 AD.

Elements of Temple Architecture

The temple is considered to be the main focal point of the community, the center of energy. The heart of the temple is the dark hall called the Garbhagriha, the most important icon is placed here hence creating the core of the temple. Pillared halls called the mandapas were added to the Garbhagriha, which are surmounted by a tower called the Sikhara (Center of the universe).

The Shore Temple Mahabalipuram

Shore temple is one of the oldest temples built in South India and it is the first one to be constructed in Mahabalipuram. Unlike the other structures, the shore temple is not directly carved from the rock but it was built of dressed stone blocks through the stone is local granite. This temple was constructed by Narasimha Varma II Rajasimha in 700 AD. Dressed granite was used for the construction. The temple was constructed with the intention of the cella facing towards the east so that the first rays of the sun would illuminate the shrine of the shore temple which is located near the shore of Mamallapuram. This concept has allowed for a different arrangement of the parts in the layout.

The Planning

The cella is placed to face the east side. A massive wall enclosure surrounds the central structure with the entry provided on the western side of the courtyard. This layout was further complicated by the addition of 2 more shrines added asymmetrically on the west. These two supplementary towers converted the shore temple into a double towered structure. The temple is vertically accentuated

with a slender monolithic Stupi on top of the Vimana. The structure seems to be a development of the Rathas with a difference in treatment of structure.

The Details

The temple has a square lower tower and a pyramidal tower with diminishing tiers above. The rhythmic, buoyant composition of the structure gives the temple a lightness and soaring quality. There is an appearance of a pilaster-rampant lion as a relief found wherever a structural form with an ornament was needed. There is a liar pillar with the Dravidian capital which projects at every angle and is also introduced at intervals around the lower part of the entire structure.

The Enclosure

The temple is surrounded by a parapet wall coping with figures of kneeling bulls. The exterior walls have bold projecting lion pilasters on them. The entrance into the temple is achieved through a richly ornamented doorway on the western side. There is a presence of a rectangular mandapa whose foundations remain.

The Pacha PandavaRathas

These monuments and structures are dedicated to the PanchaPandavas of the Mahabalipuram epic which are carved of rocks and represent the wheel-less chariots. The original purpose of these monuments is unknown as the interiors are incomplete. These structures acted as a prototype for later temples.

1.2 NEED OF THE PROJECT

1.2.1 Design can be used as a key to developing the Economy

Design plays a very important role in identifying alternatives and in innovating sustainable products. Design can satisfy the local cultural and social needs of the population. Design contributes significantly to our culture, environment, and economy. Design can stimulate the

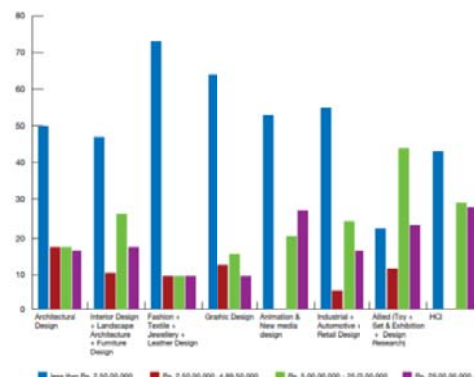


Fig 1.3 : Turnover of design industry in India

developing countries from technology stagnation. Design can create more employment opportunities. The technologies around the world keep evolving, hence the design talents of the country are essential to absorb the new technologies and to make them adapt to the local conditions for manufacture.

As per the graphical data analysis from the Indian design report the major concentration of design companies has happened in four urban areas such as Mumbai, Delhi, Pune, and Bangalore. All these urban areas are industrially active and are the home majority of well-known Indian companies. The main reason for the concentration of design companies in these regions is the presence of leading design educational institutions. On the other hand in South India, there are very few design institutions that offer diploma courses and certificates.

1.2.2 Statistics of designers in various design disciplines

There is also tremendous growth in the Animation and fashion industries in India as there is an increase in the number of institutions offering diploma courses and

certificates.

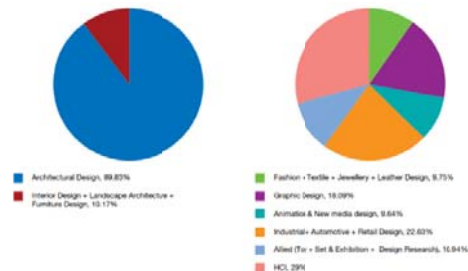


Fig 1.4 : Statistics of designers in various disciplines

1.2.3 The Make in India (Design movement)

It is an initiative that was launched globally in September 2014 as a part of the government of India's renewed focus on stimulating the country's manufacturing sector. It states that design is an integral part of manufacturing therefore making in India is not just manufacturing but also



Fig 1.5 : Make in India

design in India. This initiative focuses to fulfill the purpose of job creation, Enforcement to secondary and tertiary sectors, boosting the national economy converting India into a self-reliant country, and giving the Indian economy global recognition. MNC's are not just outsourcing low-end design or product development work in India, In the last few years, more than 1000 R&D labs have been set up in India to develop better products for the worldwide audience.

1.2.4The need for design school in Chennai

Chennai comes under the list of a large commercial sector but has a very less percentage of design hubs. Because in these the importance and awareness of design education are neglected. These regions have very few Design institutions that provide proper design courses and certificates. The scant presence of these Institutions has led to the least preference of design as a career choice.

Chennai is the largest industrial and commercial Centre of South India. From Madras to Chennai, this city has historically embraced diversified industries. The city is a hub for the manufacturing of automobiles and auto components, engineering, textiles and garments, leather products, software, and IT-enabled services. The Tamil Nadu capital accounts for a third of India's auto parts production and 16 percent of its electronics hardware production.

1.3 AIM

To explore and create a coherent indigenous design school that functions as a single platform over which multidisciplinary aspects of design co-exist and interact.

1.4 OBJECTIVE

- To explore and understand the nature of a design school and provide a suitable creative environment.
- A creative environment that focuses on fostering and stimulating creative minds and the exchange of ideas.
- To create a design platform that is indigenous to its location and encourages,
 - Innovative design spaces
 - Collaborative open learning
 - Barrier-free environment

1.5 METHODOLOGY

- To study and understand the importance of design education and its functions in India.
- To explore and analyze various design school case studies.
- To identify a suitable site for the school of design and innovation.
- Formulating the design program and understanding the data standards.
- Development of design.

CHAPTER 2

LITERATURE CASE STUDIES

2.1 NATIONAL INSTITUTE OF DESIGN, AHMEDABAD

2.1.1 About project

Architect: Giraben Sarabhai and Charles Eames

Client: Ministry of Commerce and Industry

Location: Located in Paldi in the new city region on the west river bank of Sabarmati river, near the Sardar Patel Bridge, Ahmedabad.

Establishment Year: 1961

Site Area: 20 acres approx.

Built Up Area: 27,488 sq.m

Climate: It is hot and dry during summers and it is moderate during winters.

National Institute of Design was established in Ahmedabad in 1961 by the Government of India as an autonomous national institution for advanced training, research, and service in product design, visual communication, architecture, structure and planning, and allied fields. It is a non-profit organization and has received generous assistance from the Ford Foundation, Gujarat Government, Ahmedabad Municipal Corporation, and Industry. The expenditure for running the Institution is met from Government of India grants and professional design fees. NID is acclaimed as one of the finest education and Research Institution for Industrial, communication, textiles, IT integrated design.

2.1.2 Site connectivity

St bus stand – 3km

Railway station – 4km

Sardar Vallabhai International Airport – 13.2km



Fig 2.1 : Site connectivity

2.1.3 Site accessibility

The institute can be approached through two main entries.

1 st entry: To access the institute

2 nd entry: To access

3 rd entry: Emergency exit The institute does not have any entry along the main road since it is a heavy traffic zone. From the main entry, the façade of the campus is completely hidden behind the thick foliage.

2.1.4 Site surroundings

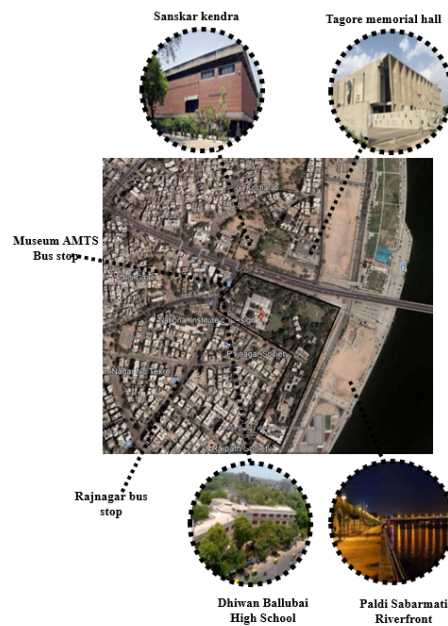


Fig 2.2 : Site Surroundings

2.1.5 Site plan, Zoning, and site activities

The zoning of the site has been achieved by creating a hierarchy of spaces starting from the main entrance zone.

- Interaction zone
- Educational zone Recreational zone



Fig 2.3 : Site zoning

- Residential zone

The educational zone has been located next to the main entrance for easy access and to prevent disturbance of other zones. The site is sloping towards the Sabarmati river.

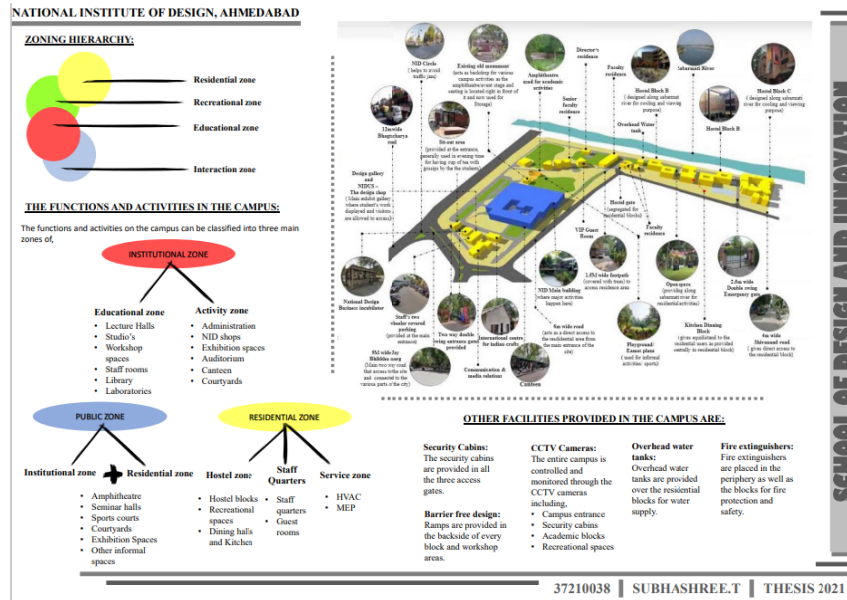


Plate 2.1 : Functions and activities on the campus

2.1.6Planning

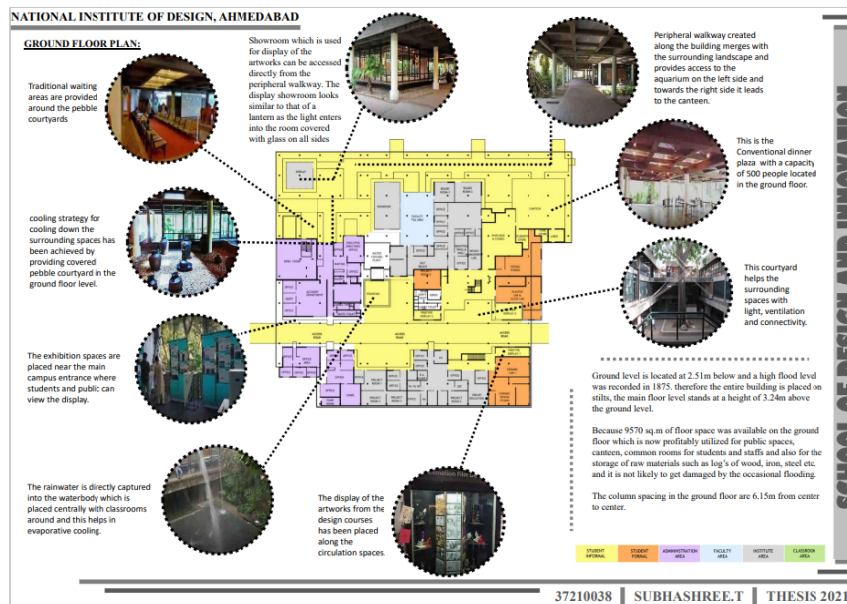
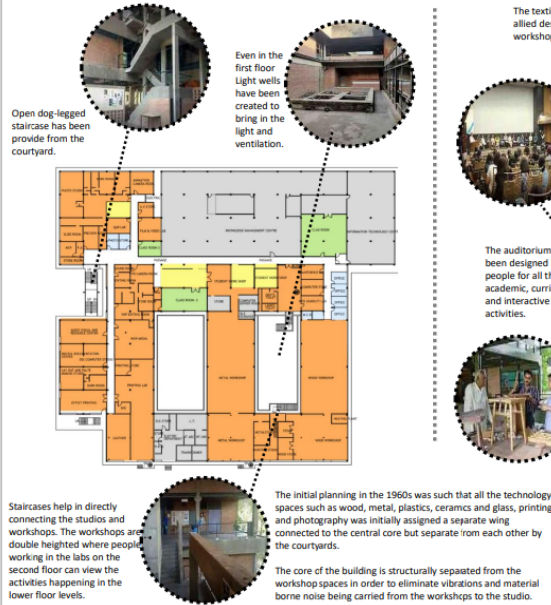
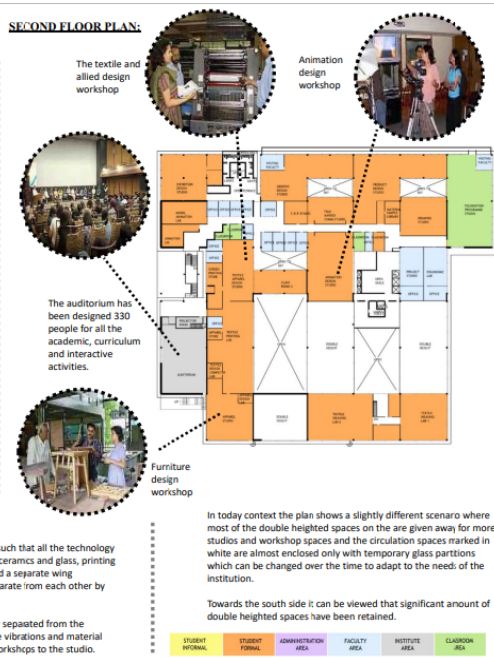


Plate 2.2 :Ground floor plan

FIRST FLOOR PLAN:



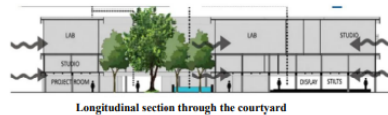
SECOND FLOOR PLAN:



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Plate 2.3 : First and second floor planning

2.1.7 Design features



CIRCULATION AT SITE LEVEL:

- The visitors vehicular movement is restricted at the main entrance itself.
- But vehicular movement is possible from the academic zone to the residential zone and vice versa.
- More importance is given for the pedestrian movement.
- Service entries are provided for various workshop zones.

HORIZONTAL CIRCULATION:

- The circulation movement pattern is developed around the courtyard spaces following a structural grid layout.
- The circulation space in the first and second floor is through a narrow passage way and this passage is a single height narrow linear space.
- Receding columns in perspective view can be experienced as we lead towards the canteen.

VERTICAL CIRCULATION:

Triple height staircases marked with platforms at different floor levels has been provided. Its major function is to formalize the entry into the auditorium located on the second floor. A second staircase has been placed in the rear most court which can be used as a secondary preference. Spiral staircases are provided as a means for connecting the studio spaces to the workshop spaces. The semi open space around the canopied roof of the double staircase is an excellent activity area where the students relax, interact and have some major source of exchange of ideas.

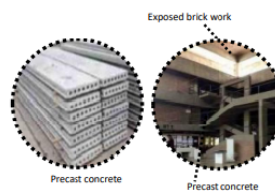
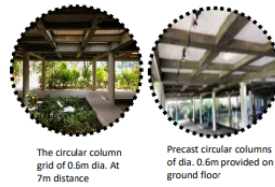
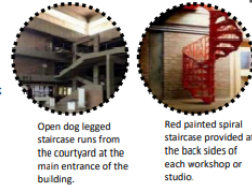
STRUCTURAL DETAILS:

The grid planning:

- The planning has been done in such a way that it achieves magnificent interconnections and spatial non hierarchy with the openness of the spatial organization.
- The openness of the planning symbolizes the expression of free planning.
- Complex modulations with partition walls has created maze with diverse experiences.
- The planning of the NID campus depicts varied spatial experiences with different spatial types such as open court with pathway, raised platforms, the colonnades facing the green spaces, multiple entrances, formal entrance court with brick shell, and the structural grid that holds everything together.

CONSTRUCTION TECHNIQUES:

Precast concrete is a construction product produced by casing concrete in a reusable mold which is then cured in a controlled environment, transported to the construction site. Precast concrete is used for the construction of structural framework filled with exposed brick work. The planning is done in a pattern of structural grid. Basic dimension of 1 grid is 6.15 x 6.15 sq.m or 12.3 x 12.3 sq.m. The external cladding is prefabricated and consists of heat resisting glass in metal frames in workshops and in rosewood frame in studios.



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Plate 2.4 : Design features

LIGHT AND VENTILATION:

- Since the campus is located in hot and dry climate of Ahmedabad, the building has been designed as a climate responsive building.
- The activities are so planned such that they spill over into inward looking spaces.
- The courtyards remain shaded for most part of the day, to allow the flow of light into the workshops, sliding panels have been installed which run from the height of the skirting to about 10' from the floor level.
- Pockets of vegetation blend with the structure on the exterior as well as interior. Large trees protect the building from surface glazing and courtyards from excessive heating.
- Winds from the riverside are captured in the studios and workshops from the terraces due to adjustable glazing.
- Features like water bodies with jalis are used to filter the cooled air flowing over the water and passes the cool air into the interiors.

SERVICES:

- A channel 5cm wide is maintained between the grid squares.
- Under floor electrical wiring is laid in these channels and filled with concrete.
- Changes in machinery layout can be made at anytime by simply removing the mass concrete in the channels and changing the under floor electric connections as and when necessary without any damage to the concrete flooring.
- Electric light fixtures are an integral part of the light weight overhead grid suspended from the roof beams. The fixtures have been so designed that additional tube lights can be fitted if greater illumination is required.
- Electric fans are also suspended from the overhead grid.
- The ducts for housing various services like water pipes, electric cables, ventilation and air conditioning are an integral part of the design of the building.

LANDSCAPE:

- The campus has been completely landscaped. Three platforms extend from the institute building in the lawn acting as built in sit outs.
- There is also an ancient monument and open air amphitheater having densely planted trees around it.
- Lawns act as interactive spaces.



Area around old monument is as a workshop space



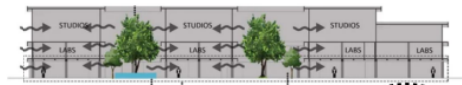
The entire campus is completely covered with vegetation and green belt



The fountain and waterbodies help promoting evaporative cooling



Open courts and shaded pathways



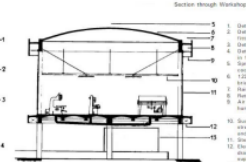
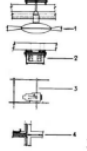
Toughened glass helps prevent from the penetration of direct sunlight



Light wells



Electrical wiring run through square grid



Section through Workshop



Plate 2.5 : Design features and landscape

2.1.8 Area analysis

Table 2.1 : Area analysis

NID AHMEDABAD		
SPACES	AREAS IN SQ.M	PERCENTAGE
TOTAL BUILT UP AREA	27,488	33%
CIRCULATION	10,096.99	12%
RECREATIONAL FACILITIES	10,480.42	13%
SERVICES	1985	2%
PARKING	8246.4	10%

2.1.9 Total institutional capacity

Total No. Of Ug Students:360 Students

Total No. Of Pg Students:550 Students

Total No Of Students: 910 Students

2.1.10 Courses offered in the campus

Table 2.2 : Courses offered in the campus

NID, AHMEDABAD		YEARS	INTAKE
S.NO	BACHELOR OF DESIGN		
1	ANIMATION FILM DESIGN	4	10
2	CERAMIC AND GLASS DESIGN	4	10
3	EXHIBITION DESIGN	4	10
4	FILM AND VIDEO COMMUNICATION	4	10
5	FURNITURE AND INTERIOR DESIGN	4	15
6	GRAPHIC DESIGN	4	15
7	PRODUCT DESIGN	4	15
8	TEXTILE DESIGN	4	15
	MASTERS OF DESIGN		
1	ANIMATION FILM DESIGN	2	15
2	CERAMIC AND GLASS DESIGN	2	10
3	APPAREL DESIGN	2	15
4	FILM AND VIDEO COMMUNICATION	2	15
5	FURNITURE AND INTERIOR DESIGN	2	15
6	GRAPHIC DESIGN	2	15
7	PRODUCT DESIGN	2	15
8	TEXTILE DESIGN	2	15
9	DIGITAL GAME DESIGN	2	15
10	INFORMATION DESIGN	2	15
11	INTERACTION DESIGN	2	15
12	LIFESTYLE ACCESSORY DESIGN	2	15
13	NEW MEDIA DESIGN	2	15
14	PHOTOGRAPHY DESIGN	2	15
15	STRATEGIC DESIGN MANAGEMENT	2	15
16	DESIGN FOR RETAIL EXPERIENCE	2	15
17	TOY AND GAME DESIGN	2	10
18	TRANSPORTATION AND AUTOMOBILE DESIGN	2	15
19	UNIVERSAL DESIGN	2	15

2.2 NATIONAL INSTITUTE OF DESIGN, GANDHINAGAR

2.2.1 About project

Architect: Sen Kapadia and Banker architects

Client: Ministry of Commerce and Industry

Location: Extension road near Info city, Gandhinagar

Establishment Year: 2004

Site Area: 16 acres

Built-Up Area: 11,600 sq.m

Climate: It is hot and dry during summers and moderate during winters.

Structure: RCC frame structure

The National Institute of Design, Gandhinagar is an extension campus of Ahmedabad, situated in the city of Gandhinagar.

It offers post-graduate courses in New media design, transportation and automobile design, Apparel design, Strategic design management, and Toy and game design.

This being relatively new, the structure is still subjected to many changes in the future according to the institute's space requirements.

2.2.2 Site connectivity

Gandhinagar bus stop – 500m

Gandhinagar railway station – 6.3km

Sardar Vallabhai International Airport – 15km

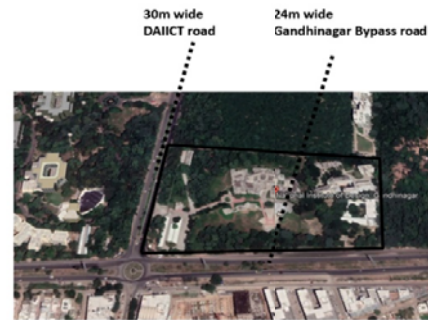


Fig 2.4 : Site connectivity

2.2.3 Site accessibility

The campus can be approached through two main entry gates,

The west gate:

West Gate is the proposed main entrance for the campus from the DAIICT road.

The south gate:

South gate leads towards the hostel and the faculty residences, which are now used as the main entrance to the campus from the Gandhinagar bypass road.

2.2.4 Site surroundings



Fig 2.5 : Site and surroundings

2.2.5 Site plan, zoning, and site activities



Fig 2.6 : Site plan

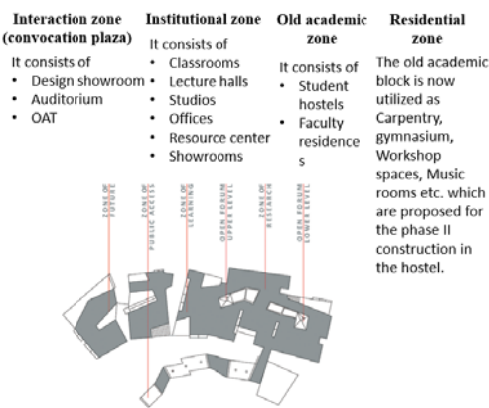


Fig 2.7: Zoning Hierarchy



Fig 2.8 : Activities on the site

2.2.6 Design concept

The campus takes inspiration from the organic river flow, where the main access road is assumed to be the river, and its tributaries are the pedestrian routes. The outer street has a series of landscaped and variable built forms, whereas the inner street will be the north-lit route with open spaces topped with shading

devices and fountains.



Fig 2.9 : Design concept

The internal street gives connectivity to the various academic blocks and is interspersed with courtyards and foyers for informal assemblies.

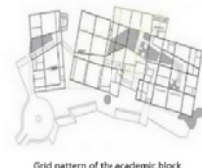
2.2.7 Planning

NATIONAL INSTITUTE OF DESIGN, GANDHINAGAR

PLANNING OF THE OLD CAMPUS:

- Landscape and natural forces try to orient the design towards creating a function driven voids for the students and academic norms, where the landscape becomes the backdrop to the campus.
- The massing of the building is spread like fragments appearing to open out their arms into the surrounding. The landscape then filters into the built fabric, appearing to be stitched into the sloping earth.
- The design accounts for the extreme climatic factors by adhering to passive solar architecture with natural daylighting and passive cooling. It is achieved through North-South orientation.

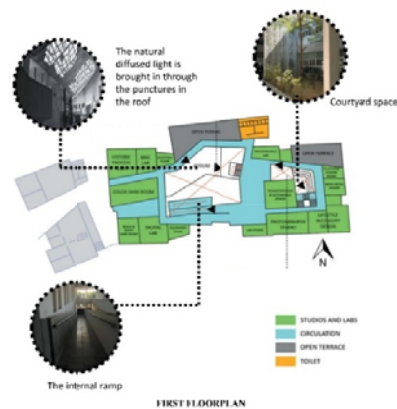
PLANNING OF THE INITIAL ACADEMIC BLOCK:



Grid pattern of the academic block



Academic block is designed based on cluster rooms interconnected and phase development

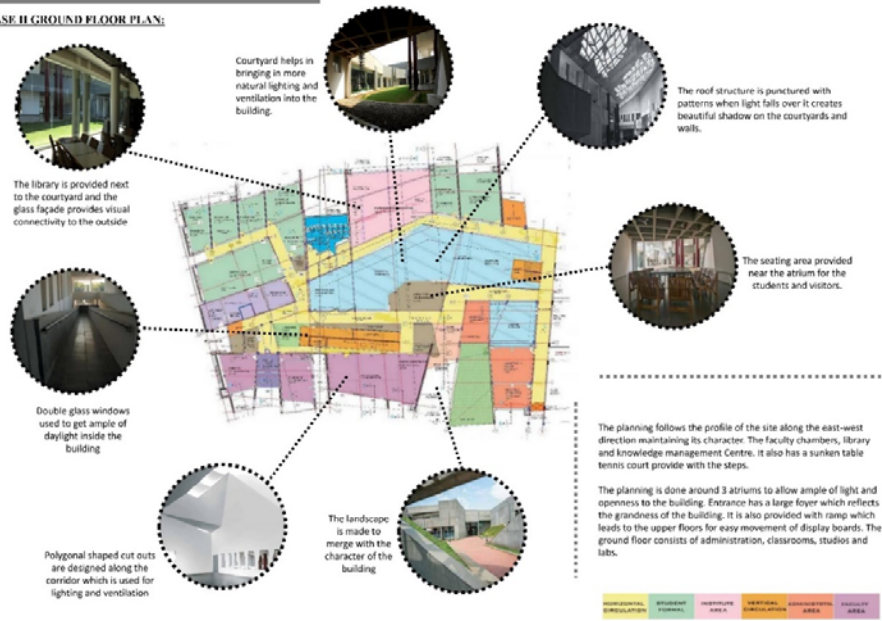


FIRST FLOOR PLAN

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Plate 2.6 : Planning of the initial academic block

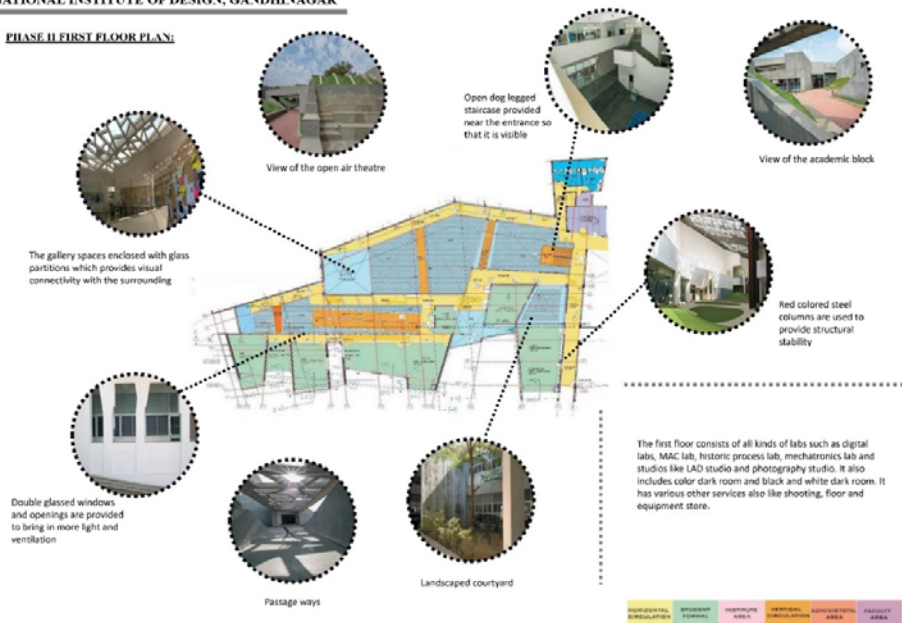
PHASE II GROUND FLOOR PLAN:



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Plate 2.7 : Phase-II ground floor plan

PHASE II FIRST FLOOR PLAN:



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Plate 2.8 : Phase-II first floor plan

MATERIALS USED:

- RCC Frame structure with steel columns are used and supports the Atrium roof.
- Stone grit kota chips finish is used in the outer façade of the building.
- Granite and marble flooring is used for the entrance foyer and circulation space.
- Plain cement floor finish is done for the classrooms and labs.

PARKING:

Sufficient 75 two wheeler parking is provided in total.
40 car parking is provided for the academic zone through west gate.
13 car parking is provided for the residential zone through the south gate.
In total the parking covers 30% of the total area.

FUTURE EXPANSION :

The vertical development of the academic building is not possible due to the structure of the roof provided. Therefore only horizontal expansion of the campus is possible.

DESIGN ELEMENTS :

COURTYARDS

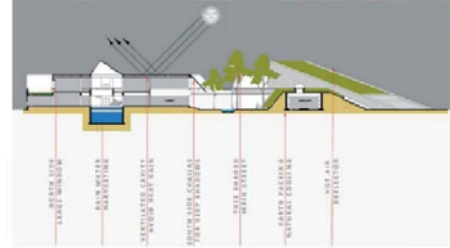
Two courtyards one large and one small. The large courtyard partially covered gives openness to the whole interior. The second courtyard rich in greenery gives the whole atmosphere a cool and open feeling.

RAMPS

Ramps help in the easy transportation of heavy goods, wheel chair, trolleys to the upper floor levels and makes it a barrier free design campus.

ROOF

The roof is punctured and as the light falls over it creates a pattern of light and shadow which falls over the courtyard. On the ceiling coffered slab is used and light fixtures are placed within the grids.



Schematic section of the academic block



Cross section through the open forum and ramp of the academic block

Plate 2.9 : Design elements

2.2.8 Area analysis

Table 2.3 : Area analysis

NID GANDHINAGAR		
SPACES	AREAS IN SQ.M	PERCENTAGE
TOTAL BUILT UP AREA	16,173	24%
CIRCULATION	9105.75	14%
RECREATIONAL FACILITIES	9712.8	15%
SERVICES	1821.15	3%
PARKING	4841.1	7.40%

2.2.9 Courses offered in the campus

Table 2.4 : Courses offered in the campus

S.NO	NID, GANDHINAGAR	YEARS	INTAKE
	MASTERS OF DESIGN		
1	APPAREL DESIGN	2	19
2	LIFESTYLE ACCESSORY DESIGN	2	19
3	NEW MEDIA DESIGN	2	19
4	PHOTOGRAPHY DESIGN	2	19
5	STRATEGIC DESIGN MANAGEMENT	2	19
6	TOY AND GAME DESIGN	2	12
7	TRANSPORTATION AND AUTOMOBILE DESIGN	2	19

2.2.10 Total institutional capacity

Total No. Of Pg Students: 252 Students

Total No Of Students: 252 Students

2.3 PEARL ACADEMY OF FASHION, JAIPUR

2.3.1 About project

Architect: Morphogenesis

Location: Extension road near Info city, Gandhinagar

Establishment Year: 2008

Site Area: 12,250 sq.m

Built-Up Area: 20,000 sq.m

Climate: It is a hot and dry, desert type climate

The main objective of this design was to create an environmentally responsive passive habitat. Radical architecture is practiced, it is a fusion of the rich traditional building knowledge bank and a cutting edge contemporary architecture.

This institute ranks third in the top 10 fashion design institutes of India.

The institute is an exemplar of Inclusive architecture, in which it tries to incorporate all the heritage values while positioning it within the contemporary cultural and heritage paradigm.

2.3.2 Site connectivity

Kukas industrial area R2C0 bus stop – 1.1m

Badi Chaupar subway Metro station – 17km

Jaipur International Airport – 29km

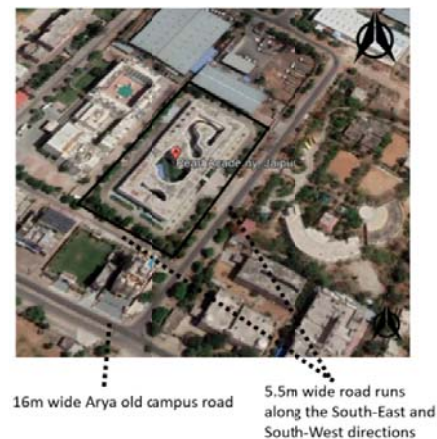


Fig 2.10 : Site connectivity

2.3.3 Site accessibility

The Academy can be approached through two entry gates.

The South-East gate:

This gate serves as the main entrance gate for the academy

The South-West gate:

This gate is used for services and other emergency purposes.

2.3.4 Site Surroundings



Fig 2.11 : Site surroundings

2.3.5 Site plan, zoning, and site activities

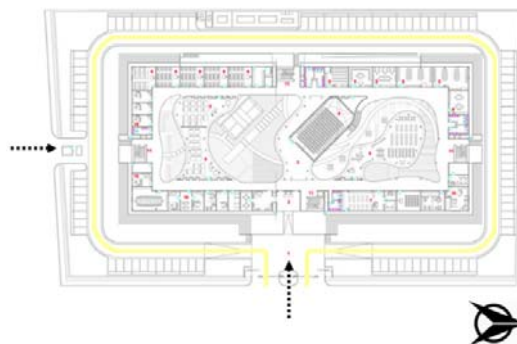


Fig 2.12 : Site Plan

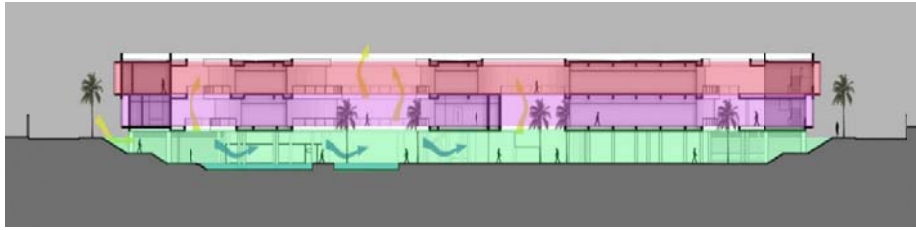


Fig 2.13 : Zonning Hierarchy

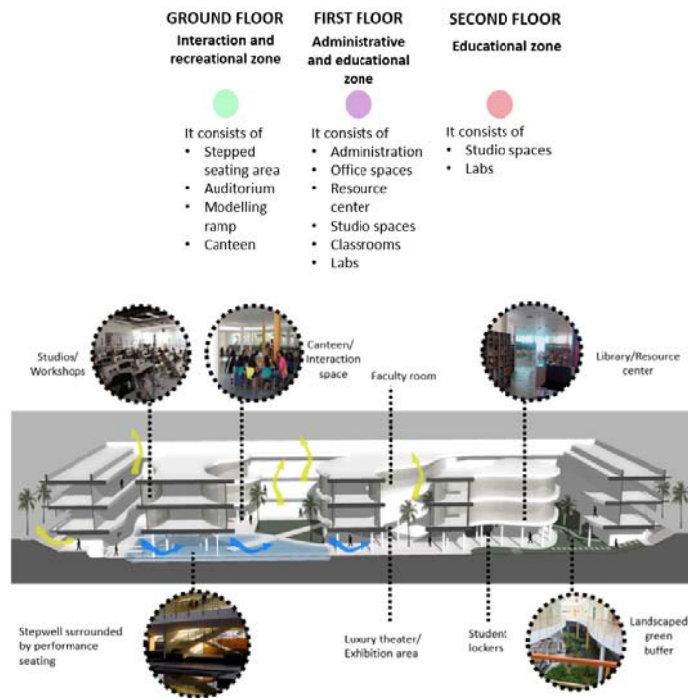


Fig 2.14 : Activities on the site

2.3.6 Design concepts

- Habitability
- Interaction spaces
- Aesthetically stimulating environment

Since the institute is located in the hot and dry desert climate of Rajasthan, there is a need to fulfill the habitability of the institute while keeping it aesthetically engaging.

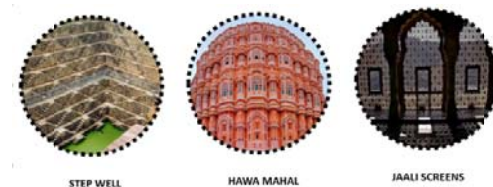


Fig 2.15 : Design concept

The main objective of this design was to create an environmentally responsive passive habitat. Radical architecture is practiced, it is a fusion of the rich traditional building knowledge bank and a cutting edge contemporary architecture.

2.3.7 Planning

PEARL ACADEMY OF FASHION, JAIPUR

GROUND FLOOR PLANNING OF THE ACADEMY

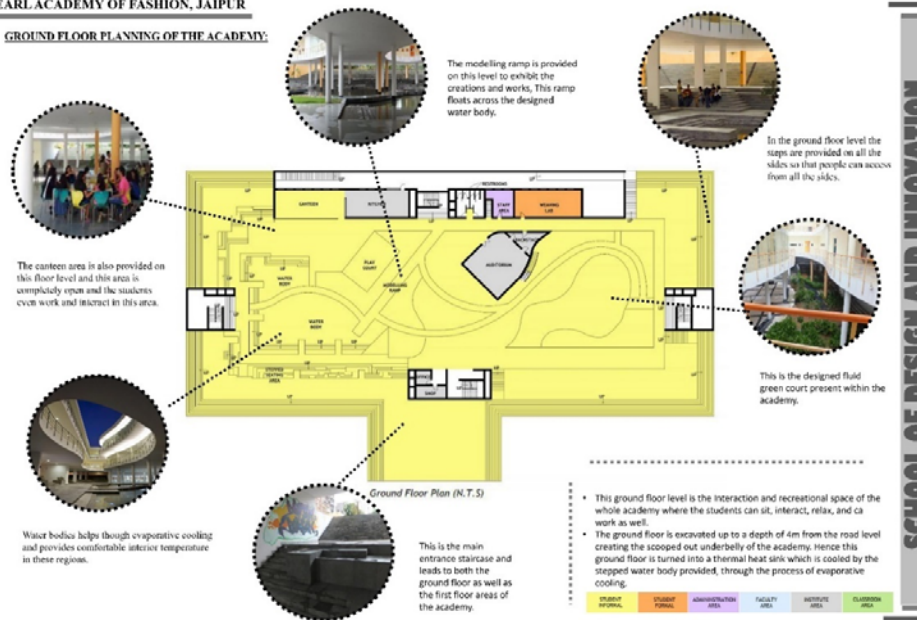


Plate 2.10 : Ground floor plan

PEARL ACADEMY OF FASHION, JAIPUR

FIRST FLOOR PLAN:

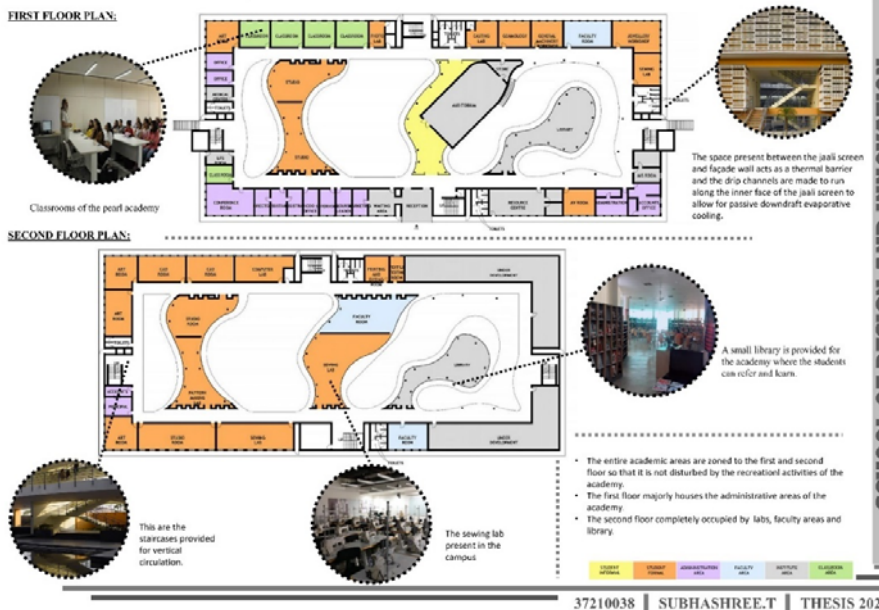
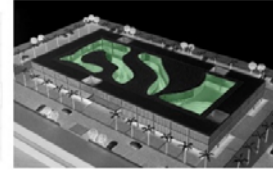
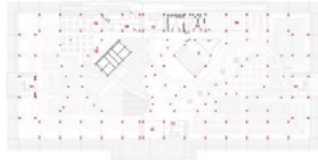


Plate 2.11 : First and Second floor plans

STRUCTURAL GRID AND VENTILATION:

- The entire academy is designed over a 9m grid, single bay, which is naturally lit and cross ventilated. This type of grid pattern allows for ventilation, daylighting and a flexible system of partitioning for the years to come.
- The self-shading open courtyards help in bringing in the indirect sunlight into the building and helps in the creation of naturally lit and ventilated singly-loaded corridors.

**THERMAL INSULATION:**

The flat roofs of the building are covered and filled with earthen pots with a radius of 35cm placed at a distance of 2.5cm apart, the remaining gaps were filled with broken brick pieces and sand. Finally, it is completely covered with a thin layer of concrete filling. These filter slabs provide cooling and insulation due to the air and filling present within the pot.

**MATERIALS USED:**

A mix of local stone, steel, glass, and concrete is chosen for construction keeping in mind the climatic conditions.

THERMAL HEAT SINK:

- The ground floor is excavated up to a depth of 4m from the road level creating the scooped out underbelly of the academy. Hence this ground floor is turned into a thermal heat sink which is cooled by the stepped water body provided, through the process of evaporative cooling.
- Since in these regions the desert temperature drops during the night time, the heat from the water body is dissipated into the surrounding keeping the area thermally comfortable through time lag.

**PASSIVE DOWNDRAFT EVAPORATIVE COOLING:**

In this system, the drip channels which run along the interior face of jaali screens allow for passive downdraft evaporative cooling and thereby reduces the incident wind temperature and directs it to cool the interiors through the jaali.

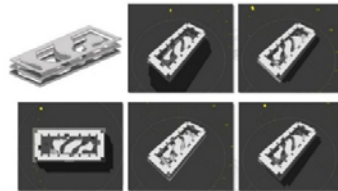
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Plate 2.12 : Design elements

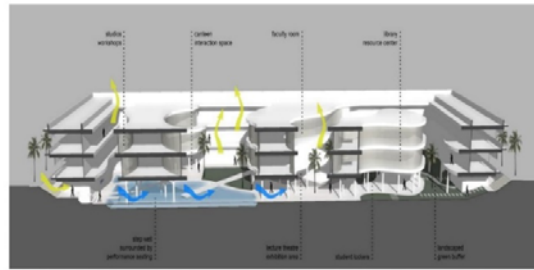
PEARL ACADEMY OF FASHION, JAIPUR

MICROCLIMATE:

As the campus is located in a hot and dry climatic zone it is very important to use passive climatic control techniques to modify the microclimate of the site. The self-shading open courts, water bodies, and step wells are used as the microclimatic modifiers.



The above diagram explains the conceptual shadow analysis based on the orientation of the facades in order to derive the density of perforated outer skin of the building.

**ENERGY-EFFICIENT SYSTEMS:**

The campus has installed rainwater harvesting systems and wastewater recycling through the usage of sewerage treatment plants. The campus also has power-efficient systems.

DOUBLE SKIN AND JAALI FACADE:

- The jaali screen is designed as an irregular checkerboard of fretted panels attached to a metal frame that is set 1.25 cm away from the building facade on all the four sides.
- The grain of the jaali wall and the placement of the horizontal panels were designed to provide optimum protection from the harsh direct sun and heat gain through fenestrations.
- The space present between the jaali screen and facade wall acts as a thermal barrier and the drip channels are made to run along the inner face of the jaali screen to allow for passive downdraft evaporative cooling.
- This is technique help in minimizing the dependence on the air conditioning system and can reduce the interior temperature by as much as 20 degrees.



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Plate 2.13 : Climatic aspects

2.3.8 Courses offered in the campus

Table 2.5 : Courses offered in the campus

PEARL ACADEMY OF FASHION	
S.NO	UG COURSES OFFERED
1	ACCESSORY DESIGN
2	JEWELLERY DESIGN
3	TEXTILE DESIGN
4	INTERIOR DESIGN
5	FASHION DESIGN
PG COURSES OFFERED	
1	INTERIOR DESIGN AND STYLING
2	FASHION DESIGN
3	JEWELLERY DESIGN
4	TEXTILE DESIGN
5	EVENTS AND EXPERIENTIAL MARKETING

2.4 NATIONAL INSTITUTE OF FASHION TECHNOLOGY, DELHI

2.4.1 About project

Architect: B V Doshi

Location: New Delhi's Hauz Khas Institutional area

Establishment Year: 1994

Site Area: 11,650 sq.m

Built-Up Area: 13,570 sq.m

Climate: Composite climate

National Institute of fashion technology is an autonomous fashion design and technology institute with its head office located in New Delhi.

Delhi NIFT campus is the largest campus that offers all programs of NIFT, which is seven bachelor and three master programs and has the largest student capacity.

The main aim of this institute is to impact education in apparel design for the ready-made garment industry, to research in this field in tune with our cultural heritage, and to train professionals in the field of garment marketing.

2.4.2 Site connectivity

Hauz Kha's bus stop – 650m

Green park bus stop – 700m

Green park subway station – 750m

Delhi Safdarjung railway station – 6.7km

Delhi domestic airport – 12.9km

Indira Gandhi International airport – 17.5km

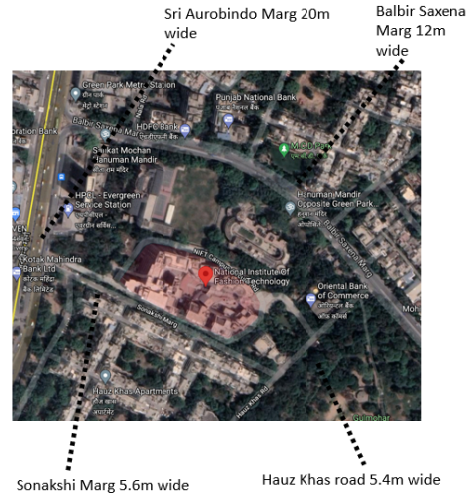


Fig 2.16 : Site connectivity

2.4.3 Site accessibility

The site can be accessed through two entries is through front and back entrances into the campus.

The main front entrance into the campus is located on the North-East side.

The second entrance is the back entrance which is located on the South-West side of the campus.

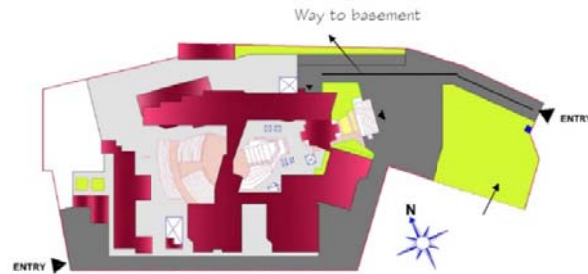


Fig 2.17 : Site accessibility

2.4.4 Site surroundings

The campus is surrounded by Hauz Kha's apartments, WRI India, classical dance institute, General Raj's school, and Gulmohar park.

The front courtyard has been developed by the DDA and this green area has been given to the NIFT campus for maintenance.



Fig 2.18 : Site surroundings

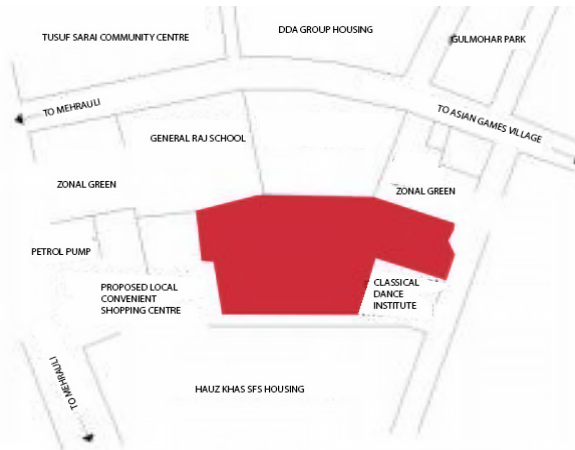


Fig 2.19 : Site and its surrounding

NATIONAL INSTITUTE OF FASHION TECHNOLOGY, DELHI

DESIGN CONCEPT AND ITS EVOLUTION:

- Doshi's concept of designing the building revolves around form – Imagery perception which provides the building with roots, life and history.
- NIFT campus acts like a village square which grows organically over time to become a theater, the scene for unfolding drama of daily life.
- It is based on the inspiration from the concept of step well to conserve rainwater, a traditional Indian baoli, green areas, central kind, over looking terraces and bridges emerge as elements of space making to recreate for fashion and design.
- The central kind:** It acts as the dominant element in the formation of the campus and guides the way to the campus.
- Step well:** The steps leading to a water body has been designed which further surrounded by platforms and galleries this spaces acts as a recreational interaction zone of the campus.
- Indian Bazaars:** Enclosed market place.

ORIENTATION:

- The longer facades of the academic blocks is oriented towards the North – East and South – West directions.
- All the blocks are arranged along the site boundary.

SITE ZONING:

The site zoning is done by creating 4 main zones,

- Administration zone
- Recreational/Interactional zone
- Educational zone
- Residential zone
- Canteen
- Services
- Connecting Bridge

The Recreational/interactional zone is created at the center of the site which acts as the major guiding factor and promotes interaction.

The connecting bridge which connects the administrative and educational zone

The residential zone is placed in the backside of the site in order to avoid disturbances from the day to day academic activities.



The access into the site is through a plot which is reserved for the zonal green area which has been provided to NIFT for maintenance and on a condition that no building must be constructed over it.



The administration, canteen and library are placed towards the right hand side of the site.

As we enter through the main gate we can view the Educational zone, which occupies the left handside of the site

The entire academic zone is designed to be a vibrant composition. The blocks are arranged overlooking the central court and are connected through different patterns of circulation. The academic clusters are comprised of lobbies, classrooms, labs, lecture rooms, toilets and service areas.

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Plate 2.14 : Design concepts and zoning

SITE PLANNING:

- The site was initially a flat land, the site contours were created through the central kund and the levels designed by the architect.
- More importance is given to the hard landscape rather than softscape the site has very less amount of vegetation and green areas.
- The planning has been such that it follows the site boundary with a set back of 6m while maintaining its character.
- The openings in buildings maintain a visual unity in their form and proportion.
- Different blocks of the campus adopt different shapes and forms depending on the functions and activities performed. The entrance plaza leads the way into both the academic as well as the administration zone reached through a series of steps.
- There is a series of steps with seating at various levels from the entrance plaza, this kind of space creates an informal atmosphere and is well utilized by the students during the evening.
- The library has access even to the outsiders from the professional industry for their reference and research work.
- Even the resource center is comprised of collection of textile materials, jewellery, costumes and other reference materials.
- The NIFT campus has well equipped computer labs with hardware silicon graphic and workstations, plotters, white format printers, sound mixers, digital cameras etc.

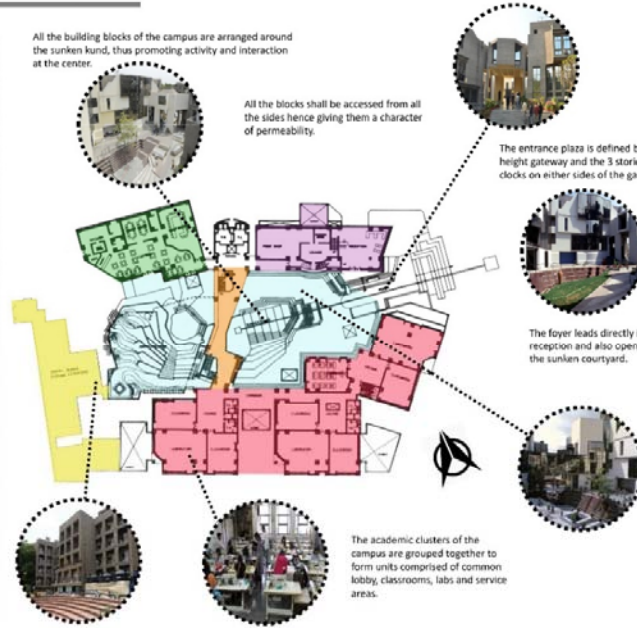
All the building blocks of the campus are arranged around the sunken kund, thus promoting activity and interaction at the center.

All the blocks shall be accessed from all the sides hence giving them a character of permeability.

The entrance plaza is defined by the double height gateway and the 3 storied academic clocks on either sides of the gateway.

The foyer leads directly into the reception and also opens out of the sunken courtyard.

The academic clusters of the campus are grouped together to form units comprised of common lobby, classrooms, labs and service areas.



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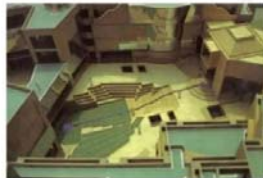
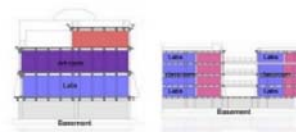
Plate 2.15 : Planning

2.4.5 Courses offered in the campus

NATIONAL INSTITUTE OF FASHION TECHNOLOGY, DELHI

STRUCTURE:

- The building has been constructed as a frame structure with square module.
- The grid with 7.80m spacing of square hollow columns (functioning as ducts) works as a vertical plenum for future air conditioning and evaporative cooling systems.
- The external wall thickness of 900mm provides adequate sun protection and insulation.



MATERIALS USED:

The building is constructed with R.C.C and brick walls.

Cladding:

Random rubble stone masonry is found on some parts of the plinth and walls. Impressed float glass with a non-reflective property is used as special material to complete the walls.

Flooring:

Black granite and white marble checked flooring is used in the reception. Kota stone and plain cement floorings are provided in the classrooms and labs. Chip flooring is done in the exhibition hall. Stone flooring is used for the open spaces.

Windows:

Inspired from the Jharokhas of traditional architecture and it prevents direct sunlight and glare.

Facade treatment:

The exterior facade is uniformly finished in grey colored grit. The interiors are composed in white, grey and green of the court are reflected through the glass walls.



Connecting bridge



Waffle slab roof



Garment lab



Resource center

AMPHITHEATRE:

Area covered by amphitheater = 319.35 sqm
Total seating capacity = 300 people

- This OAT is not large enough for large gathering.
- The main purpose of this OAT was to host fashion shows, gathering and knowledge exchange. It promotes interactions among the students.
- The OAT was not constructed as it was designed. It was initially designed to have the stage floating in the water body below, but the direction of the stage has also been changed, without considering the orientation of the sun.



Amphitheatre



Central Kund

CIRCULATION:

Horizontal circulation:
Corridors and linking bridges are used to connect the administrative block to the academic block at the upper three levels. This bridge acts as both transitional as well as interactional space, which helps creating a link between the academic and administrative block.

Vertical circulation:

The vertical circulation is achieved through small lobbies by means of staircases and lifts. These are grouped together at different points of the building and this segregation provides easy access at each floor level. The service staircases that are provided are inspired from the traditional straight flight staircase of Jodhpur fort.

PARKING:

Open parking:
Open parking is provided for 20 cars and scooters along with a paved access that leads into the building. One side is flanked by the staff car parking and the other side by visitors parking.

Covered parking:

Covered car parking for 100 cars has been provided in the basement. Light is provided to the basement through randomly placed openings and colonnades.

Parking for hostel block is provided on stilts for 25 cars.

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Plate 2.16 : Design elements

Table 2.6 : Courses offered in the campus

	NIFT, DELHI		
S.NO	BACHELOR OF DESIGN	YEARS	INTAKE
1	ACCESSORY DESIGN	4	37
2	FASHION COMMUNICATION	4	37
3	FASHION DESIGN	4	37
4	KNITWEAR DESIGN	4	37
5	LEATHER DESIGN	4	37
6	TEXTILE DESIGN	4	37
	MASTERS OF DESIGN		
1	MASTERS OF FASHION MANAGEMENT	2	37
2	MASTERS OF FASHION TECHNOLOGY	2	31
3	MASTERS OF DESIGN	2	37

2.4.6 Total institutional capacity

Total No. Of Ug Students: 888 Students

Total No. Of Pg Students: 210 Students

Total No Of Students: 1098 Students

2.5 CENTER FOR ENVIRONMENTAL PLANNING AND TECHNOLOGY, AHMEDABAD

2.5.1 About project

Architect: CEPT was designed by architect B V Doshi.

Dilip Patel is the campus architect for the past 9 years.

Christopher Charles Benninger has designed the new Academichub.

Rahul Malhotra has designed the canteen.

Location: The campus is situated in the KasturibhaiLalbhai campus
in Navarangapura, Ahmedabad, Gujarat.

Establishment Year: 1961

Site Area: 12.5 acres approx.

Built Up Area: 2012 – 14,813 sq.m

At present, built up area including buildings – 25,403 sq.m

2021 – 46,224 sq.m (self sufficient)

Climate: It is hot and dry during summers and moderates during winters.

The Ahmedabad education society, a non-profit organization took the sponsorship for CEPT. The school of architecture was started in 1962 offering an

2.5.2 Site connectivity

L.D Engineering college –700m

Sardar Vallabhbhai Patel International

airport – 13km

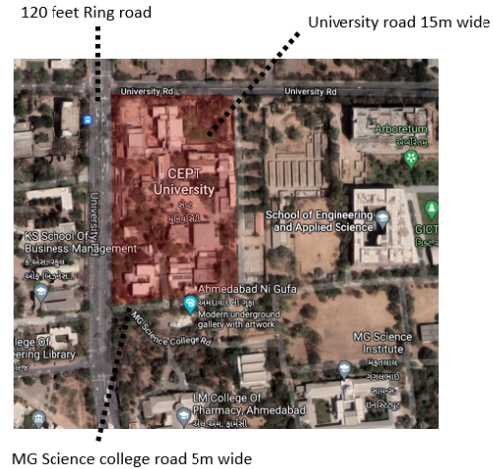


Fig 2.20 : Site connectivity

2.5.3 Site accessibility

Main entrance – provided in the Northern side

The 2 main gates which are currently used are the North and South gates for entry and exit.

2.5.4 Site surroundings

MG Science Institute on the East and South – East.

LM Engineering college in the South.

LD College of Engineering on the South – West.

Gujarat University on the West.

2.5.5 Site planning and activities

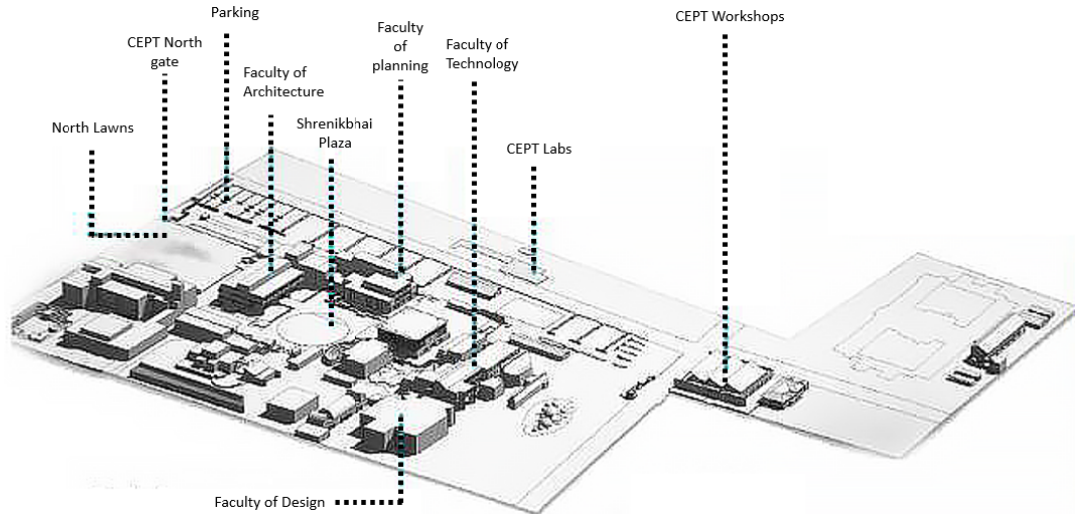


Fig 2.21 : Activities and functions on the site

2.5.6 Planning

CENTRE FOR ENVIRONMENTAL PLANNING AND TECHNOLOGY, AHMEDABAD

DESIGN CONCEPT:

- The major objectives of the architect was to achieve,
- Elimination of classroom feeling
 - Architecture without barriers
 - Integration of open spaces
 - Creation of ease of integration between various departments

SITE TOPOGRAPHY:

The sites general slope is towards the North – Western corner.

SITE PLANNING:



Each of these faculty departments have come up during different phases and they define the campus circulation.



- The longer facades of the building are oriented to the North and south to allow only indirect sunlight and to avoid solar heat.
- The placement and façade detailing of the building is done according to the sun's direction.



The buildings of the campus are planned around the central court having built masses on sides and greens on one side which give the campus noise protection.



The trees and the natural landscape of the campus were given more importance in the campus design.

- Efforts were taken to preserve the natural site condition
- Every space in the campus acts as an integration of the built form and nature which flows seamlessly with each other.



Various faculty departments of campus are the major wings, it also accommodates a library, a central plaza, two lawns namely the North and South lawns and the CEPT labs.

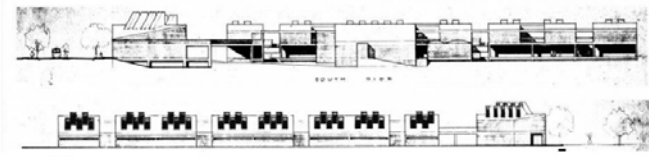


The buildings of the campus are located orthogonally with respect to the side of the site and therefore along the cardinal points.

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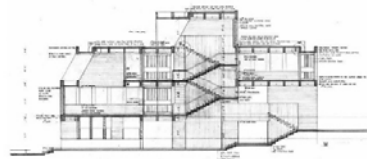
Plate 2.17 : Planning

LEVEL 1:



The concept of "Open without doors" has been well achieved at this level. On the south facades funnel shaped openings are created to direct the breeze into the building.

- The spaces are constructed with concrete and brick walls with a height of 5m.
- The columns are made of concrete and are clad with brick.
- The beams in the interiors are of 1'6".



This level 1 is used as a place for display and studio activities by the faculty of architecture for the students of landscape architecture.



- The doors of the studios are wider, more like panels and makes the spaces look bigger.
- Even the railings of the staircase is made of concrete walls.

- The entrance into this level is provided by two funnel shaped openings with staircase. It accommodates the studios of the faculty of planning.
- The studio spaces are designed differently rather than usual.
- The studios are open on one side with a balcony.

- The long and recessed windows helps in bringing in the indirect light and as it is recessed it also helps in cutting down the solar heat.
- The beams are made to extend into the exteriors as it gives way to openings where a person from the above level can view the activities happening below.



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Plate 2.18 : Planning and design elements

INITIALLY PLANNING OF SCHOOL OF ARCHITECTURE AND PLANNING:

Architect B.V. Doshi's initial focus was to create an open space with hardly any doors.

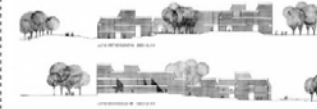


The L-shaped configuration on a North-South axis was used to capture the direct prevailing wind and to direct it into the classrooms, studios and office spaces.



The open spaces under the campus buildings were raised on the Piloti, which made this space naturally shaded and ventilated suitable for the concept of open learning.

- The longer facades of the buildings were exposed to prevailing wind.
- Funnel-shaped openings were created on the southern facade to direct the breeze into the building.



- In order to allow more indirect sunlight into the double height studios, angled windows were used.
- The provision of recessed windows brought in indirect sunlight and at the same time helps cut down solar heat gains and provides cooler interiors.



- Double height studios was designed to create comfortable interior temperature by the process of convection in which the hot air rises up bringing in the cooler air.
- Concrete frames were used to create recessed spaces which shades the interiors and also the sides of the building.

- A hard courtyard was created so that it helps in drawing cooler air through the process of convection.
- The promenades and sheltered porticos were used which depicts a kind of ancient Greek era.
- The shaded passages, covered streets and outdoor rooms allows free scope to teach, learn and interact anywhere.



This kind of concept was inspired from the shaded village streets, with narrow street lanes and open balconies which brings in the cooler air inside without being hindered.



- The studio spaces are dropped one entire level below in order to provide views into the surrounding green areas.
- All the blocks of the campus can be accessed from anywhere making them more permeable.
- There was a balance between the exterior and interior studio spaces covered with concrete roof frames, which helped providing an alternative when it becomes hard to work in the interiors during extreme weather conditions.

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Plate 2.19 : Design elements

2.5.7 Courses offered in the campus

Table 2.7 : Courses offered in the campus

CEPT, AHMEDABAD			
S.NO	BACHELOR OF DESIGN	YEARS	INTAKE
1	INTERIOR DESIGN	5	80
	MASTERS OF DESIGN		
1	INTERNATIONAL MASTERS OF INTERIOR ARCHITECTURAL DESIGN	2	30
2	FURNITURE DESIGN	2	30
3	INTERIOR ARCHITECTURE AND DESIGN	2	30
4	MASTERS OF DESIGN	2	30

2.6 CASE STUDY COMPARATIVE ANALYSIS

CASE STUDY ANALYSIS:

PARAMETERS	NID, AHMEDABAD	NID, GANDHIVAGAR	PEARL ACADEMY OF FASHION, JAIPUR	NIFT, DELHI	CEPT AHMEDABAD	INFERENCES
						
ARCHITECT	CHANDRASEKHAR ANANDHAKUMAR	CHANDRASEKHAR ANANDHAKUMAR	MOHAN KUMAR	BY NIFT	BY NIFT	
ESTABLISHMENT YEAR	1982	1982	1982	1982	1982	
CLIENT	MINISTRY OF EDUCATION, GOV. OF GUJARAT	MINISTRY OF EDUCATION, GOV. OF GUJARAT	MINISTRY OF EDUCATION, GOV. OF GUJARAT	MINISTRY OF EDUCATION, GOV. OF GUJARAT	MINISTRY OF EDUCATION, GOV. OF GUJARAT	
LOCATION	CHANDRASEKHAR ANANDHAKUMAR	CHANDRASEKHAR ANANDHAKUMAR	CHANDRASEKHAR ANANDHAKUMAR	CHANDRASEKHAR ANANDHAKUMAR	CHANDRASEKHAR ANANDHAKUMAR	
CONNECTIVITY	ROADS, RAILWAYS, AIRPORTS, BUS STATIONS, TRAMWAYS, CYCLES, TAXIS, Rickshaws, Auto Rickshaws, Bicycles, Scooters, Motorbikes, etc.	ROADS, RAILWAYS, AIRPORTS, BUS STATIONS, TRAMWAYS, CYCLES, TAXIS, Rickshaws, Auto Rickshaws, Bicycles, Scooters, Motorbikes, etc.	ROADS, RAILWAYS, AIRPORTS, BUS STATIONS, TRAMWAYS, CYCLES, TAXIS, Rickshaws, Auto Rickshaws, Bicycles, Scooters, Motorbikes, etc.	ROADS, RAILWAYS, AIRPORTS, BUS STATIONS, TRAMWAYS, CYCLES, TAXIS, Rickshaws, Auto Rickshaws, Bicycles, Scooters, Motorbikes, etc.	ROADS, RAILWAYS, AIRPORTS, BUS STATIONS, TRAMWAYS, CYCLES, TAXIS, Rickshaws, Auto Rickshaws, Bicycles, Scooters, Motorbikes, etc.	
UTR SENSITIVENESS	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	
TOTAL SITE AREA	10.00 SQ. M.	10.00 SQ. M.	10.00 SQ. M.	10.00 SQ. M.	10.00 SQ. M.	
TOTAL BUILT UP AREA	10.00 SQ. M.	10.00 SQ. M.	10.00 SQ. M.	10.00 SQ. M.	10.00 SQ. M.	
FPI	10.00 SQ. M.	10.00 SQ. M.	10.00 SQ. M.	10.00 SQ. M.	10.00 SQ. M.	
DESIGN CONCEPT	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	
UTR LEVEL FEATURES	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	
CLIMATE	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	
TOPOGRAPHY	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	CONCEPT, DESIGN, MATERIALS, CONSTRUCTION, MAINTENANCE, OPERATION, etc.	

SCHOOL OF DESIGN AND INNOVATION

Plate 2.20 : comparative analysis sheet 1

SCHOOL OF DESIGN AND INNOVATION

SCHOOL OF DESIGN AND INNOVATION

Plate 2.21 : comparative analysis sheet 2

SCHOOL OF DESIGN AND INNOVATION

SCHOOL OF DESIGN AND INNOVATION

Plate 2.22 : comparative analysis sheet 3

SCHOOL OF DESIGN AND INNOVATION

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SCHOOL OF DESIGN AND INNOVATION

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CHAPTER 3

DATA COLLECTION AND STANDARDS

DESIGN STANDARDS:

PLANNING PARAMETERS OF INSTITUTIONAL BUILDINGS

Sl. No.	Description	Continuous Building Areas	Other areas
1	2	3	4
A.	Minimum road width	7.20m	Minimum 7.2m for schools upto higher secondary level and industrial training institutions. For others, min. 9 m
B.	Minimum height	18.20m.	
C.	Normality of road	2.0	
D.	Minimum setbacks	Where Street Alignment/new road is prescribed, it shall be from that street alignment/narrow line. In the case of others, it shall be from the property boundary.	
(i)	Front Setback	6m	6m
(ii)	Side Setback	Nil	6m
(iii)	Rear Setback	Nil	6m
(iv)	Plot Setback	For schools - 2m	For schools - 2m

CORRIDOR / VERANDAH WIDTH

The minimum width of corridor or verandah within buildings shall be as given below:

(i)	Educational Buildings such as schools, colleges, Research Institutions	2.0 m
-----	--	-------

BUILDING REQUIREMENTS FOR BARRIER FREE APPROACH

Approach to plinth level:

Every building should have at least one entrance accessible to the differently abled and shall be indicated by proper signage. This entrance shall be approached through a ramp together with the stepped entry.

Ramped Approach:

Ramp shall be finished with non-slip material to enter the building. Minimum width of ramp shall be 1800mm with maximum gradient 1:12. Length of ramp shall not exceed 9.0 meter having 800mm high hand rail on both sides extending 300mm beyond top and bottom of the ramp. Minimum gap from the adjacent wall to the hand rail shall be 50mm.

Stepped Approach:

For stepped approach size of tread shall not be less than 300mm and maximum riser shall be 150mm. Provision of 800mm high hand rail on both sides of the stepped approach similar to the ramped approach.

Exit/Entrance Door:

Minimum & clear opening of the entrance door shall be 900mm and it shall not be provided with a step that obstructs the passage of a wheel chair user. Threshold shall not be raised more than 12mm.

Entrance Landing:

Entrance landing shall be provided adjacent to ramp with the minimum dimension 1800mm x 2000mm. The entrance landing that adjoins the top end of a slope shall be provided with floor materials to attract the attention of visually impaired person's (limited to coloured floor material whose colour and brightness is conspicuously different from that of the surrounding floor material or the material that emits different sound to guide visually impaired persons. Finishes shall have a non-slip surface with a texture traversable by a wheel chair. Carbs wherever provided should blend to a common level.

Corridor connecting the entrance/ exit for the differently abled:

The corridor connecting the entrance / exit for differently abled leading directly outdoors to a place where information concerning the overall use of the specified building can be provided to visually impaired persons either by a person or by signs, shall be provided as follows:

- Guiding floor materials shall be provided or device that emits sound to guide visually impaired persons.
- The minimum width shall be 1500mm.
- In case there is a difference of level, slope ways shall be provided with a slope of 1:12.
- Handrails shall be provided for ramps/slope ways.

Stair-ways:

- One of the stair-ways - near the entrance / exit for the differently abled shall have the following provisions.
- The minimum width shall be 1350 mm.
- Height of the riser shall not be more than 150 mm and width of the tread 300mm.
- The steps shall not have abrupt (square) nosing.
- Maximum number of stairs on a flight shall be limited to 12.
- Handrails shall be provided on both sides and shall extend 300 mm on the top and bottom of each flight of steps.

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Plate 3.1 : Standards sheet 1

DESIGN STANDARDS:

Lifts:

Wherever lift is required as per bye-laws, provision of at least one lift shall be made for the wheel chair user with the following cage dimensions of lift recommended for passenger lift of 13 person's capacity of NIEC 2005, BIS, Section 4.9.3 Table not - Desirable Lift size

Clear internal width 1160 mm Clear internal depth 2060 mm Entrance door width 900 mm

- A hand call bell less than 600mm long at 1000mm above floor level shall be fixed adjacent to the control panel.
- The lift lobby shall be of an inside measurement of 1800 mm x 2000 mm or more.
- The time of an automatically closing door should be minimum 5 seconds and the closing speed should not exceed 0.25 m/sec.
- The interior of the cage shall be provided with a device that audibly indicates the floor, the cage has reached indicates that the door of the cage of entrance or exit is either open or closed.
- Graphic or Braille signage, as per the Harmonised Guidelines, shall be provided in the lift lobby.

Toilets:

One special W.C. in a set of toilets shall be provided for the use of differently abled with essential provision of washbasin near the entrance for the differently abled.

- The minimum size shall be 1500 mm x 1750 mm.
- Minimum clear opening of the door shall be 900mm and the door shall swing out.
- Suitable arrangement of vertical/horizontal handrails with 50mm clearance from wall shall be made in the toilet.
- The W.C. seat shall be 500mm from the floor.

Proper signage:

- Appropriate identification of specific facilities within a building for the differently abled persons should be done with proper signals.
- Visually impaired persons make use of other senses such as hearing and touch to compensate for the lack of vision, whereas visual signals benefit those with hearing disabilities. Signs should be designed and located so that they are easily legible by using suitable letter size (not less than 20 mm high).
- For visually impaired persons, information board in Braille should be installed on the wall at a suitable height and it should be possible to approach them closely.
- To ensure safe walking, there should not be any protruding sign which creates obstruction in walking.
- Public Address System may also be provided in busy public areas.
- The symbols/information should be in contrasting colour and properly illuminated because people with limited vision may be able to differentiate amongst primary colours.
- International Symbol Mark for wheel chair be installed in a lift, toilet, staircase, parking area, etc., that have been provided for the differently abled.

Sanitation Requirements for Educational Occupancy:

Sl. No.	Sanitary Unit	Boarding Institutions	Girls	Other educational institutions	Boys	Girls
1.	Water Closet (W.C.)	One for 10 boys or girls or part thereof	One for 10 girls or part thereof	One for 10 boys or girls or part thereof	One for 10 girls or part thereof	One for 10 girls or part thereof
2.	Urinals	One for every 20 persons or part thereof	One for every 20 persons or part thereof	One for every 20 persons or part thereof	One for every 20 persons or part thereof	One for every 20 persons or part thereof
3.	Urinals	One for every 20 persons or part thereof	One for every 20 persons or part thereof	One for every 20 persons or part thereof	One for every 20 persons or part thereof	One for every 20 persons or part thereof
4.	Wash Basins	One for every 20 persons or part thereof	One for every 20 persons or part thereof	One for every 20 persons or part thereof	One for every 20 persons or part thereof	One for every 20 persons or part thereof
5.	Handis	One for every 20 persons or part thereof	One for every 20 persons or part thereof	One for every 20 persons or part thereof	One for every 20 persons or part thereof	One for every 20 persons or part thereof
6.	Drinking Water Provision	One for every 20 persons or part thereof	One for every 20 persons or part thereof	One for every 20 persons or part thereof	One for every 20 persons or part thereof	One for every 20 persons or part thereof
7.	Cleaner's Room	One per floor maximum	One per floor maximum	One per floor maximum	One per floor maximum	One per floor maximum

Sanitation Requirements for Assembly Occupancy Buildings (Cinema, Theaters, Auditoria, etc.)

Sl. No.	Sanitary Unit	For Public	For Staff
1.	Water Closet	One for 100 persons or part thereof. For every 100 persons, add at the rate of 1 per 100 persons or part thereof	One for 15 persons. For every 15 persons, add at the rate of 1 per 15 persons or part thereof
2.	Urinals	One for every 20 persons or part thereof	One for every 20 persons or part thereof
3.	Urinals	One for every 20 persons or part thereof	One for every 20 persons or part thereof
4.	Wash Basins	One for every 20 persons or part thereof	One for every 20 persons or part thereof
5.	Drinking Water Provision	One per 100 persons or part thereof	One per 100 persons or part thereof
6.	Cleaner's Room	One per floor	One per floor
7.	Storage / Washing	As per trade requirement	As per trade requirement

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Plate 3.2 : Standards sheet 2

DESIGN STANDARDS:**PARKING STANDARDS:****(c) Colleges**

1 car space for every 100sq.m of class room area or part thereof and 1 two-wheeler space for every 50sq.m of class room area or part thereof.

(d) Tutorial/Parallel colleges

1 car space for every 200sq.m of class room area or part thereof and 1 two-wheeler space for every 50sq.m of class room area or part thereof.

Stall Size:

Vehicle Type	Breadth (m)	Length (m)
Car	2.5	5.0
Two Wheelers	1.0	1.8

Parking for Special (physically challenged) persons

For Buildings having more than 2 floors 10% of the required car/two wheelers parking spaces subject to minimum of 2 car spaces and 2 two-wheeler spaces shall be reserved for the physically handicapped persons near the entrance. This is to provide an exclusive reservation of car parking for physically handicapped and also to provide them easy access to the lift and staircase.

Aisle Widths:

Aisle is a access lane leading to/abutting the individual parking lot within a parking facility. The aisle widths for different types of parking shall be:

Vehicle Type	Parallel Parking	All angles up to 60°	Angles above 60° & Perpendicular parking
Two Wheeler	1.5m	1.5m	1.5m
Car	3.0m	3.0m	4.5m
LCV/Truck/Bus	7.0m	7.0m	10.0m

Width Entry and Exit Gates

The width of entry or exit gates shall be a minimum of 3.0m

Gradient

Slope of parking spaces shall be not more than 4% in any direction.

Turning Radius

Sufficient turning radius shall be provided for adequate maneuvering of vehicle

Ramps

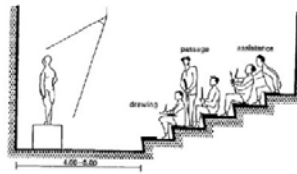
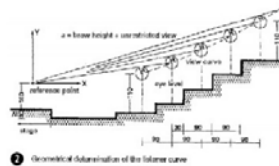
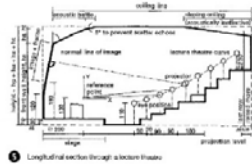
The minimum clear width of the ramps shall be 3.0 m for one-way movement and 6.0m for two-way movement. Gradient shall not be steeper than 1 in 8.

Headroom

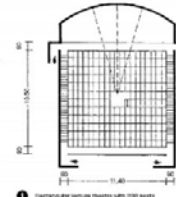
The clear headroom (between floor and beam bottom) shall be minimum 2.2metres those parts of a building intended to be used for parking of wheeled vehicles and also for all approaching parts like ramp, covered access, etc.

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Plate 3.3 :Standards sheet 3**DESIGN STANDARDS:****SCHEME OF UNIVERSITY FACILITIES**

2 Slopes in the drawing class with tiered area of 0.85 m² per student (technical artistic subjects)

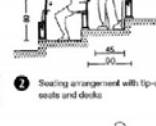
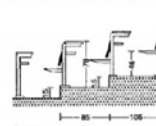


4 Rectangular lecture theatre with 200 seats

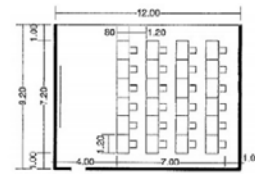
Common lecture theatre sizes are 100, 150, 200, 300, 400, 600, 800 seats. Lecture theatres with up to 200 seats, ceiling height approx. 3.5 m can be integrated into an institute building. Larger theatres should ideally have their own building.

LECTURE THEATRE SEATING

The space requirement per student depends on type of seating, desk depth and floor pitch. Per student (including all walking areas in larger lecture theatres in a cramped situation), the space requirement is 1.10 m². In smaller lecture theatres and in a normal situation 0.80-0.95 m².

**COMPUTER ROOM**

The size of the computer room is related to the number and size of the computer desks, which depends on the size of the displays.



2 Dimensions of a computer room

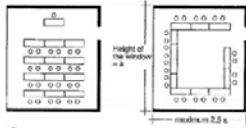
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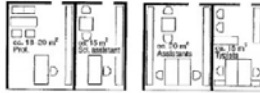
Plate 3.4 : Standards sheet 4

DESIGN STANDARDS:

GENERAL TUITION ROOMS



1. Dimensions of seminar rooms with radial view facilities

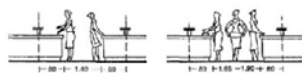


2. Rule applied for service rooms

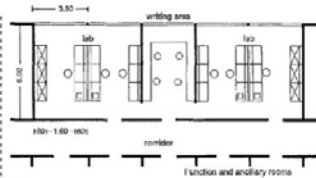
Seminar rooms, usual sizes: 20, 40, 50, 60 seats; mobile double tables, width 1.20 m, depth 0.60 m, space required per student 1.90-2.00 m.

TUITION-RELATED PRACTICAL LABORATORIES

with a large number of workstations collected together and mostly with simple basic equipment



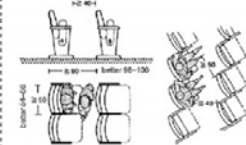
1. Minimum passage widths at workstations



2. Research laboratory

AUDITORIUM

It is assumed that there are two spectators per m² in the place of assembly (for rows of seats; two spectators per running m for standing places).



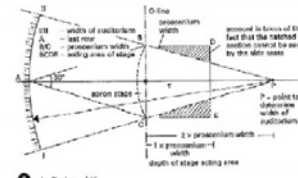
1. Seating must be fixed according to Places of Assembly Regulations. Minimum dimensions are not adequate for theatres.

PROPORTIONS OF THE AUDITORIUM

These are derived from the psychological awareness and angle of view of the spectator, or the requirement for a good view from all seats.

Options are:

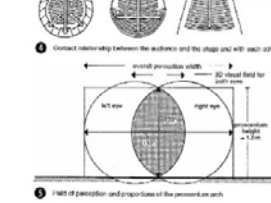
1. Good view, without moving head, but light eye movements of approx. 30°.
2. Good view with slight head movements and light eye movements of approx. 60°.
3. Max. awareness angle without head movement approx. 110°, i.e. all actions in the field are 'in view'. Outside this field, there is uncertainty, because 'something' is out of view.
4. Full head and shoulder movement allows an angle of view of 360°.



1. Auditorium width



2. Contact relationship between the audience and the stage and with each other



3. Field of perception and proportion of the perceived area

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Plate 3.5 :Standards sheet 5

DESIGN STANDARDS:

UNIVERSITY LIBRARIES

These are single- or two-storey buildings: single-storey systems are centrally administered (book processing and services) and mostly have at least a few separate user areas in branch or specialist libraries. Two-storey libraries include a central library and an (often larger) number of libraries for faculties, specialist areas and institutes. Stock is often freely available in reading rooms, often in self-service stacks (shelving units spaced as in closed stacks) and in closed stacks, the different forms of display being mixed in most university libraries. The ratio of stored to display and lending stock is determined by the structure of the stock, and/or the organisation type or library concept, and often also the space available in existing buildings.

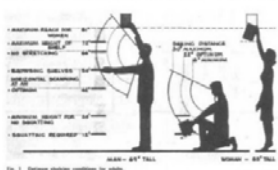


Fig. 1. Optimal viewing conditions for adults



Fig. 2. Optimal viewing conditions for non-adults

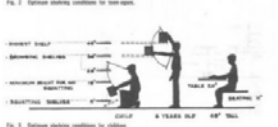


Fig. 3. Optimal viewing conditions for children

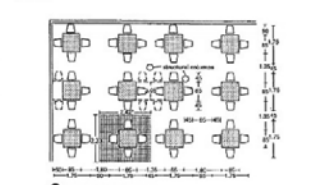
TABLE 1. Experience Formulas for Library Size and Costs

Population size	Book stock - per 1,000 inhabitants	No. of seats - per 1,000 inhabitants	Circulation - per 1,000 inhabitants	Total - per 1,000 inhabitants	Operating cost - per 1,000 inhabitants
10,000-15,000	20-30	10	10	0.7-0.8	0.4-0.7
15,000-20,000	20-30	5	5	0.6-0.8	0.4-0.6
20,000-30,000	20-30	5	5	0.6-0.8	0.4-0.6
30,000-40,000	20-30	5	5	0.6-0.8	0.4-0.6
40,000-50,000	20-30	5	5	0.6-0.8	0.4-0.6
50,000 and up	20-30	5	5	0.6-0.8	0.4-0.6

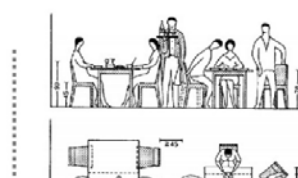
SOURCE: Joseph L. Wheeler and Robert G. Gifford, Practical Administration of Public Libraries (New York: Harper and Row, 1962), p. 104.

Population size	Book stock - per 1,000 inhabitants	No. of seats - per 1,000 inhabitants	Circulation - per 1,000 inhabitants	Total - per 1,000 inhabitants	Operating cost - per 1,000 inhabitants
10,000-15,000	20-30	10	10	0.7-0.8	0.4-0.7
15,000-20,000	20-30	5	5	0.6-0.8	0.4-0.6
20,000-30,000	20-30	5	5	0.6-0.8	0.4-0.6
30,000-40,000	20-30	5	5	0.6-0.8	0.4-0.6
40,000-50,000	20-30	5	5	0.6-0.8	0.4-0.6
50,000 and up	20-30	5	5	0.6-0.8	0.4-0.6

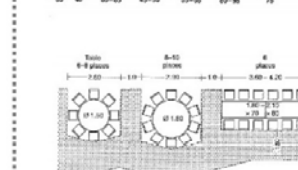
Canteen



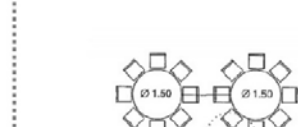
1. Typical arrangement of tables



2. Typical arrangement of tables



3. Typical arrangement of tables



4. Typical arrangement of tables



5. Typical arrangement of tables

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Plate 3.6 :Standards sheet 6

CHAPTER 4

SITE STUDY AND ANALYSIS

4.1 SITE SELECTION

4.1.1 Need for design school in Chennai

The distribution of the design industry in South India is very less when compared to North India due to a very less number of design schools and a lack of awareness about design education.

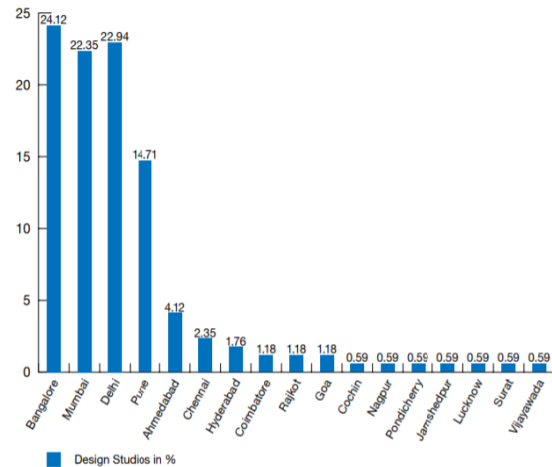


Fig 4.1 : Distribution of design industry in India

Chennai is a very well-developed capital city of Tamil Nadu. the city has a fairly well-developed physical infrastructure with reasonably good roads, bus services, air and sea transport networks, airport services that provide both domestic and international connectivity.

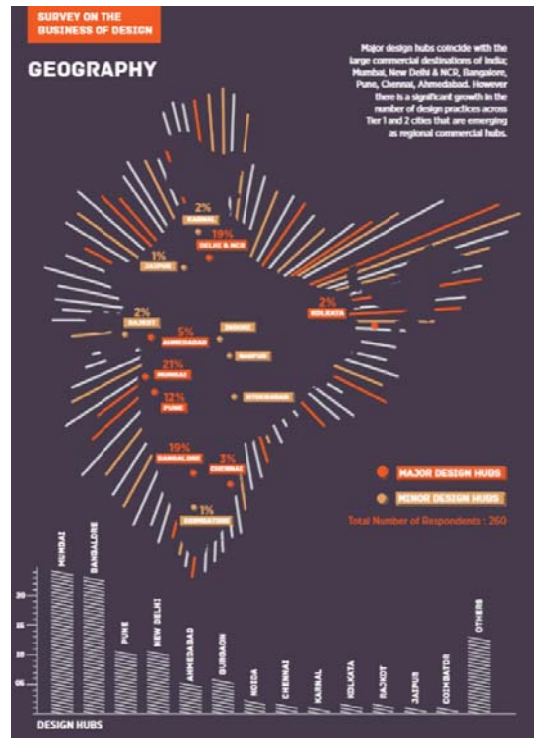


Fig 4.2 : Percentages of design hubs in India

Chennai comes under the list of a large commercial sector but has a very less percentage of design hubs. Because in these states the importance and awareness of design education are neglected. These regions have very few Design institutions that provide proper design courses and certificates. The scant presence of these Institutions has led to the least preference of design as a career choice.

Chennai is the largest industrial and commercial Centre of South India. From Madras to Chennai, this city has historically embraced diversified industries. The city is a hub for the manufacturing of automobiles and auto components, engineering, textiles and garments, leather products, software, and IT-enabled services.

The Tamil Nadu capital accounts for a third of India's auto parts production and 16 percent of its electronics hardware production.

4.2 SITE JUSTIFICATION

The site is located in Siruseri near the SIPCOT IT Park. Siruseri is a village that comes under the Thiruporur panchayat union of Chengalpattu district of Tamil Nadu.

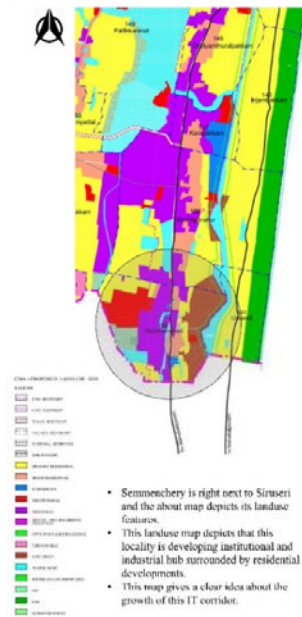
Siruseri is a suburb of Chennai city and is located at a distance of 35km from Chennai along the OMR road between Navalur and Kelambakkam.

Rajiv Gandhi Salai, which is also known as Old Mahabalipuram Road (OMR), the IT Corridor is an important road in suburban Chennai that starts from Madhya Kailash temple and goes southward till Mahabalipuram terminating in East Coast Road.

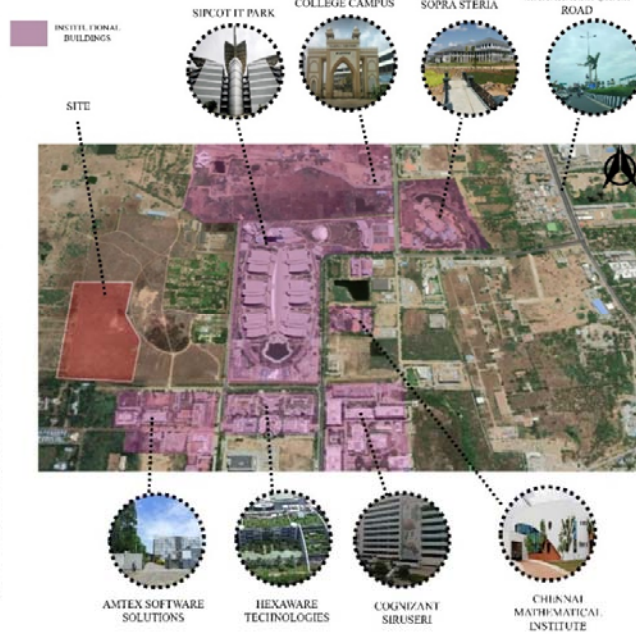
Some of the major localities on the OMR are Perungudi, Thoraipakkam, Karapakkam, Sholinganallur, Navalur, Egattur, Padur, Siruseri, and Kelambakkam.

SITE JUSTIFICATION:

CMDA PROPOSED 2026 LANDUSE MAP:



SITE AND SURROUNDINGS:



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Plate 4.1 : Site justification sheet 1

SITE JUSTIFICATION:

SITE VIEWS:



LOCATION, NEIGHBOURHOOD AND LOCALITY:

- This Siruseri has now transformed from being a village to the **heartland of Chennai's IT corridor**.
- This transformation began when the state industries corporation of Tamil Nadu limited (SIPCOT) developed an IT park across a thousand acres in this region.
- Government has declared the old OMR road as a IT corridor, which is capable of generating growth in the residential sector of the surrounding areas.
- The OMR is located in the southern part of the city, the IT corridor extends from Tidel park to Siruseri in the first phase and it extends upto Mahabalipuram in the second phase. The old OMR road hence serves as the major part along which the expansion of IT/ITES firms continues to grow.
- Due to the better connectivity of OMR with East coast road and GST road the corridor provides a potential destination for new residential developments.

SOCIAL AND RETAIL INFRASTRUCTURE:

Most of the prominent educational institutes, healthcare facilities, hotels and restaurants lie in the immediate vicinity of the site.

- Many **Educational institutes** have come up in this locality, such as the premier school Padma Seshari Hala Bhavan, Higher educational institutions such as Chennai Mathematical Institute, Mohamed Sathak A.J. Group of Colleges, Hindustan college and many more.
- **Healthcare facilities** such as Chettinad hospital and research institute.
- A huge number of **Entertainment hubs and restaurants** are also present here for example, Marina mall, villa mall, cinema theaters and even amusement parks.
- Famous **residential developments** such as Eden park, Casa grand, TVH Developments are also present.



NEARBY EMPLOYMENT HUBS:

- Siruseri is famously known for hosting one of the most prominent SIPCOT IT park of Chennai.
- The development has been unprecedented and numerous IT companies have come up within a span of 10 years, employing 1000s of people due to SIPCOT.
- All the basic infrastructure facilities like separate sub-station for power supply, separate telephone exchange and high speed data connections are also proposed by SIPCOT.
- The project attracted several IT companies who have set up their campuses in the area, since then, Siruseri has blossomed into one of the most covered residential hotspots in Chennai.
- This region is also known as the IT corridor that promotes good amount of job opportunities.



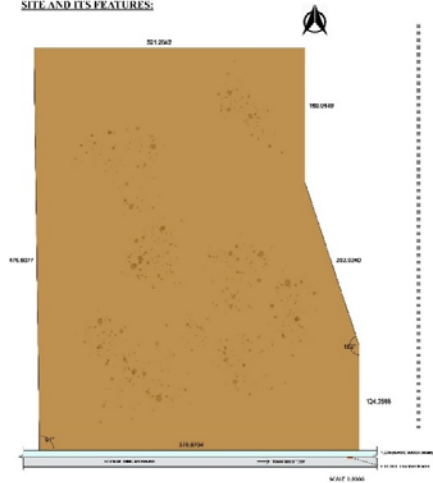
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Plate 4.2 : Site justification sheet 2

4.3 SITE ANALYSIS

SITE ANALYSIS:

SITE AND ITS FEATURES:



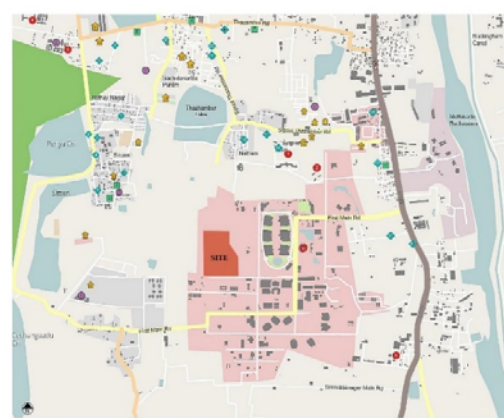
TOTAL SITE AREA: 165677.9846 SQ.M (40.93 ACRES)

SITE LOCATION: THIRD MAIN ROAD, NEAR SIPCOT IT PARK, SIRUSERI

FSI: 2

- THE ACCESS INTO THE SITE IS THROUGH A 12.3M WIDE ROAD.
- THERE IS A 7.62M WIDE OPEN WASTE WATER DRAIN.
- THERE IS A ELECTRIC TRANSFORMER RIGHT IN FRONT OF THE SITE.

SITE AND NEIGHBOURHOOD:



COLLEGES

- MOHAMMAD KATHIR COLLEGE OF ENGINEERING
- MOHAMMAD KATHIR ACADEMY OF ARCHITECTURE
- SRI VENKATESWARAN DEVAL COLLEGE
- AGRI COLLEGE OF TECHNOLOGY
- ANANTH MEGHAR INSTITUTE OF TECHNOLOGY
- CHINNAI MATHEMATICAL INSTITUTE

SCHOOLS

- ST JOHN'S PERIYAR NURSER
- VELS VEDYASHRAM
- PABAI SCHOOL
- KPI SCHOOL
- NARULU GOVT PRIMARY SCHOOL

RESIDENTIAL DEVELOPMENTS

- VELAY LAKSHMI HOMES
- LAKSHMI PARK
- SRI BALU CANNELON
- LAKSHMI PARK
- PHASE 2
- INTER ANANTYA APARTMENTS
- KG LAKSHMI HOMES
- ARJUN THE BUILDING

SIPCOT SIRUSERI

- SIPCOT IT PARK
- ILEXWORKS
- THE POWER HOUSE
- ANTELOPE HOUSE
- COCONUTANT

RELIGIOUS

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Plate 4.3 : Site Analysis sheet 1

SITE VIEWS:

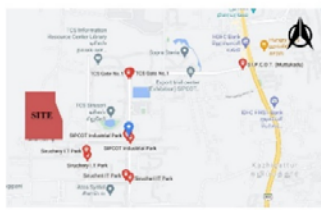


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Plate 4.4 : Site Analysis sheet 2

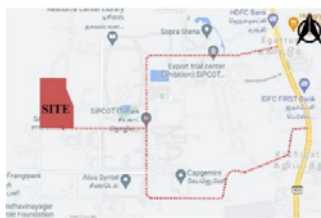
SITE ANALYSIS:

SITE PROXIMITY:



NEARBY BUS STOPS SITE
SIPCOT IT PARK BUS STOP = 250M
SIPCOT INDUSTRIAL PARK BUS STOP = 650M
CHENNAI INTERNATIONAL AIRPORT = 31.4KM

SITE ACCESSIBILITY AND CONNECTIVITY:



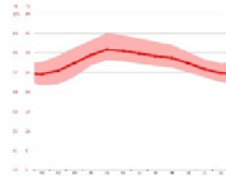
SITE ACCESS ROADS
DMR ROAD
SITE

CLIMATIC ANALYSIS:

- Chennai has a tropical climate with a hot and humid weather conditions for most part of the year.
- It has a temperature that ranges from 38 degrees - 42 degrees.
- Chennai gets most of its seasonal rainfall from the North-East monsoon winds, from mid-October to mid-December.

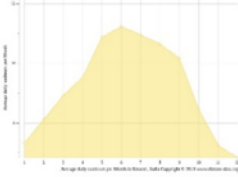
AVERAGE TEMPERATURE:

May is considered to be the hottest month of the year with an average temperature of 30.8 degrees. And January is the coolest month of the year with an average temperature of 24.5 degrees.

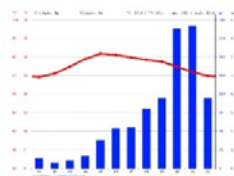


DURATION OF SUNSHINE:

June experiences the longest amount of sunshine duration with an average of 10.95 hours of sunshine a day.

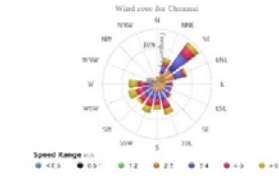


AVERAGE RAINFALL:



February has the lowest amount of rainfall, with an average rainfall of 8mm. Whereas in November the precipitation reaches its peak with an average of 230mm.

AVERAGE WIND SPEED:



- Chennai's predominant wind direction is from South-East to North-West.
- Chennai experiences an average wind speed of 37m/s with the maximum wind speed of around 11m/s.

Plate 4.5 : Site Analysis sheet 3

SITE ANALYSIS:

AVERAGE HUMIDITY:

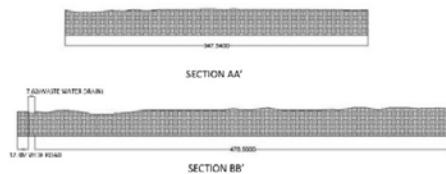
Siruseri experiences high levels of humidity with an average humidity of 73%.

CLIMATIC ANALYSIS CHART:

	January	February	March	April	May	June	July	August	September	October	November	December
Avg temperature (°C)	24.5	26.2	28.1	29.8	30.8	31.5	31.5	30.8	29.8	28.1	26.2	24.5
Min temperature (°C)	19.5	21.5	23.5	25.5	27.5	29.5	30.5	29.5	27.5	25.5	23.5	21.5
Max temperature (°C)	29.5	31.5	33.5	35.5	36.5	36.5	35.5	33.5	31.5	29.5	27.5	25.5
Site temperature (°C)	24.5	26.2	28.1	29.8	30.8	31.5	31.5	30.8	29.8	28.1	26.2	24.5
Relative humidity (%)	73	73	73	73	73	73	73	73	73	73	73	73
Humidity (%)	73	73	73	73	73	73	73	73	73	73	73	73
Rainfall (mm)	3	2	2	3	4	7	9	15	18	18	18	18
Avg Sunshine (hours)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1

- Based on the climatic data the variation in annual temperature is around 6.3degrees.
- The difference in precipitation of 222mm is observed between the wettest and driest month.

SITE SECTION AND TOPOGRAPHY:



The site has mild contours of around 1m and it does not have any kind of vegetation.

NEIGHBOURHOOD BUILDING HEIGHTS:

- G+1 STRUCTURES
- G+3 STRUCTURES
- G+4 STRUCTURES
- G+5 TO 7 STRUCTURES
- G+8 STRUCTURES

WASTE WATER DRAIN:

Waste water drain of 7.62m width and around 2m depth is found in southern side of the site.

SOIL TYPE:

- These regions majority have brown clayey soil.
- The texture is usually composed of sand and silt.
- Pile foundation is mostly preferred for clayey and silt type of soil profile.

SWOT ANALYSIS:

STRENGTH:

- Surrounded by institutional and educational buildings.
- Fence helps in establishment of the design school.
- Calm, peaceful and pollution free area much suitable for a design school.
- It's the home to SIPCOT IT park.

OPPORTUNITIES:

- Developing residential sector.
- Future growth corridor of the city.
- Developing transportation connectivity, with proposed phase 2 development.



WEAKNESS:

- At present only bus facilities are available there is no any other government transportation facilities.
- There is no well developed road facility in front of the site as it is a developing area.
- There is 7.62m waste water drain in front of the site.
- The site does not have any sort of vegetation as of now.

THREAT:

These areas are easily prone to flooding as they contain clayey soil during the heavy rains.

Plate 4.6 : Site Analysis sheet 4

SITE ANALYSIS:

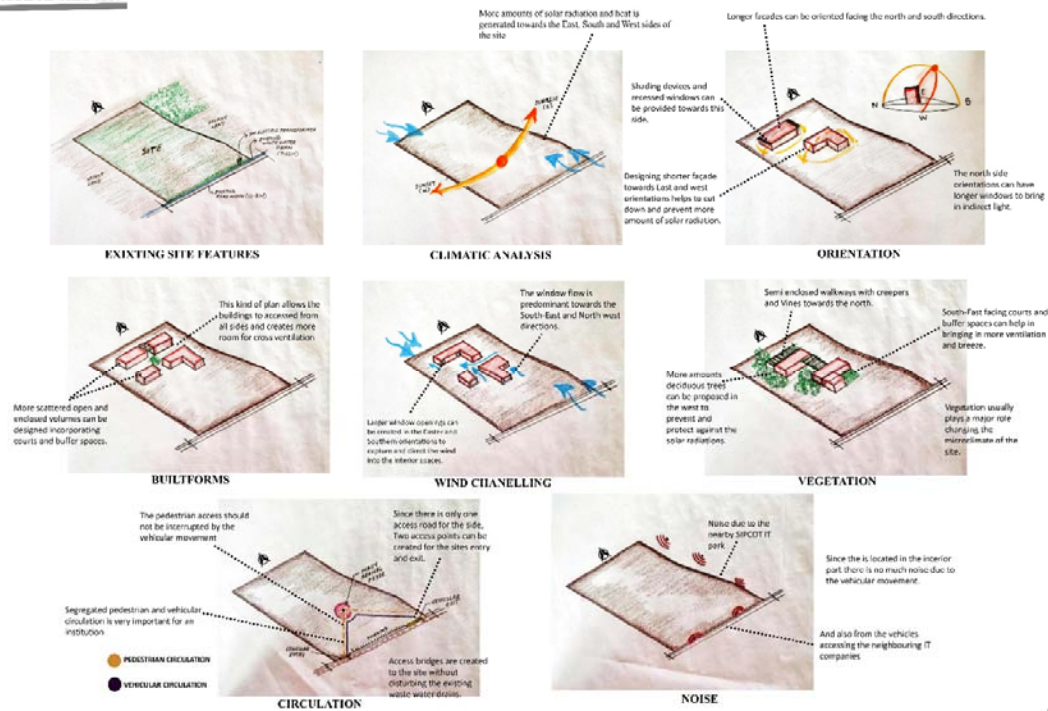


Plate 4.7 : Site Analysis sheet 5

ARCHITECTURAL DESIGN

5.1 COURSES OFFERED, STAFF CAPACITY, AND SPATIAL REQUIREMENTS

COURSES OFFERED AND STAFF CAPACITY

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DATE		PAGE	
1	1	1	1
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TOTAL SITE AREA: 1,597,736.56 SQ.M (110.03 ACRES)

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Plate 5.1 : Courses offered, staff capacity and spatial requirements

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5.3 DETAILED DRAWINGS

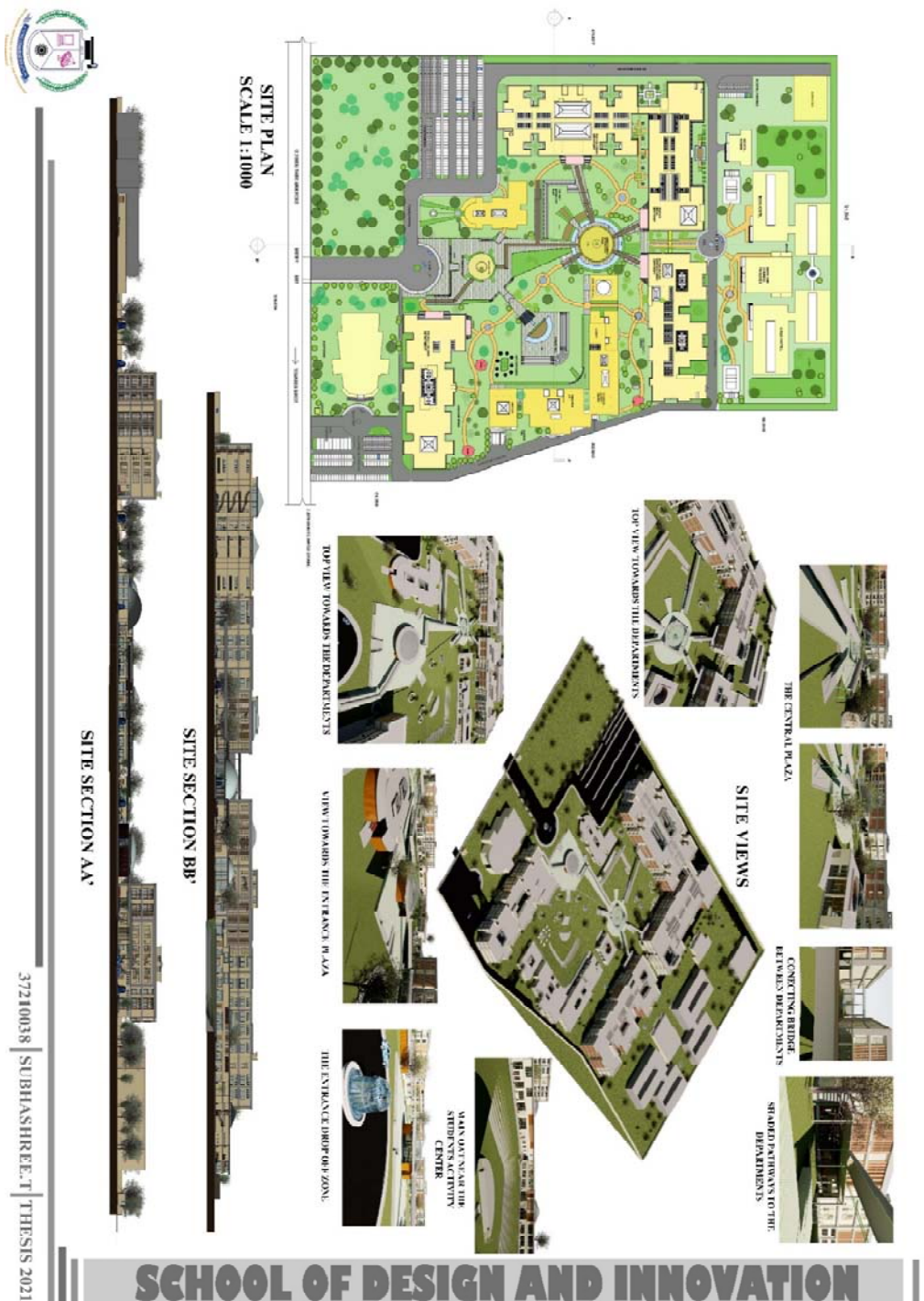


Plate 5.3 :Site plan, site views and sections



**Plate 5.4 :Fashion and graphics design departments
floor plans, sections and views**

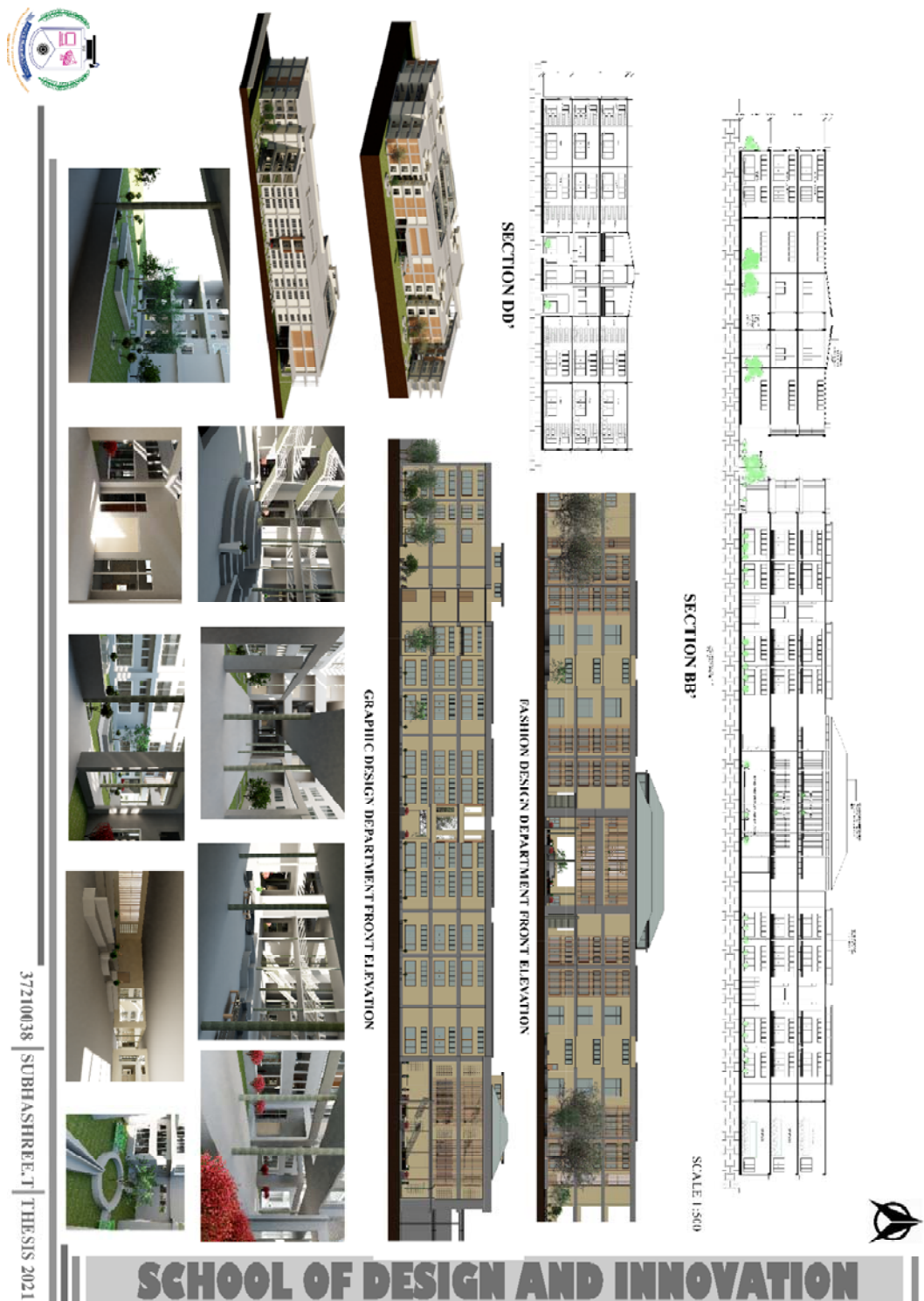


Plate 5.5 : Fashion and graphics design departments sections, elevations and views

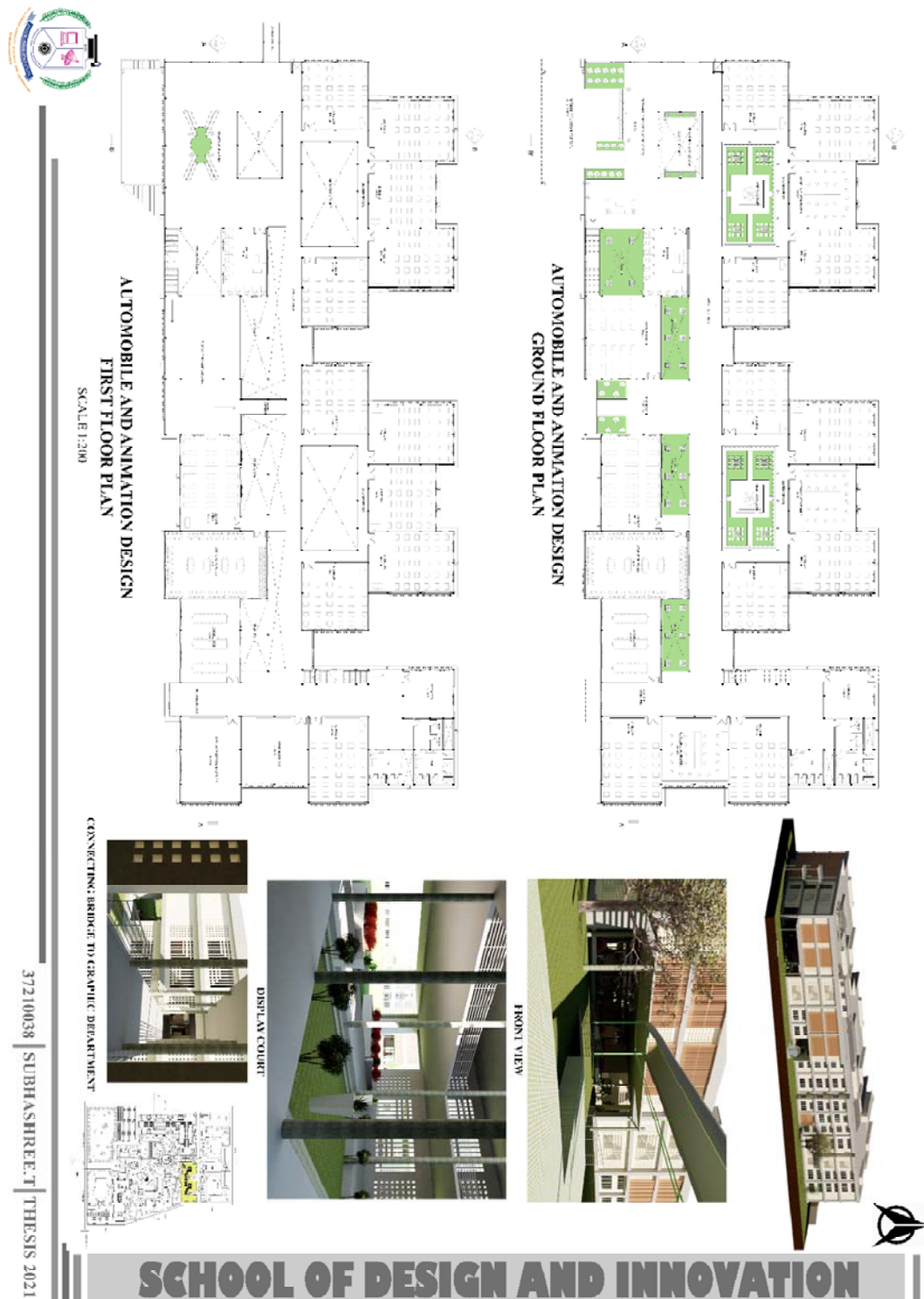
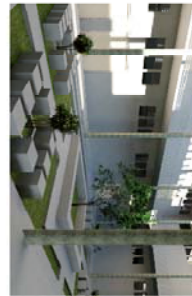
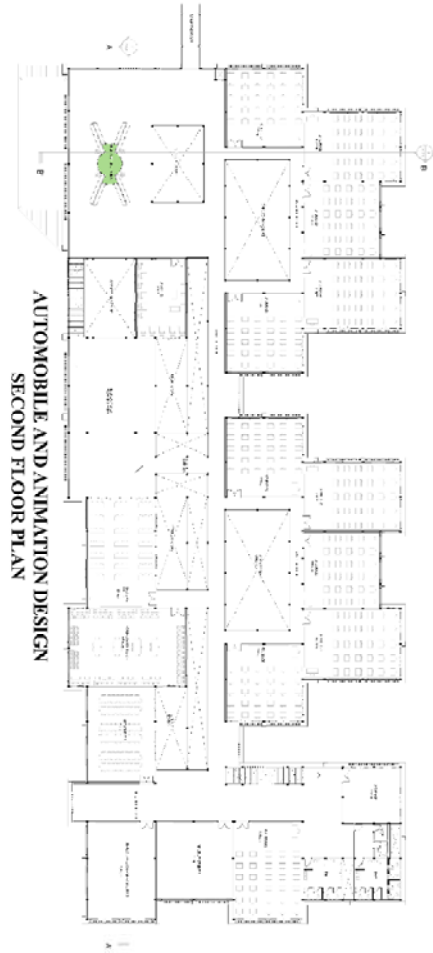
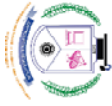


Plate 5.6 : Automobile and animation design departments floor plans and views



SCALE 1:200

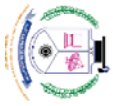
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Plate 5.7 :Automobile and animation design departments floor plans,elevation, sections and views



Plate 5.8 : Product design departments floor plans and views



PRODUCT DESIGN DEPARTMENT FRONT ELEVATION



SECTION AA'



PRODUCT DESIGN SECOND FLOOR PLAN

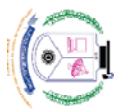


SECTION BB'



SCHOOL OF DESIGN AND INNOVATION

Plate 5.9 :Product design departments floor plan, elevation, sections and views



SCHOOL OF DESIGN AND INNOVATION

Plate 5.10 :Students activity center and Admin floor plans, sections and views

CHAPTER 6

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