THESIS REPORT ON

"VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE "

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF:

BACHELOR OF ARCHITECTURE

BY

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1190101004

THESIS GUIDE

PROF. (DR.) MOHIT KUMAR AGARWAL

SESSION

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TO THE

SCHOOL OF ARCHITECTURE AND PLANNING BABU BANARASI DAS UNIVERSITY LUCKNOW.

SCHOOL OF ARCHITECTURE AND PLANNING
BABU BANARASI DAS UNIVERSITY, LUCKNOW (U.P.).

CERTIFICATE

I hereby recommend that the thesis entitled "VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE ,ACHROL JAIPUR)" under the supervision, is the Bonafide work of the students and can be accepted as partial fulfillment of the requirement for the degree of Bachelor's degree in architecture, school of Architecture and Planning, BBDU, Lucknow.

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I am truly privileged to have had the support and guidance of such remarkable individuals and loved ones, and I will forever cherish their contributions to my success.

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- ALL INDIA COUNCIL FOR TECHNICAL EDUCATION (AICTE)
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The following website references have been used in this thesis –

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- Google images
- Google maps
- Google earth
- Times of India newsletter
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- Issu.com

CONTENTS

CHAPTER-1

INTRODUCTION

INTRODUCTION

Vocational, or skills-based, education is becoming more and more important today, with many employers expecting new employees to have all the practical skills they need to start work and for those who have to support their families immediately after senior secondary education. Vocational Education can be defined as the education that is based on occupation and employment. Vocational Education is also known as career and technical education (CTE) or technical and vocational education and training (TVET).It prepares people for specific trades, crafts and careers at various levels in all spheres of life. It involves various practical activities. It is some- times referred as technical education because the trainee directly develops expertise in a particular group of techniques.

Vocational education is related to the age-old apprentice- ship system of learning. In other words Vocational Education may be classified as teaching procedural knowledge. In order for Vocational Education to play its part effectively in the changing national context and for India to enjoy the fruits of the technical fields, there is an urgent need to redefine the critical elements of imparting vocational education and training to make them flexible, contemporary, relevant, inclusive and creative. The Government is well aware of the important role of Vocational education and has already taken a number of important initiatives in this area. This article throws light upon scope, problem areas, and government role in Vocational Education Implementation.

Campus is a place where large number of people come together interactive productivity productively and developed through learning from each other.creative thinking and direct experience are valued about learning memorization is possible by understanding the need of users student Have boundless imagination and it can involves student in the arms of learning it is thus careful integration of building and Open Spaces which ultimately define a physical presence of a campus.

NEED OF PROJECT

One in every ten Indians is engaged in some entrepreneurial activity. India ranks among the world's worst countries at encouraging entrepreneurs. For ease of starting a business, 166th out of 183 countries.

Reasons: Poor infrastructure. Inadequate financial resources. Then there is the question of corruption and bribery. Indian are averse to risk taking and would rather settle for secure salary paying jobs.

AIMS

To design a Primary school and vocational training institute for rural children which will help their development. design a center to impart training and skill upgradation of rural youth geared towards entrepreneurship development, and to help them in their effort to attain self-reliance, improve the quality of their lives, and thereby enhance their contribution to the development of our country.

The center will provide solutions to the unemployed youth aspiring to take up self-employment. Providing following services in an innovative, effective and cost effective manner, with a spirit of service.

OBJECTIVES

- To study the history, different processes, and present condition of the handicrafts in Jaipur.
- To design a formal space for artisans and offices related to handicraft, to practice, to produce, teach, and market products.
- To understand the trends in the handicraft industry and identify the problems that can be addressed through this project.
- To provide a platform for the collaboration of the artisans and designers directly eliminating the need for middlemen
- To aid in the dissemination of information about the new development for handicraft industry and technical growth.
- To develop methodology for local area planning. In the initial stage, the emphasis is to be given on economic development through handling problem of health, education, culture, communication, urban interface and social inequalities.
- To train manpower and faculty to undertake such work including date based development and research whenever necessary.
- To train barefoot planners who will undertake grass root level work in their respective areas of operation.
- Handicraft training and exhibition.

SCOPE & LIMITATIONS

This project will help rural communities will have the opportunity to build capacity and knowledge in the rural populace and lead to a healthier and more sustainable future. Promotion of local trades and creating opportunities for natives.

To develop facilities and amenities at the campus so that the students do not need to use any outer Resources. The campus can be made interesting by an interplay of light and shade, facade, landscape, steps, corridors, terraces, etc. The project will provide a chance to explore and implement the various technique of construction. This project will be focusing only on the development of the educational facilities and not on the residential facility on the campus.

Issues such as site access, the proximity of secured and unsecured parking areas, and even landscaping have implications regarding the efficiency and security of the overall site and building design.

METHODOLOGY

- STAGE 1-Problem identification
- STAGE 2-Understanding the industry
- STAGE 3-Aim and design objectives
- STAGE 4-Data collection and case study for design
- STAGE 5-Program flow Preparation of area statement
- STAGE 6-Site identification Site analysis
- STAGE 7-Site zoning Conceptual Ideas Site Development
- STAGE 8-Master plan Detailed design drawings 3d renders

HISTORY

Handicrafts are defined as the products (craft) made by hand or using simple tools used by hands. It is the unique expression of art that represents a culture, tradition, and the heritage of a country or a particular city. UNESCO defines handicraft as the artesian product are those produced by artisanal products are those produced by artisan either completely by hand or with help of mechanical devices which are utilities, authentic, decorative, functional, traditional, religiously, socially symbolic, and significant. These all items made by hands, often with the use of simple tools and generally autistics of objectives of utility and decoration. Handicraft products are characterized by.

Made by manual laborers.

Need of minimum machines.

There is a need for a substantial level of skills and experiments.

The Handicraft Industry in India:

India is known for its rich culture which includes many art forms. The handicraft industry has a history of several centuries. The artisans in the earlier days were known worldwide for their skill and craftsmanship. The exports of Indian hand-crafted goods have taken place from time immemorial. The handicraft sector indicates, which forms a major part of this rich cultural heritage of the country, utilizes the traditional skill of artisans in various crafts with woodenware, metalware, textile weaving & printing, marble & stone crafts, leather works, jewelry, etc. This skill is handed down from generation to generation in the form of family tradition means this skill is Indicate the significant level of traditions.

The following approaches will be promoting the sustained growth of the handicraft clusters and sustained earnings for the artisans.

- Need of training as per different stages.
- Development of infrastructure facilities.
- Promote sufficient manpower.
- Inadequate financial incentives.

The Indian Handicraft industries play an important role in the world in the Handicraft field. This is one of the oldest cultures of India which represent different traditional art, of the different part of India.

Handicraft products have a large market in the world due to their growth potential in the world. Many countries entered and some others country wants to enter in this field because this is an unexplored field for business organization and some of the countries like China, Korea, and Thailand, etc. are major players in Handicraft industry. Due to its uniqueness and quality, the number of customers is increased in the present era. The demand for these products is increasing in many countries like Germany, France, Italy, and Switzerland, etc. The substantial supply of giftware products of handicraft has transformed these country giftware market of handicraft into a fierce price in a competitive marketplace.

CHAPTER-2
PROJECT HISTORY

ABOUT THE CITY

is the Capital and the largest city of the north-western Indian state of Rajasthan. Jaipur was made the capital of the newly formed state of Rajasthan in 1949. Jaipur was founded by Rajput chief of Kachhwaha clan Jai Singh II on 18 November 1727, who ruled the region from 1699 to 1743. He planned to shift his capital from Amber, 11 kilometers (7 mi) to Jaipur to accommodate the growing population and increasing scarcity of water.

Topography

Jaipur is located in the northeastern part of Rajasthan and covers a total area of 467 square kilometers (180 sq mi). The city is surrounded by fertile alluvial plains to the east and south and hill chains and desert areas to the north and west.

Handicrafts industry in Jaipur

Major crafts of Jaipur included block printing, bandhani, sculptures, and stone carving. Zari work, tarkashi, zardozi work, and Gota Patti work were done on clothes. Jewelry and gems included the work of silver, Kundan, and meenakari. In the items of art and craft, blue pottery, ivory carving, Patwa craft, miniature paintings, leather wares, shellac work, etc. were made.

JAIPUR MAP

ABOUT THE PROJECT

Location: Village Achrol Jaipur, Rajasthan 303002
34 kilometers away from Jaipur
Site Area: 23278sqm (5.75 acres)
Site level: on the road level
Topography: Flat land
Coordinates: 27°08'22"N 75°57'32"E
Achrol is located 34 Km away from Jaipur city in Rajasthan. The handmade papercraft was traditionally practicing Achrol. Achrol is a small Village situated approximately 34 kilometers away from Jaipur,the capital of Rajasthan. The total area of Achrol is about 3351 hectares. About 173.47 ha is un-irrigated area. About 742.53 ha is irrigated area. About 742.53 ha is irrigated by wells/tube wells.

COURSE OFFERED

Course 1 (Development of innovative joinery in wooden furniture)

Woodworking is practiced as a skill all over the world. There is no space today, whether in schools, offices, homes, or industries where you do not find the use of any wooden materials. This is a field in which, in India, there is an approximately 15% annual growth, however, there are not enough trained/skilled persons in the Industry. In India, almost 75% of the persons employed in this fieldwork in the unorganized sector resulting in poor quality and production inefficiencies whereas, the global woodwork industry, including those set up in India today, has evolved into a highly mechanized and automated manufacturing unit with ever-increasing production efficiencies. There is therefore a dire need to provide formal training opportunities to students in this field so that we can fill the gap that exists between. demand and supply of adequately skilled persons required both in India and abroad and reverse the tide in production quality and outputs. The program under the School of Woodworking Skills will enable the students to be:

Trained students for multiple skill set under the domain of woodwork like Solid wood, Assembly, panels, Modular Furniture Design.

Course 2 (Entrepreneurship development training in the hand- made paper making)

The history of handmade paper crafts dates to the Mughal era around the 16th century and continues to date. It was brought to India by Mughal from Turkey. The early paper artisans used to make a special paper for the Mughal court. In Jaipur, the craft was patronized by Maharaja Sawai Ishwari Singhji. In Jaipur, special paper makers were appointed to work for the royal family. These people used to make paper to write manuscripts. The craft flourished due to its constant demand and new interventions made by the artisans. Sanganer in Jaipur became the main center for making handpapers.

Course 3 (Entrepreneurship development in handicrafts)

This industry employs 13000000 artists. Several small villages work on these handlooms and handicrafts in eco-friendly and low-energy environments. Products from India have been appreciated worldwide. There is a great demand for our products outside our country. Handicraft entrepreneurship is really a tool to eradicate the unemployment in rural economy and become the source for economic development both in rural as well as urban areas. Its need of hour to make this sector well organised by entrepreneurships and also gives full support financially as well.

Course 4 (Computer-aided design & representation techniques)

The fashion designer has to improve competence and capacity to produce and sell locally and also in the international markets to meet corporate goals which will, in the long run, translate into national goals. Fashion Education which is the foundation of garment production can be enhanced by using CAD software so that firms within the industry can take advantage of the opportunities in the markets. Productivity can increase with CAD because CAD is uniquely fast and easy.

Course 5 (Pattern cutting & stitching of garments)

Pattern makers are a vital part of the fashion and manufacturing industries. It is the job of the pattern maker to create a pattern of any garment to be made. Pattern makers use their knowledge of fabrics, sewing skills, and ability to alter garments to draft a pattern that replicates a design concept. Eventually, a pattern maker's pattern is used by an apparel manufacturer to mass-produce the garment for clothing retailers. With formal education and experience, pattern makers can pursue careers as fashion designers, manufacturing managers, and fit designers and garment construction

(stitching) provide students with knowledge about fabric choice, pattern selection, and how to use a variety of basic sewing tools. Completing this course, the student can also join a professional organization such as the Custom Tailors and Designers Association. This course can include access to professional listings, marketing.

Course 6 (Hand block printing)

It is the essence of India and the crafts that make India stand out in the world. However, the numerous arts and crafts are slowly dying and so have to be renewed and brought back to life. Hand Block Printing is such an art that can be used for making every piece of cloth, every design unique and different from others. This can never be possible by using automated machinery wherein 100s of meters of fabric would come out in the same design and color. It provides sustainable livelihood to many local families. It is a skill passed through many generations and has traditionally been done using Natural Dyes and should be preserved. Sanganer and Bagru are the places where most of the Block Printing is done in Rajasthan. Sanganer, near Jaipur, is famous for its fine hand block printing in subdued colors. In Rajas- than, there are sandy stretches of desert where a unique method of cloth-dyeing is prevalent. The method is called Ajrakh and the print is in dark shades of blue and red with geometrical. The traditional blockprinting running in parallel lines technique of Ajrakh has attained a peak of excellence at Balotra.

CHAPTER-3

SITE & CLIMATE ANALYSIS

SITE LOCATION

Location: Village Achrol Jaipur, Rajasthan 303002
34 kilometers away from Jaipur
Site Area: 23278sqm (5.75 acres)
Site level: on the road level
Topography: Flat land
Coordinates: 27°08'22"N 75°57'32"E

SITE ACCESSIBILITY

• Achrol is located on Tonk road,
which is connected to NH-248 that leads to all major destinations in Jaipur and the rest of India.

• The Jaipur airport is located centrally in Achrol and is well connected to all major flight routes/ destinations domestically and internationally.

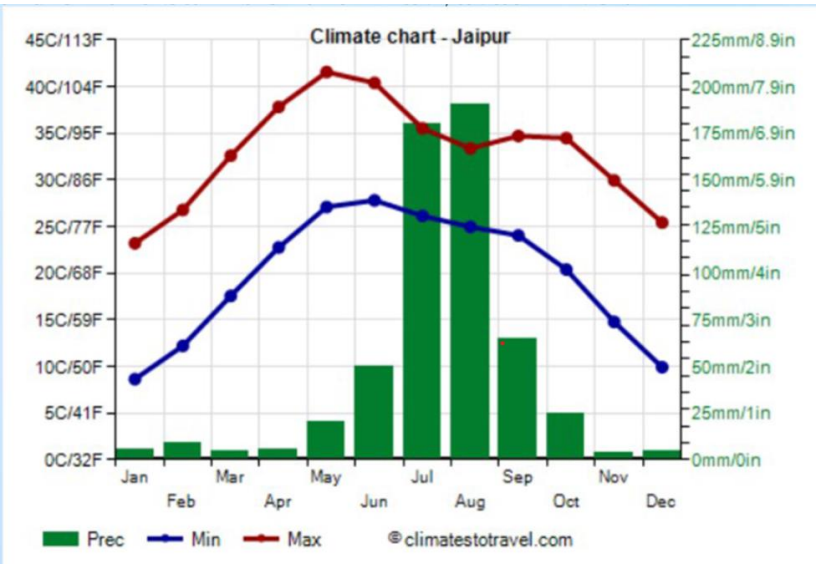
• Achrol nearest railway station is Jaipur Railway station are both well connected through Rajasthan and can be reached by any of the local trains.

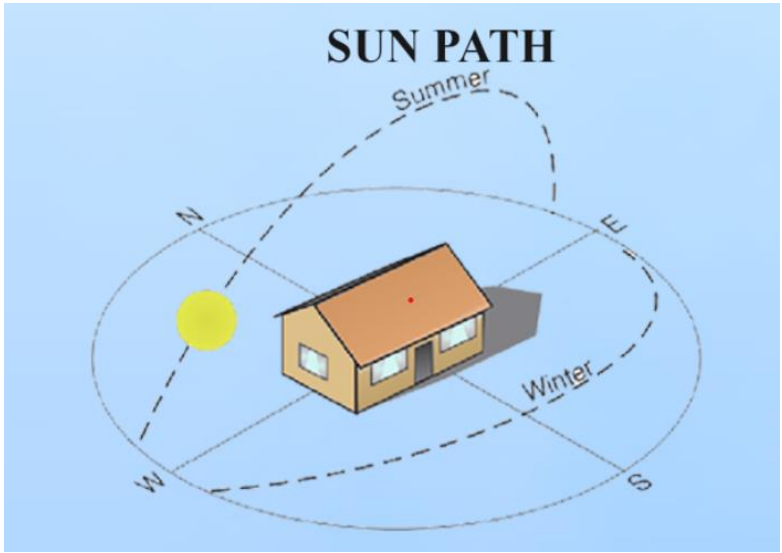
• Achrol nearest Bus stand is Jaipur Bus stand.

CLIMATE ANALYSIS

The Achrol lies 441m above sea level. The climate here is a hot semi-arid climate. During the year there is little rainfall. The average annual temperature in Achrol is 25.2 deg * C | 77.4 °F. About 599 mm | 23.6 inches of precipitation falls annually. June is the warmest month of the year. The temperature in June averages 33.4°C | 92.1°F. January is the coldest month, with temperatures averaging 15.4 °C | 59.7 °F.

The climate of Jaipur is hot semi-arid, with a rainy season that runs from approximately from mid-June to mid-September, due to the monsoon, and a dry season from late September to early June. The city is located in the north-west of India, in the state of Rajasthan (of which it is the capital), at 27 degrees north latitude and 430 meters (1,400 feet) above sea level, and on the banks of the Dravyavati River.





Hot-dry desert and semi-desert climates are characterized by very hot, dry air and dry ground. Day-time air temperatures may range between 27 and 49°C (normally higher than h / 31 * to 34°C skin temperature),but at night it may fall as much as 22°C Humidity is continuously moderate to low. There is little or no cloud cover to reduce the high intensity of direct solar radiation. The clear skies do, however, permit a considerable amount of heat to be reradiated to outer space at night. The dry air, low humidity and minimal rainfall discourage plant life, and the dry, dusty ground reflects The strong sunlight, producing an uncomfortable ground glare. Local thermal winds often carry dust and sand.

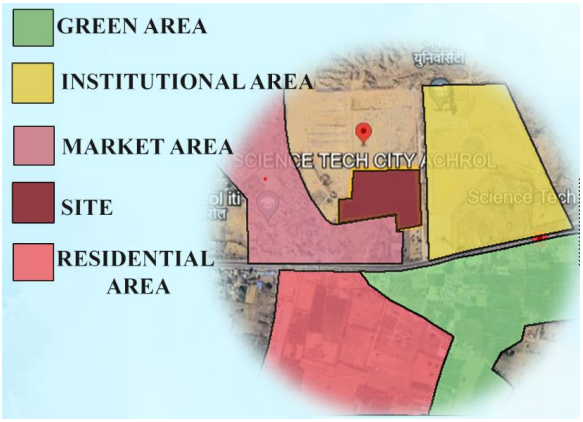
CHARACTERISTIC

- Hot dry weather in summer and cold in winter.
- Very little rainfall
- Very low humidity
- Sandy or rocky ground with very low vegetation cover
- High temp. difference between night and day
- Hot winds and frequent dust-storms
- High summer day time temp.(32° C-36 °C)
- High solar radiation

Jaipur - Average precipitation			
Month	Millimeters	Inches	Days
January	6	0.2	1
February	9	0.4	1
March	4	0.2	1
April	6	0.2	1
May	20	0.8	2
June	50	2	4
July	180	7.1	9
August	190	7.5	9
September	65	2.6	4
October	25	1	1
November	3	0.1	0
December	4	0.2	0
Year	565	22.2	32

Jaipur - Average temperatures (1991-2020)						
Month	Min (°C)	Max (°C)	Mean (°C)	Min (°F)	Max (°F)	Mean (°F)
January	8.6	23.2	15.9	48	74	60.7
February	12.2	26.8	19.5	54	80	67.1
March	17.6	32.6	25.1	64	91	77.1
April	22.8	37.8	30.3	73	100	86.5
May	27.1	41.6	34.3	81	107	93.8
June	27.8	40.4	34.1	82	105	93.4
July	26.1	35.5	30.8	79	96	87.5
August	25	33.4	29.2	77	92	84.5
September	24	34.7	29.4	75	94	84.9
October	20.4	34.5	27.4	69	94	81.4
November	14.8	29.9	22.4	59	86	72.2
December	9.9	25.4	17.7	50	78	63.8
Year	19.7	33	26.3	67.5	91.4	79.5

PHYSICAL ASPECTS



Groundwater use The main source of irrigation in district Jaipur is wells. Almost 95% of irrigation is through groundwater. Sewerage system All the villages in the region have a septic tank and soak pits for disposal of night soil. It is necessary to develop a mechanism to connect all these villages with a sewerage network system. Power supply It is observed that all villages in the region benefit from the availability of power supply for domestic use.

SWOT ANALYSIS

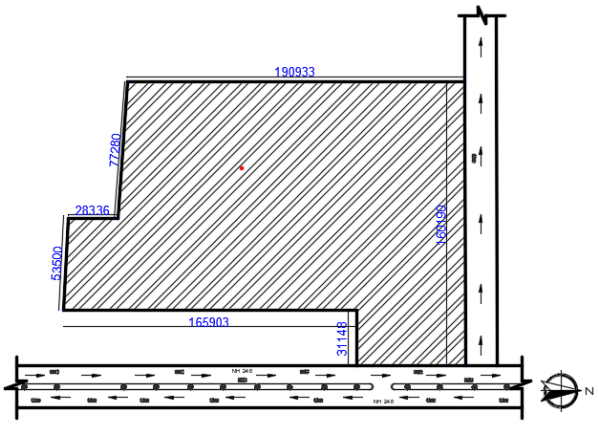
- **Strength**
  Site is connected to a state highway
  Site is well connected to the city by public transport
  Loam is the best soil type for construction due to its ideal combination of silt, sand, and clay.

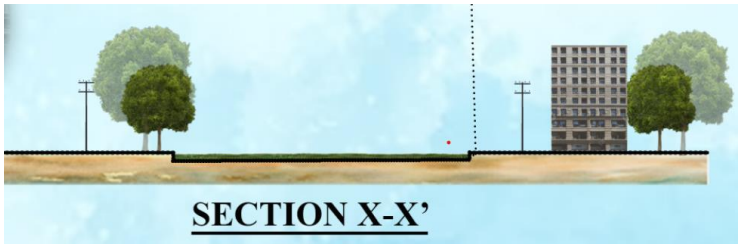
- **Weakness**
  Being near to highway noise may disturb the campus
  No views from the site
  Less number of trees near the site.

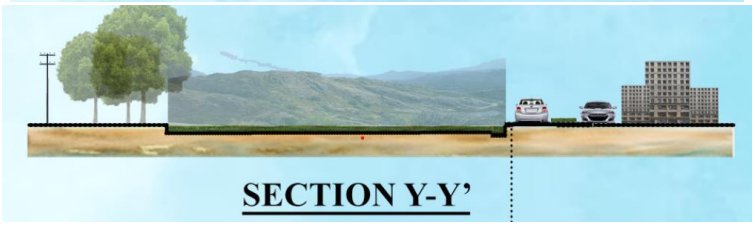
- **Opportunity**
  Campus can be seen from all the side.
  As there are no views from the site opportunity to create internal views.

- **Threats**
  Sandstorms due to lack of trees. Noise from highway

SITE SURROUNDINGS







CHAPTER-4

LITERATURE CASE STUDY

CASE STUDY-1
National Vocational Training Institute for Women, Noida

The institute is a milestone in the field of vocational training for women. It offers a number of vocational programs. The programs are approved by NCVT as CTS, CITS. In addition "Technical Diploma in Computer" supported by IBM is going to start from this session. These programs are NSQF compliant. The institute is located at main entry point in Noida and well connected with metro and bus service. It is spread out in the area of 7.5 acer. It has 5 building blocks namely Administration Block, Workshop Block, Workshop II Block, Hostel Block, Residential Block. It has state of art labs with highly trained instructors.

WHAT IS NVTI

National Vocational Training Institute is the training institute only for women.
The institute was established by Ministery of Labour and Employment 1977.

INTRODUCTION

- Designed and launched in 1977.
- The program attempts to promote the women employment in industry (mainly organised sector) as semi- skilled/skilled & highly skilled workers by increasing their participation in skill training facilities.
- Site Area -8 acre (approx)
- D-1, Block D, Sector 1, Noida, Uttar

SITE AND SURROUNDINGS

The main landmark around NVTI is 22 storey Gail building. It also has connectivity with metro. 40% of site area is covered in green.

AIM & OBJECTIVES

1- Planning, designing, executing and pursuing longterm policies for vocational training of women in areas having wage/self employability; thereby increasing women's participation in economic & social development of the country.
2- Drawing plans and schemes for promoting participation of women in vocational training.
3- Identification of vocational skill training areas.

4-Sensitizing social environment through publicity campaigns.

Aim of the Literature Study

To understand the working and functioning of the institution and the teaching methodology of the trades, an ITI was studied. The main focus of this study includes:

1-Understanding the functional organisation of the Institute

2-Workshop design and function

3- Servicing and storage

COURSES

1- As this vocational institute for only girls. They have provided hostel facility for all the students at very convenient fees because its an government institute.
2- There are two types of courses are there short and long term.
3- For both workshops are there, one classroom for each course 15x10m.

ADMINISTRATION BLOCK

The administration block includes the principal room, conference room, college administrative staff office, and also give examination section, etc. Administrartion block has g+2 floor with all facilities with huge wide corridor. It connected with a both workshop block with proper corridor from the admin block.

- Principal Office
- Reception Area
- Assistant Director Office
- Waiting Area
- Staff Room
- D.T.P Section
- Store Room
- Library
- Canteen
- Secretarial Practice – Computer Lab
- HUB (DLP)
- Conference Room
- Dining Room (for guest)

ELEVATION

WAITING ROOM

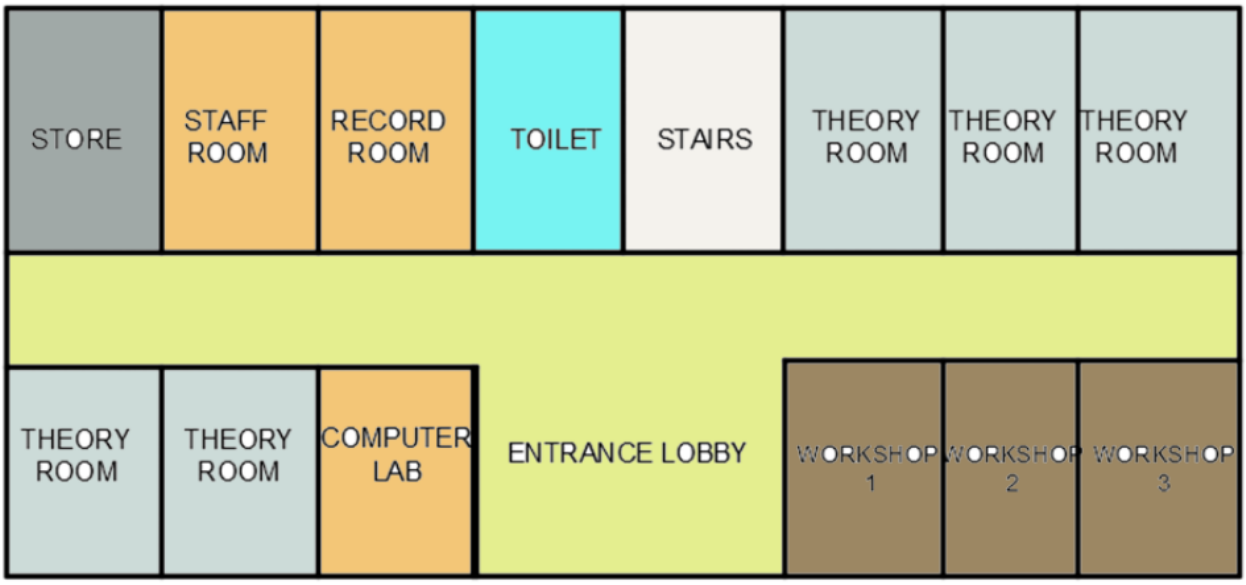
DLP ROOM

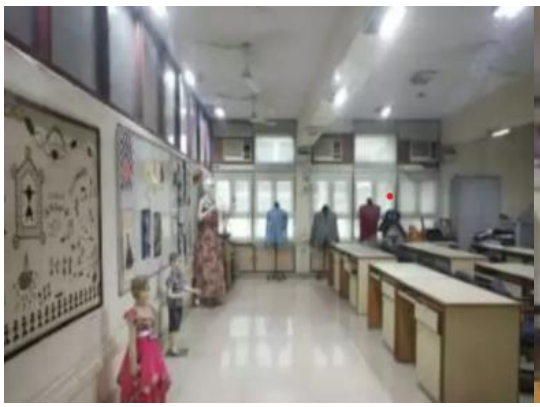
DTP ROOM

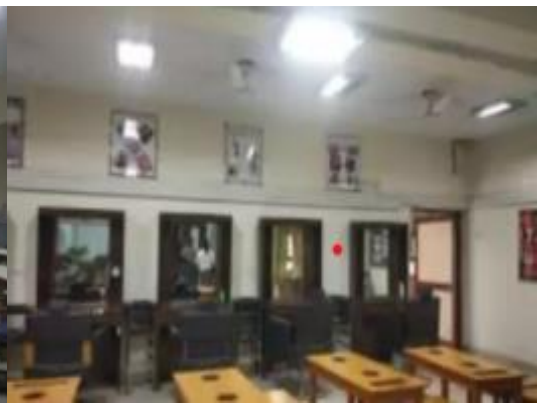
WORKSHOP

WORKSHOP BLOCK – 2

- Theory Rooms
- Cosmetology
- Fashion Designing (Basic)
- Fashion Designing (Advanced)
- Dress Making sewing lab
- Fashion technology lab
- HSC lab
- Drafting Lab
- Audio Visual Lab

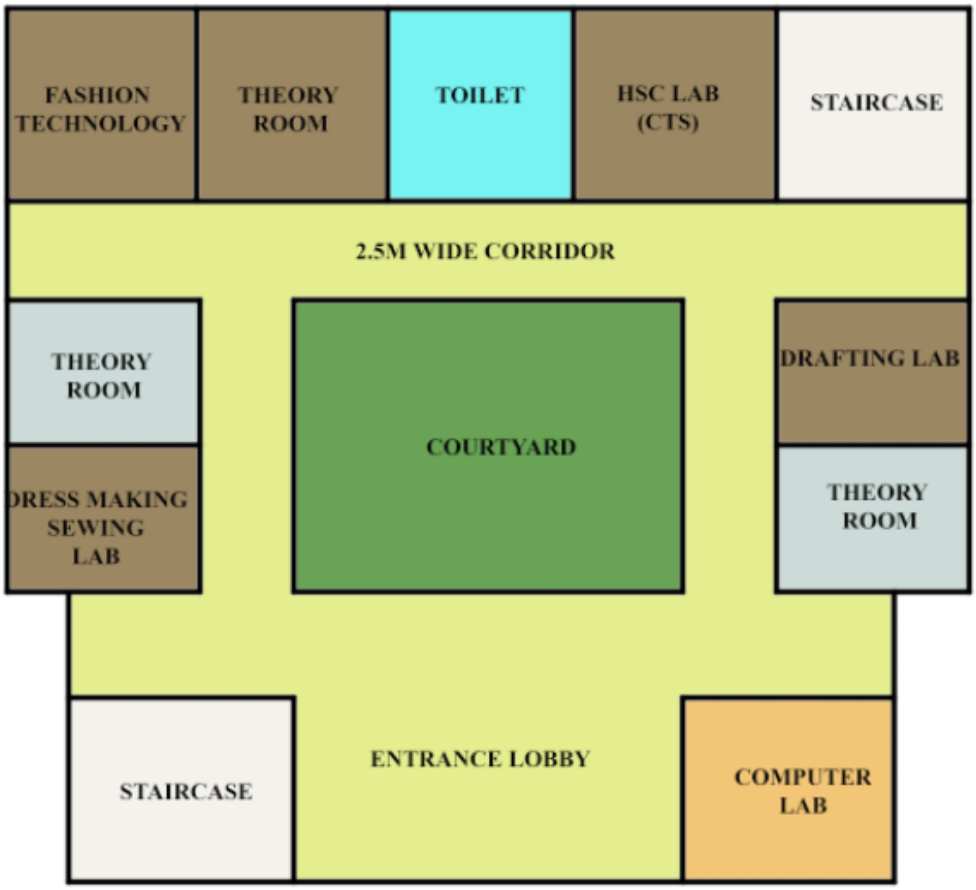

STORE
STAFF ROOM
RECORD ROOM
TOILET
STAIRS
THEORY ROOM
THEORY ROOM
THEORY ROOM
THEORY ROOM
THEORY ROOM
COMPUTER LAB
ENTRANCE LOBBY
WORKSHOP 1
WORKSHOP 2
WORKSHOP 3





WORKSHOP BLOCK –1

Meditation Room
Architectural Draughtsmanship
Electronic Mechanic
CAD Labs
Interior Designing Class
Audio - Visual Lab
Principles of Teaching



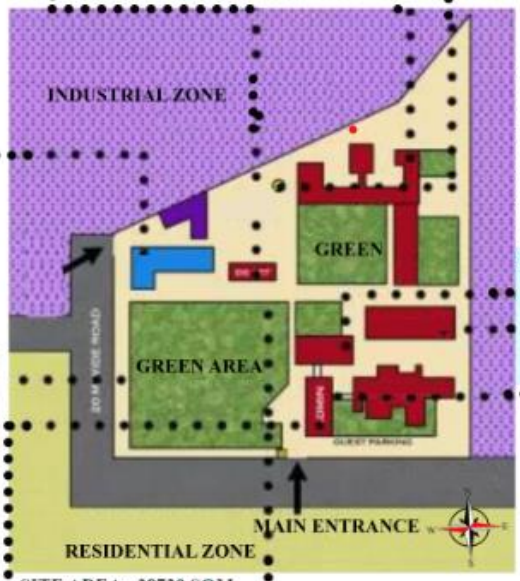
D.G SETS
PROPER FACILITY FOR ELECTRICITY BY PROVIDING INDIVIDUAL STRUCTURE

GIRLS HOSTEL
ACCOMODATION FACILITY FOR BOTHE LONG AND SHORT TERM COURSES.

OVERHEAD WATER TANK
INSTITUTE HAS ITS OWN WATER TANK FOR SUPPLY IN HOSTEL AND OTHER BLOCKS.

N.V.T.I MODEL
MODEL OF N.V.T.I PLACED NEAR ADMIN BLOCK

SURFACE PARKING
COVERED PARKING FOR TEACHERS FOR APPR. 8 CARS



WORKSHOP-2
3 STOREY BUILDING WITH APPR. 15 CLASSROOMIN 1ST & 2ND FLOOR WITH LONG AND UNVENTILATED CORIDOORS. GROUND FLOOR HAVE CLASSROOMS WITH STAFF ROOMS.

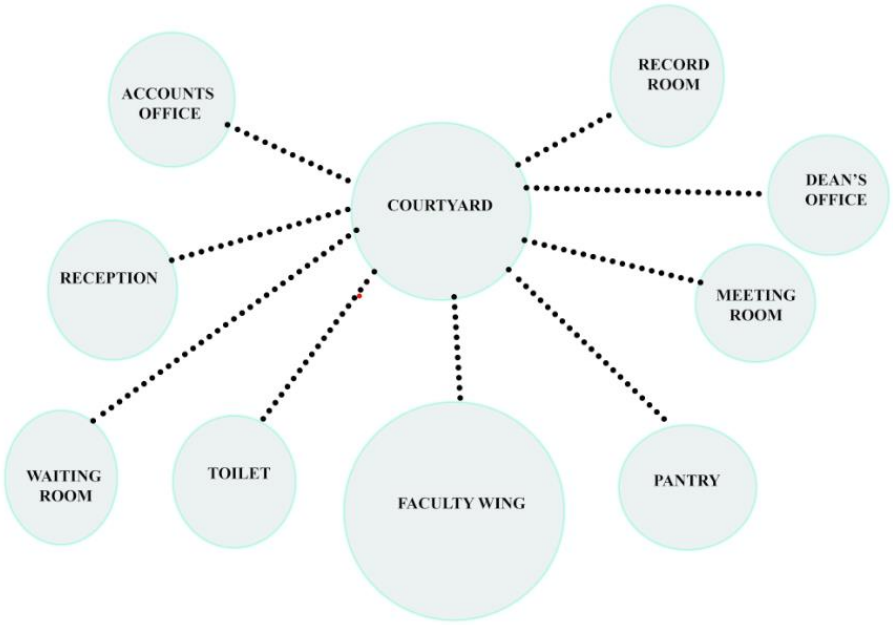
WIDE PATHWAYS
8 M WIDE PATHWAYS ON ALL SIDES FOR FIRE BRIGADE

SITE AREA =28720 SQM
7.1 ACRE

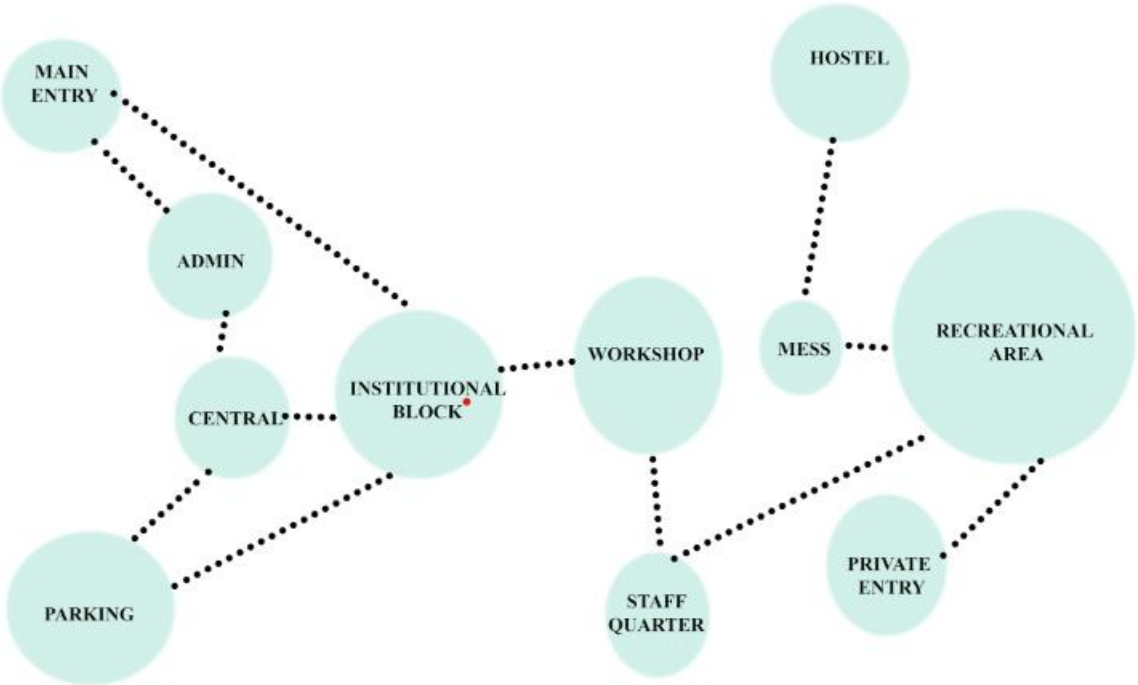
FEE SUBMISION
FEE SUBMISSION IS BETWEEN TWO BLOCKS AND COVERED WITH GREEN CURVED FIBRE SHEET

ADMIN BLOCK
RECEPTION ON ENTRANCE WITH TRAINING SECTION, WAINTING, PRICIPAL CHAMBER, DIRECTOR OF TRAINING, ADIMINSTRATIVE SECTION

GREEN AREA
TWO MAIN PARKS, ONE IS ON ENTRANCE AND OTHER IS IN FRONT OF HOSTEL



ADMINISTRATION BLOCK



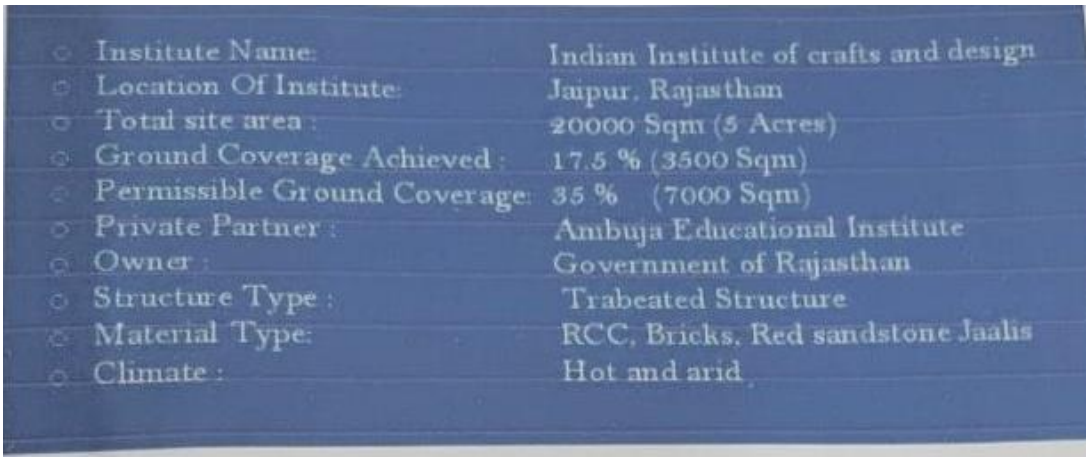
SITE ZONING

S.NO.	SPACE	AREA
1	Business center	450 sqm
2	Administrative block	400 sqm
3	Institutional block	1200 sqm
4	Workshop block	2400 sqm
5	Mess/Kitchen	600 sqm
6	Hostel block 1	600 sqm
7	Hostel block 2	600 sqm

S.NO.	WORKSHOP BLOCK 2	AREA (SQM)
1	Electronic theory	80
2	CITS Room	120
3	AUDIO VISUAL LAB	140
4	ELECTRONICMECH.LAB	80
5	ELECTRONICMECH.LAB	80
6	TEACHING -I	60
7	TEACHING -II	60
8	TOILETS	30
9	CUTTING AND SEWING LAB	120
10	THEORY ROOM	60

CASE STUDY-2
INDIAN INSTITUTE OF CRAFTS & DESIGN

The Indian Institute of Crafts & Design was setup as an autonomous institute by the Government of Rajasthan in the year 1995 to act as a catalyst of change in the craft sector. Since October 2007, the Institute is being funded and managed by Ambuja Educational Institute (AEI) under the Public Private Partnership (PPP) model. Beginning from the 2017-18 sessions, the fresh intake of ICD now awards degrees in Bachelor in Design and Master in Design in collaboration with The Central University of Rajasthan This Institute works towards the evolution of crafts and the craft persons in the contemporary socio economic context. Through the programmes of Education, Research, Documentation, Training, Outreach and Consultancy the Institute strives to become a Centre of Excellence. ICD is continuously evolving in a vibrant environment of experimentation and innovation Spread over lush green and cheerful campus in the Jhalana Institutional Area, Jaipur, IICD infrastructure such as the academic,administrative and hostel blocks with studios, library, workshops and research labs,resource centre, administrative offices, display spaces, girls hostel mess, common room, sports area, etc, is ideal for creative education.



Institute Name:	Indian Institute of crafts and design
Location Of Institute:	Jaipur, Rajasthan
Total site area :	20000 Sqm (5 Acres)
Ground Coverage Achieved :	17.5 % (3500 Sqm)
Permissible Ground Coverage:	35 % (7000 Sqm)
Private Partner :	Ambuja Educational Institute
Owner :	Government of Rajasthan
Structure Type :	Trabeated Structure
Material Type:	RCC, Bricks, Red sandstone Jaalis
Climate :	Hot and arid

APPROACH TO THE INSTITUTE

10.5 Kms from Jaipur Railway Station

7.5 Kms From Jaipur International Airport

8.0 Kms from Sindhi Camp Bus Stand

APPROACH ROADS

Main Road: 9m Wide Road

Internal Road: 6m Wide Road

SURROUNDINGS

East-Institute of development studies

West-Smriti Van

North-Anti Corruption Bureau

South-National Archieves Of India

STUDIO/LECTURE ROOMS

Studio And lecture rooms are one of the most important part of an institution.

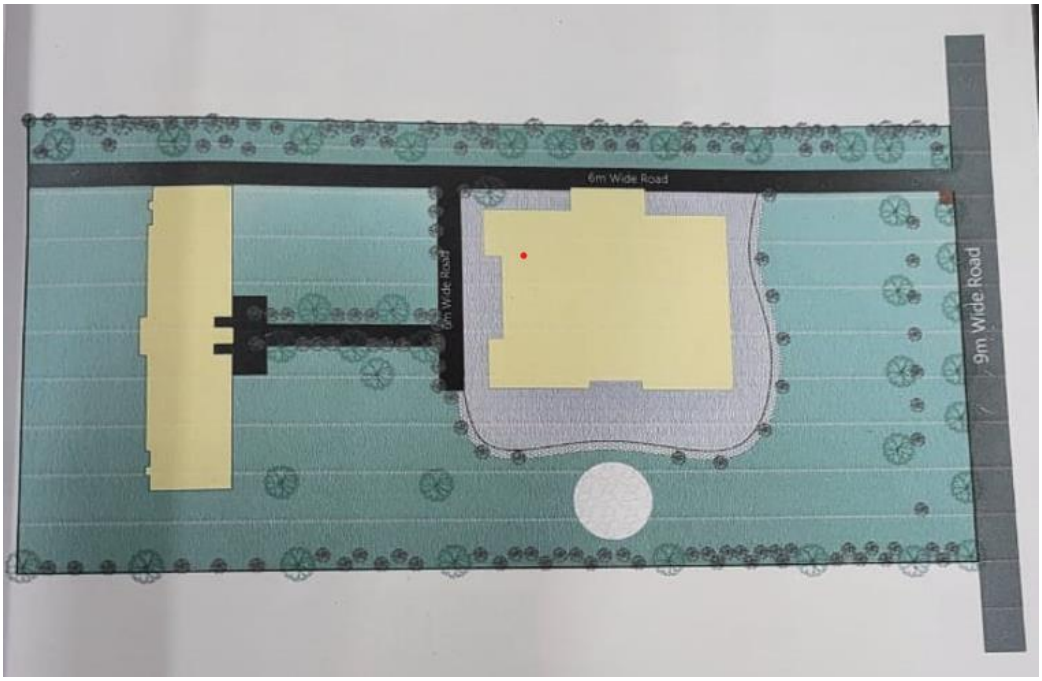
Specially related to crafts and architecture. This institution is having 4 lecture rooms and 5 Studios. As the Institution is having under Graduation and post-Graduation for both the Programmes The under Graduate program is of 4 years with the maximum Capacity of 80 Students in a batch leading for different Under Graduate Programs The Different Programmes are Soft Material Specialization, Hard Material Specialization, Fired Material Specialization, Fashion Design

OPEN STUDIOS

Open Studio concept is one of the best ways to keep the students fresh and calm specially in the field of Craft and designing. The institution also has this open studio concept for the students to explore more from the natural world and green environment. At the backyard of the Institutional Block there is green lawn having some stone pebbles which can be easily used for the exploration of different ideas and thoughts in that green environment The most of the unbuilt area of the

institution is green as it is having only 17.5% of the ground coverage so out of the rest of the 82.5% area the 60% is green.

SITE PLAN



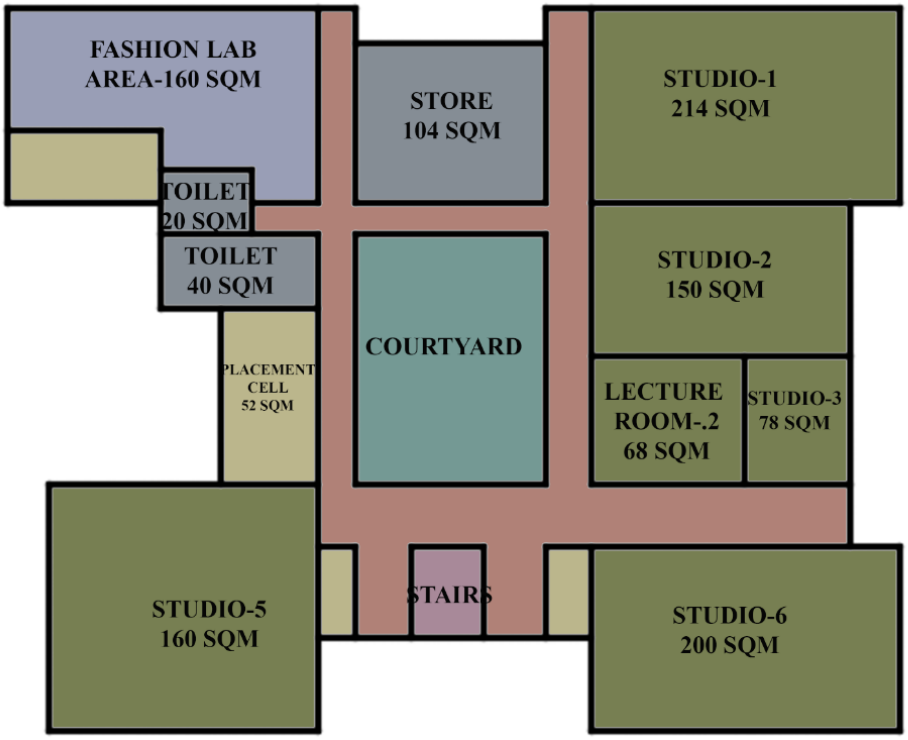
AREA DISTRIBUTION OF THE INSTITUTION

There Are two blocks in the institution

- Institutional Block
- Hostel Block
- Area Of Block 1 (Institutional Block)= 2250 Sqm
- Area Of Block 2 (Residential Block) =1250 Sqm

FLOOR PLANS

GROUND FLOOR PLAN



FIRST FLOOR PLAN

This type of workshop comes under Hard Material Specialization, This Workshop is Designed for the 30 students who can work at a time. In this workshop major works to perform are drilling. Grinding, welding, Cutting, Polishing, Moulding Etc.

Machineries Used

- Surface/Thickness Planer
- Chain/Chisel Mortiser
- Tenoning Machine
- Grinder vinding Machine
- Jig Saw
- Compressor
- Nail hitling Machine
- Joinning Machine

Wood Products

- Wood Handicrafts
- Wood Furniture.
- Wooden Jaali
- Plywood Furniture
- Fibre Board Furniture

Working and Process

here every machine plays its role in a different way

Surface/Thickness Planert:is used to change the thickness of wood

hain/Chisel Mortiser it is used to cut the Square or rectangle holes.

Tenoning Machine it is used to join the Two pieces of Wood

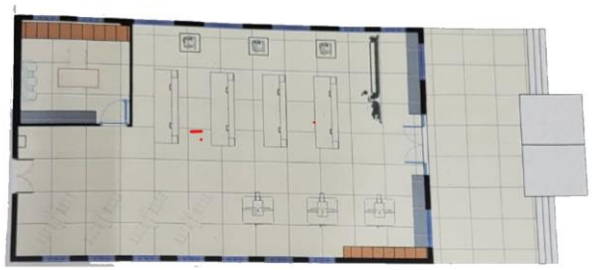
Grinder/Grinding Machine is used for the sanding of wood

Jig Saw it is used to cut the wooden planks and blocks

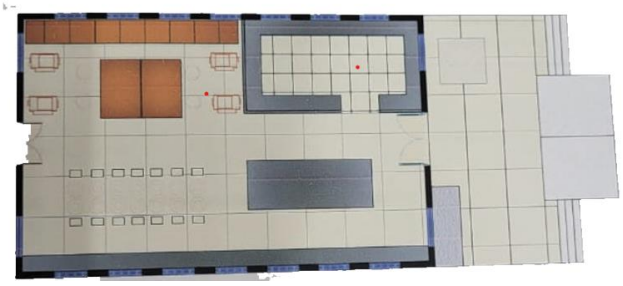
Compressor It is used for the nailing Hitting Machine

Nall hitling Machine it is used to place the nail for the joints

WOOD WORKSHOP PLAN



CERAMICS WORKSHOP PLAN



The Area of the residential Block is 1250 Sqm which is having a 67 Three bedded rooms with the maximum capacity of 201 students. The area of a single unit is 24 Sqm The block has been designed on a grid of 6*4. The balconies of all the rooms are connected which provided enough space for the circulation too. The mess and kitchen is- provided at the ground floor for the easily accessibility and good services. The hostel is provided only for girls as the girl and boy ratio in the campus is approx.. 80:20. Residential Facility is not available for the faculties at the campus.

LITERATURE STUDY-1
VAGHALDHARA VOCATIONAL TRAINING CENTRE

INTRODUCTION

LOCATION: Shri Nathubhai And Shrimati Parvatiben Nathubhai Desai Vocational Training Centre,nh-8, Vaghaldhara, valsad, gujarat

SITE AREA: 18000 SQ M

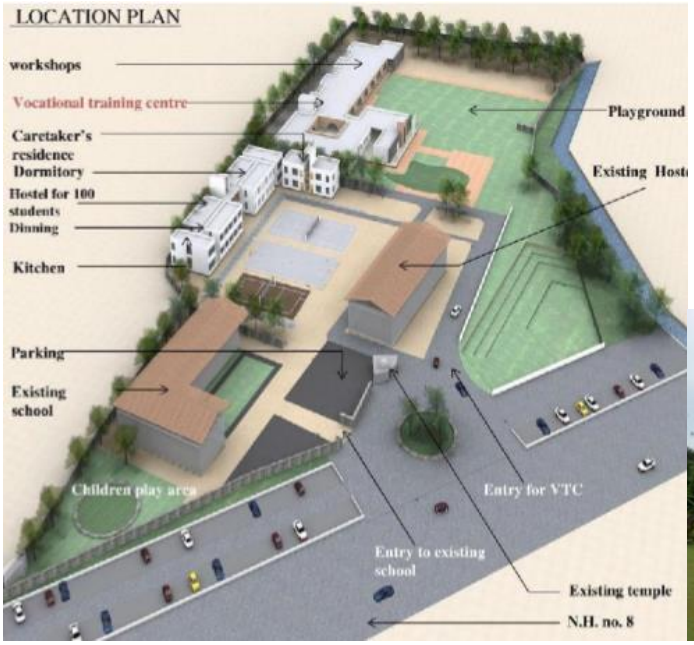
COMPLETION: 2010

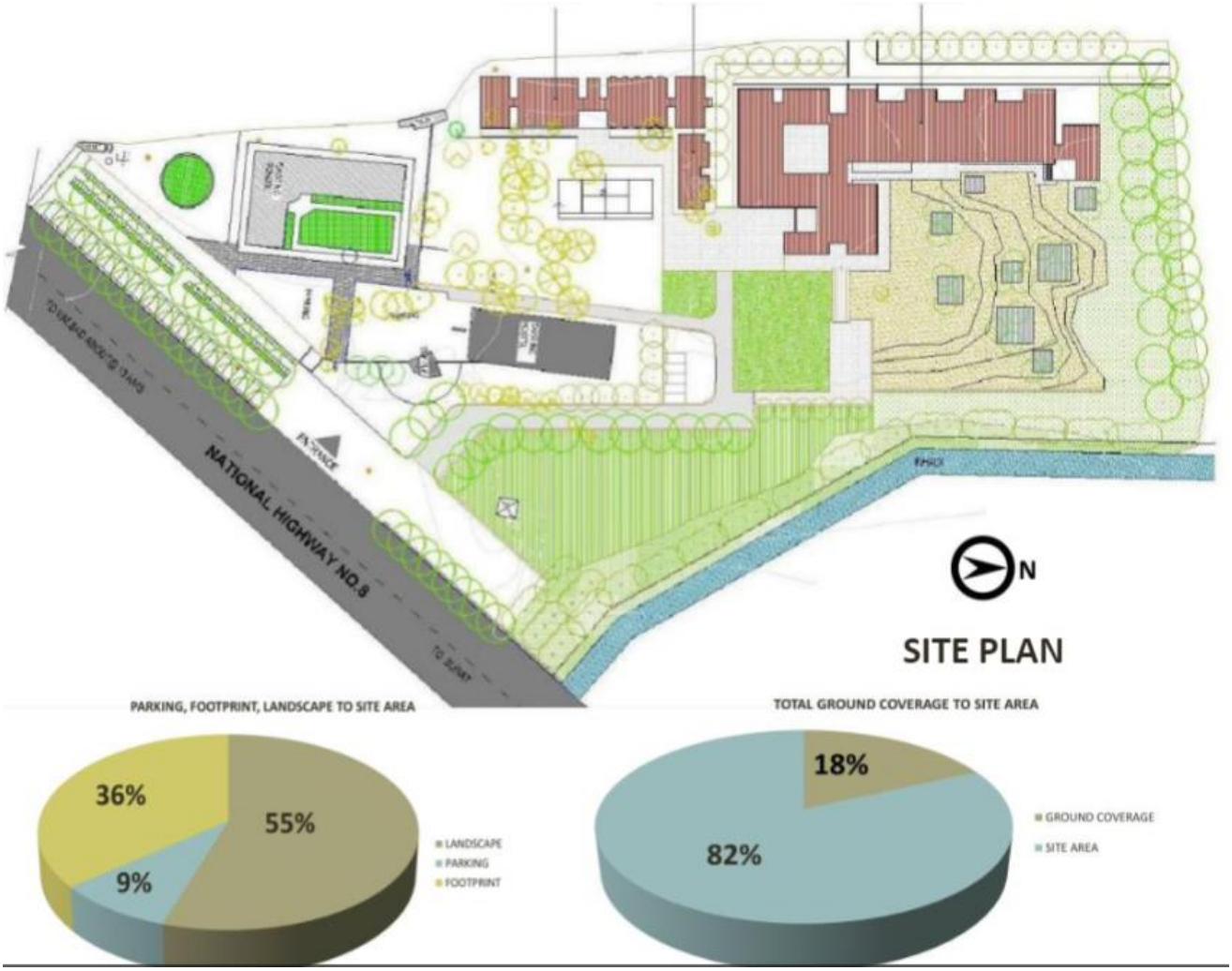
FUNCTION: Vocational School

ARCHITECT: Principle Architect: Falguni Desai, Ae Terrain Design Associates

DEVELOPER: Vaghadara Vibhag Kelavani Mandal, Government Of Gujarat

The Vocational centre is run by a charitable trust for underprivilaged tribal students in the Vaghaldara area of Gujarat. The trust also runs a school in the same complex.VVKM is also managing Shri B.B. Shah Sarvajanik Vidyalaya (Secondary School) since 1971. It also runs Chhatralaya (Hostel) named Smt. Gajraben Fakirchand Shah Sarvajanik Chhatralaya in which SC, ST, Baxi Panch students stay and study. On an average about over 250 students stay in the Chhatralaya while 400 students in all study in the secondary school. VVKM is also started Higher secondary School for Science Gujarati steam since 2015.





LIST OF COURSES OFFERED

1. ELECTRICAL AND HOUSE WIRING
2. ELECTRICIAN
3. REFRIGETOR AND AC MECHANIC
4. REFRIGERATION AND AC TECHNICIAN
5. DRAFTSMEN CIVIL
6. JUNIOR CIVIL SUPERVISOR
7. COMPUTER NAD TALLY OPERATOR
8. WELDER
9. TIG AND LIG WELDER
10. PLUMBER

Academic Infrastructure:

5 classrooms

Adminsrtative office

7 workshops Library

1 staff room

Computer lab

Building façade

The building is a composite structure comprising exposed concrete, exposed brickwork and plastered masonry work as basic materials.

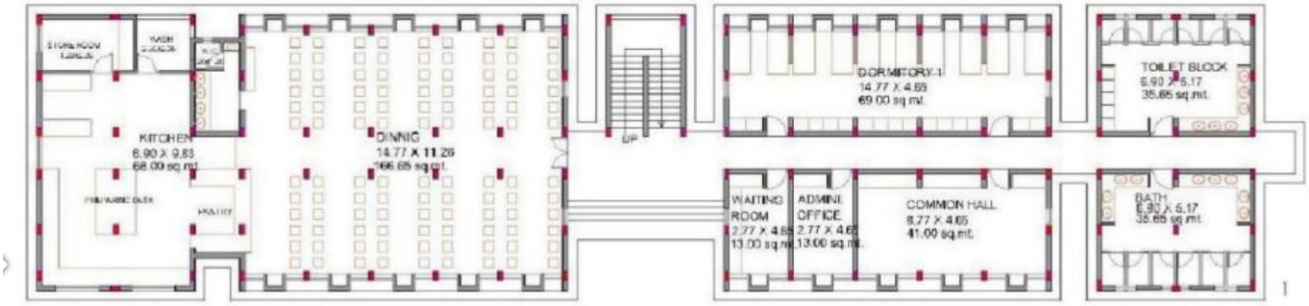
Infrastructure

Vtc vaghaldhara is established as model training institute with industry relevant courses, state of art lab facilities and qualified trainers. The lush green campus provided a healthy, safe and peaceful environment inspiring learning and skill development. Vtc vaghaldhara has created excellent infrastructure and training facilities for tribal students and provided with good hostel facilities and food, recreation and periodical health check-up. Well-equipped seven workshops and one computer lab, one language room, six classroom, one conference room, administrative office, library. Other facilities are 100 no of students staying in hostel, playground, landscape garden area, two bore well and street lights.

WELDING WORKSHOP

PLUMBING WORKSHOP

HOSTEL PLANa



GROUND FLOOR PLAN

FIRST FLOOR PLAN

LITERATURE STUDY-2
GEBZE INDUSTRIAL VOCATIONAL HIGH SCHOOL

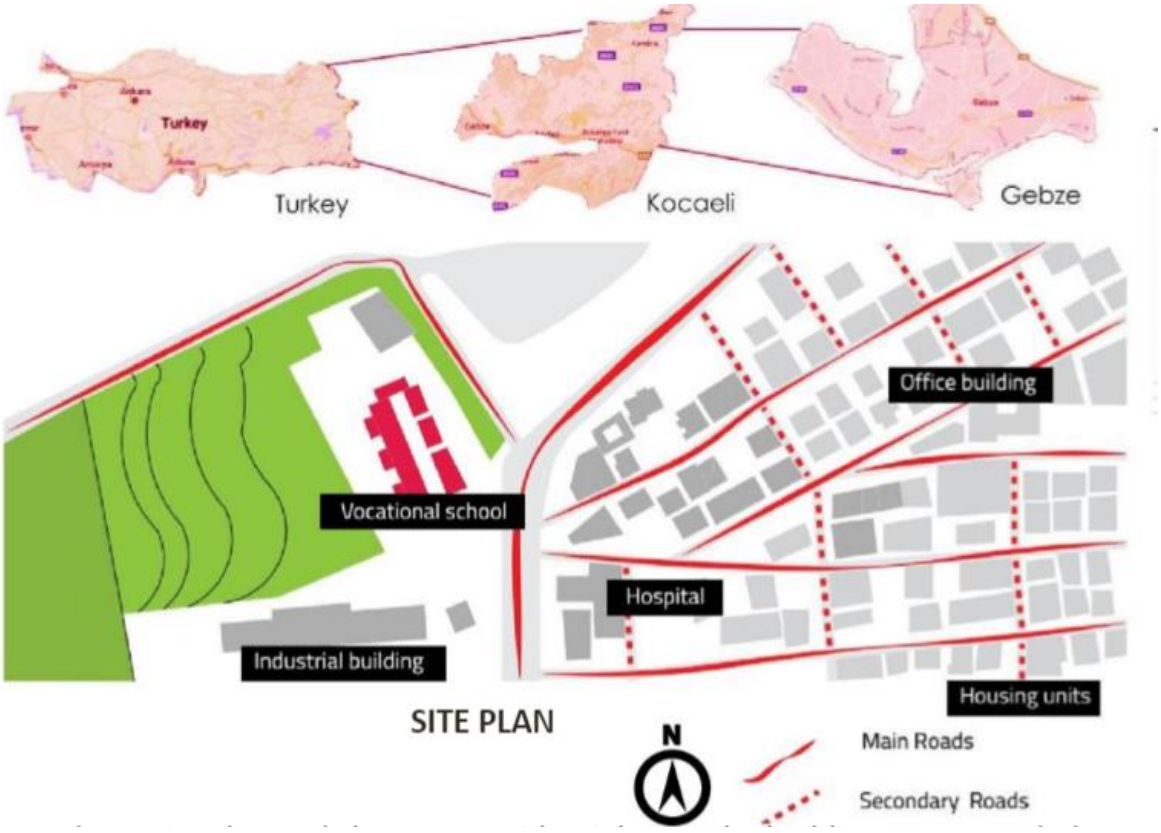
LOCATION: Gebze, Turkey

SITE AREA: 12000 SQ M

ARCHITECT: Norm Architects

COMPLETION: 2015

Gebze Industrial Vocational High School was designed within the context of a social responsibility project. Project is designed by Norm Mimarlik an Turkish architect. project located close to a residential area, the building is surrounded by almost green lands, it is an green belt, also there is an industrial buildings in the south, but in the north there are empty lands.



The building has one approach from the south east corner, and there are three directions to reach the project. Located on the fringes of a 150-200 m. long green belt along the urban periphery –where no other elements of the built environment can be observed- the project for the building was developed by the Ministry of Education within the boundaries of a void space allocated for secondary education.

CLIMATE

Here are some annual weather facts that collected from a historical weather data:

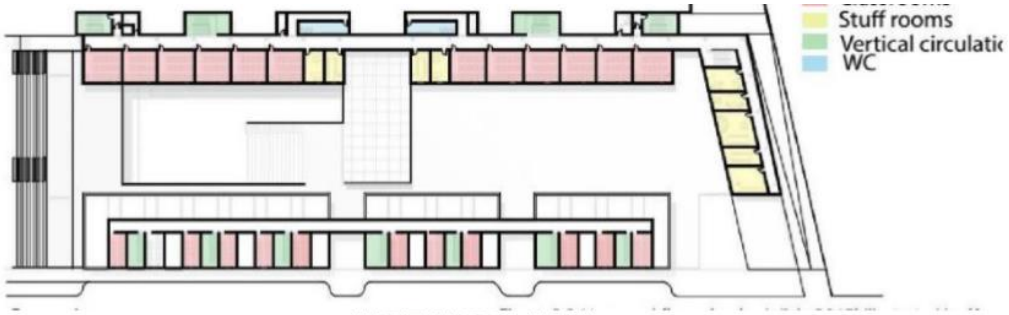
- On average, the warmest month(s) are June, July and August.
- Most rainfall (rainy season) is seen in December.
- Gebze has dry periods in July and August.
- On average, the warmest month is August.
- On average, the coolest month is January
- December is the wettest month. This month should be avoided if you don't like too much rain.

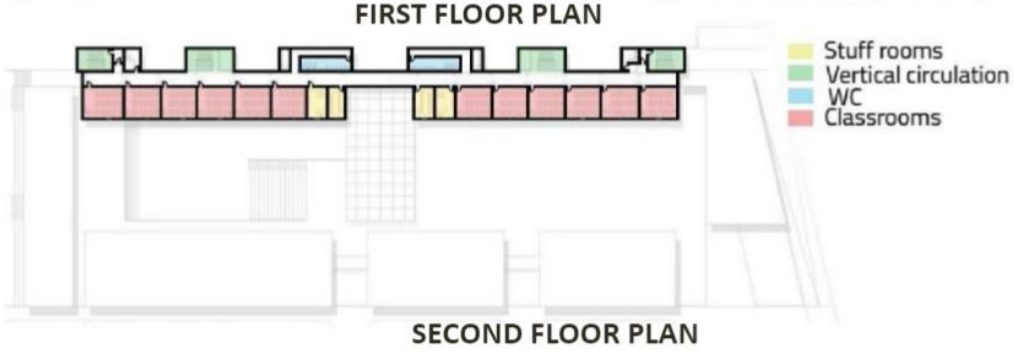
MAIN BUILDING

The vocational school provides classrooms, work-shops and gym for around 720 students, to support upskilling and on-site vocational training for un- employed, the national employment agency, covers training programme expenses provided that a certain number of the trainees are employed by the company after the programme.

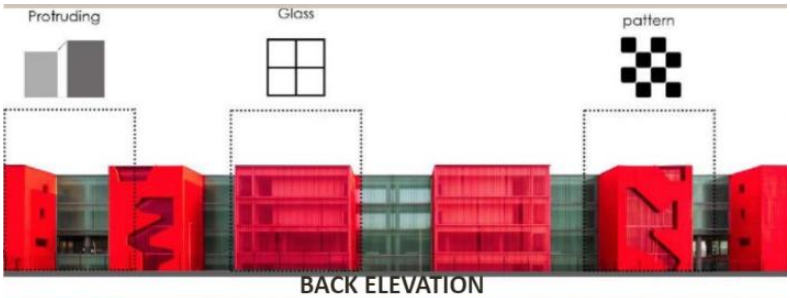
The front courtyard on the north is bordered by the education building overlooking the South and the workshop space overlooking the North; in this sense, the courtyard functions as the central and main spatial element of the entire structure. Connecting to the amphitheater located on lower east end, the courtyard represents the real arrival point of the building and opens up towards the nature on the north end.

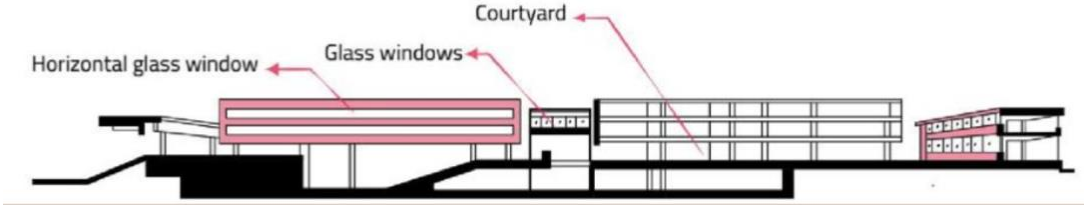
The entire lobby is located around courtyards at different elevations within the context of the relationship between the indoor and outdoor. This design determined approach enables a great identity and character for the building, the design allow the clearness for the arrangements and relationships with the nature, the resulting a great interaction between the users and the nature.





SECTION & ELEVATION



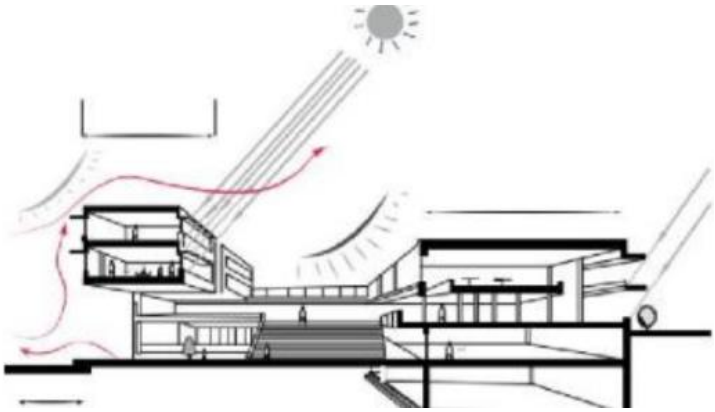


The elevation is composite of three materials which are steel, concrete and glass, designer using protruding parts of the building to be more dynamic, using glass for vision and lighting, the transperancy make a pattern for the columns which appear backward, it is a grid pattern, also the designer make a special pattern for the building, it is like a mark for the whole building.

Material that used for the facades that can be adapt to the climate surrounding the building elements façades comprising of exposed concrete and opaque reflected panels make references to the simple and technical aspects of design. Building materials such as concrete and steel composite structures, heat resistant joints for moveable surfaces, also the present of the (PV) panels on the South/South-West are for the construction system of the building. It is known that the entrance structure will refine in time with the practices of users, without ever losing anything from its character, and also that make the project has its on character.

ENVIRONMENTAL IMPACT

The courtyard of the building make an air current through the whole building, glass windows provide the natural light for all spaces, and the photovoltaic panels (PV)which act an important role in the building quality.



COMPARATIVE ANALYSIS

PARTICULARS	CASE STUDY-1	CASE STUDY-2	LITERATURE STUDY-1	LITERATURE STUDY-2
NAME	NATIONAL VOCATIONAL TRAINING INSTITUTE FOR WOMEN NOIDA	INDIAN INSTITUTE OF CRAFTS & DESIGN	VAGHALADHARA VOCATIONAL TRAINING CENTRE	GEBZE INDUSTRIAN VOCATIONAL HIGH SCHOOL
LOCATION	BLOCK-D NOIDA	JAIPUR, RAJASTHAN	VAGHALADHARA, GUJRAT	GEBZE TURKEY
SITE AREA	8 ACRE	28000SQM (7 ACRE)	18000 SQM	12000 SQM
ARCHITECT	MINISTRY OF SKILL AND ENTREPRENEURSHIP	AR. JOESPH ALLEN STEN	FALGUNI DESAI, AE TERRAIN DESIGN ASSOCIATES	NORM MIMARLIK, NORM ARCHITECT
COMPLETION YEAR	1977	1994	2010	2015
GROUND FLOOR AREA	14568 SQM		3173 SQM	
GROUND COVERAGE	23 %	20%	17.62 %	
TOTAL BUILT UP AREA	29136		5996	
MAX. BUILDING HEIGHT			8M	8
FUNCTION	VOCATIONAL TRAINING FOR WOMEN	VOCATIONAL TRAINING PROGRAMME	OFFER SKILL TRAINING PROGRAM TO TRIBAL YOUTH IN RESIDENTIAL STATE-OF THE ART MULTI- SKILLS CENTRE	THE VOCATIONAL SCHOOL PROVIDES CLASSROOMS, WORKSHOPS AND GYM FOR AROUND 720 STUDENTS, TO SUPPORT UPSKILLING AND ON-SITE VOCATIONAL TRAINING FOR UN-EMPLOYED YOUTH,
STAIRS WIDTH	1.5 M	1.5 M	1.5 M	1.5 M
FACADE	NORAMAL BRICKS AND MORTAR ARE USED	RCC, BRICK	THE BUILDING IS A COMPOSITE STRUCTURE COMPRISING EXPOSED CONCRETE, EXPOSED BRICKWORK AND PLASTERED MASONRY WORK AS BASIC MATERIALS	MATERIAL THAT USED FOR THE FACADES THAT CAN BE ADAPT TO THE CLIMATE SURROUNDING THE BUILDING ELEMENTS FAÇADES COMPRISING OF EXPOSED CONCRETE AND OPAQUE REFLECTED PANELS MAKE REFERENCES TO THE SIMPLE AND TECHNICAL ASPECTS OF DESIGN. BUILDING MATERIALS SUCH AS CONCRETE AND STEEL COMPOSITE STRUCTURES, HEAT RESISTANT JOINTS FOR MOVEABLE SURFACES, ALSO THE PRESENT OF THE (PV) PANELS ON THE SOUTH/SOUTH-WEST ARE FOR THE CONSTRUCTION SYSTEM OF THE BUILDING
COURSE OFFERED	Cosmetology, Fashion Designing (Basic), Fashion Designing (Advanced), Dress Making sewing lab, Fashion technology lab, Architectural Draughtmanship , Electronic Mechanic, CAD Labs, Interior Designing Class		ELECTRICAL AND HOUSE WIRING, ELECTRICIAN, REFRIGETOR AND AC MECHANIC, REFRIGERATION AND AC TECHNICIAN, DRAFTSMEN CIVIL, JUNIOR CIVIL SUPERVISOR, COMPUTER OPERATOR AND PROGRAMMING ASSISTANT, COMPUTER NAD TALLY OPERATOR, WELDER, TIG AND LIG WELDER, PLUMBER,	

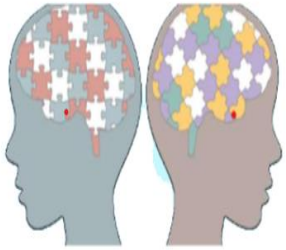
			TURNER, CNC TURNING OPERATOR	
LANDSCAPE	40%	60%	25 %	30 %
PARKING	200 cars	SURFACE PARKING 42 CARS	250 CARS	750 CARS
CIRCULATION		RANDOM MOVEMENT ACROSS THE SITE THROUGH THE SPINES CONNECTING VARIOUS BLOCKS	PEDESTRIAN MOVEMENT WITHIN THE CAMPUS. THE MOVEMENT THROUGH INFORMALLY LAID CORRIDORS SURROUNDED BY COURTYARDS IS A PLEASANT VIEW	

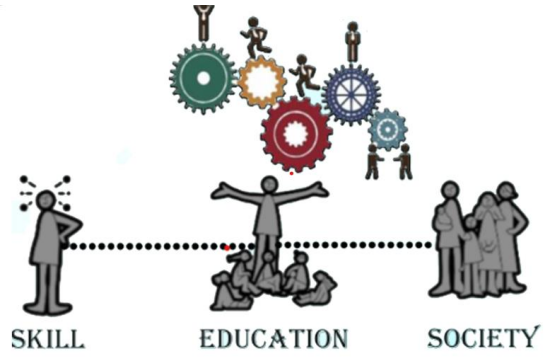
CHAPTER-5

CONCEPT

CREATIVE MIND

Vocational, or skills-based, education is becoming more and more important today, with many employers expecting new employees to have all the practical skills they need to start work and for those who have to support their families immediately after senior secondary education. Vocational Education can be defined as the education that is based on occupation and employment. Vocational Education is also known as career and technical education (CTE) or technical and vocational education and training (TVET).It prepares people for specific trades, crafts and careers at various





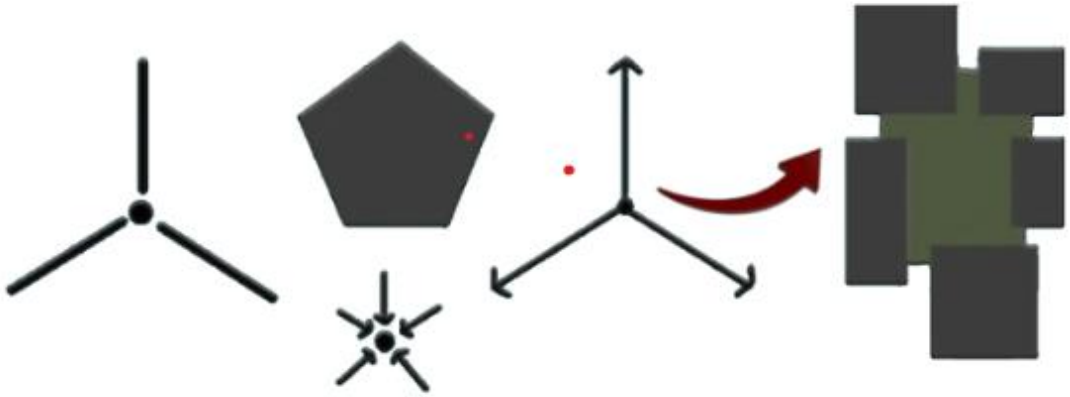
Campus is a place where large number of people come together interactive productivity productively and developed through learning from each other. creative thinking and direct experience are valued about learning memorization is possible by understanding the need of users student Have boundless imagination and it can involves student in the arms of learning it is thus careful integration of building and Open Spaces which ultimately define a physical presence of a campus.

CREATIVE MIND

The rural psyche is traditional, conservative, and mainly opposed to change. They like to live in their world and hence do not like anyone disturbing the status quo. This situation creates a kind of vacuum where the rural people find themselves caught in a web.

A creative campus is a gathering spot for different types of professions. Here learners can come to spend time and share knowledge. Making a bridge in between all departments because they are related by creative field along with creativity. Creating collaborative spaces which will promote learning among students from a different point of view.

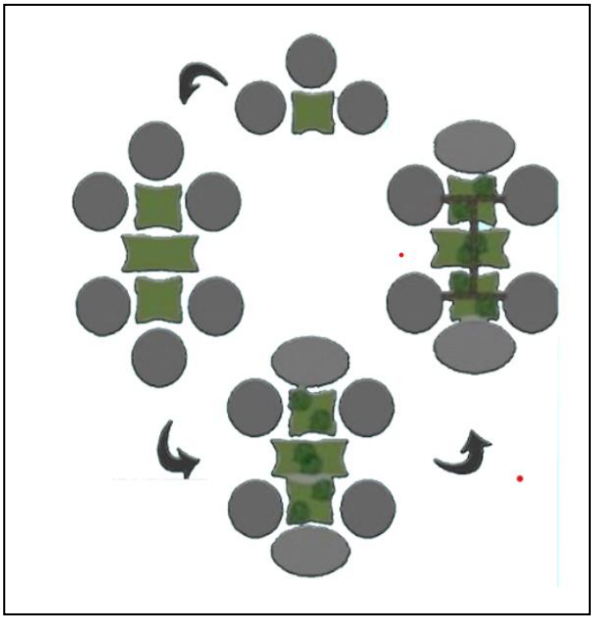
RADIAL ORGANIZATION



A radial organization of space combines elements of both centralized and linear organizations. It consists of a dominant central space from which several linear organizations extend radially. Whereas a centralized organization is an introverted scheme that focuses inward on its central space, a radial organization is an extroverted plan that reaches out to its context. With its linear arms, it can extend and attach itself to specific elements or features of its site.

CREATING POCKET SPACES

As for the academic spaces and informal activities on the campus, small pocket spaces can be provided in the landscaped area behind the buildings. These will act as collection spaces for the users. The canteen, exhibition spaces and student informal space can be in such areas.



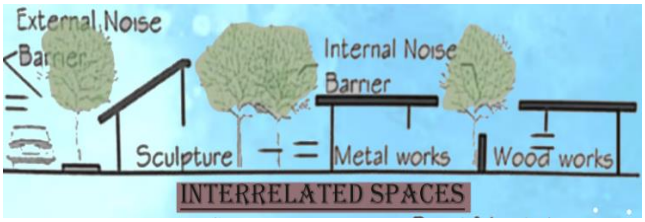
DESIGN DEVELOPMENT

INITIAL MASSING

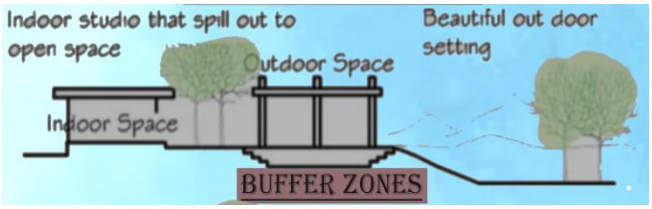
The initial massing idea was to create various pockets in each cluster. This massing is scattered and pathways connecting them may not work in the aspect of walking distance. As circulation is the key aspect in campus planning this massing.

SPACE THAT FAVOUR IN SKILL LEARNING

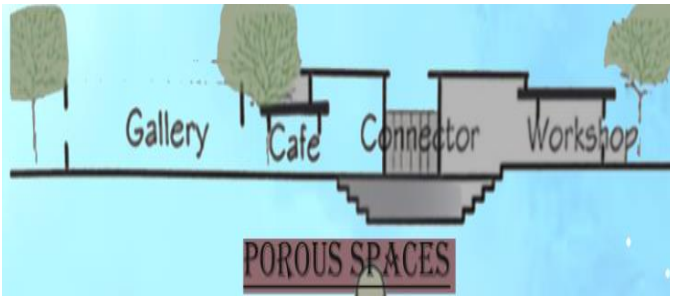
The concept of an interrelated space for skills learning involves creating an environment where various skills and disciplines are taught in an integrated manner, allowing for a more holistic and interconnected approach to education and personal development.



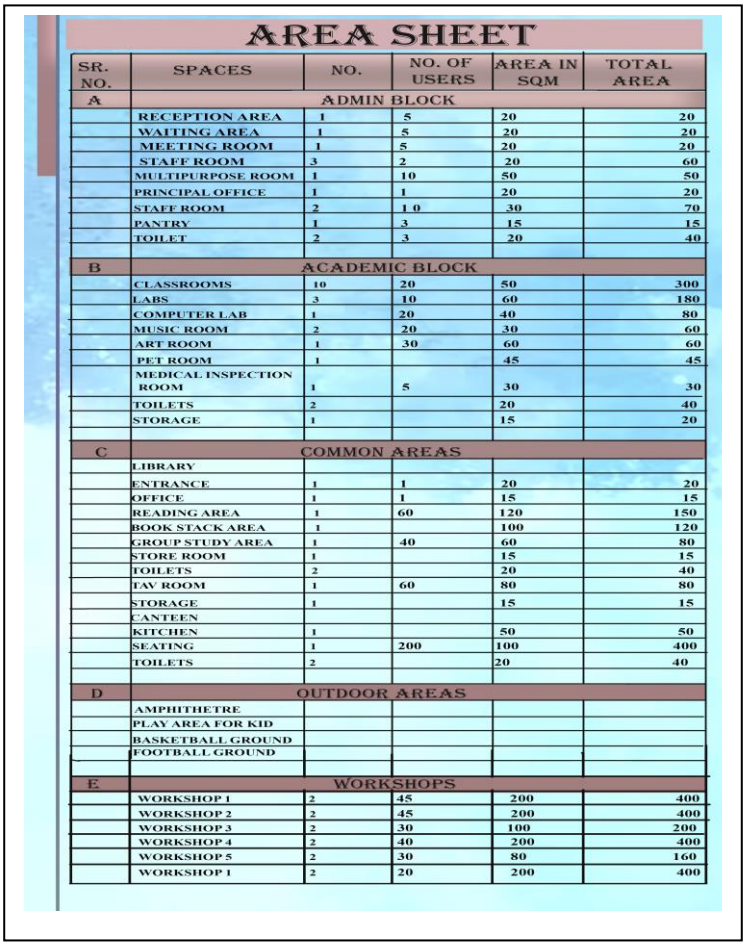
Buffer zones for skills learning are transitional or intermediary areas that facilitate the transfer of knowledge and skills between different disciplines or stages of learning. These zones act as bridges, helping learners integrate and apply skills in a more comprehensive and practical manner.



Porous spaces for skills learning refer to environments that are open and flexible, allowing for the free flow of ideas, collaboration, and interaction between different disciplines, learners, and educators. These spaces are designed to break down barriers, fostering a culture of continuous learning and innovation.



JAIPUR BUILDING BYLAWS



AREA SHEET

SR. NO.	SPACES	NO.	NO. OF USERS	AREA IN SQM	TOTAL AREA
A	ADMIN BLOCK				
	RECEPTION AREA	1	5	20	20
	WAITING AREA	1	5	20	20
	MEETING ROOM	1	5	20	20
	STAFF ROOM	3	2	20	60
	MULTIPURPOSE ROOM	1	10	50	50
	PRINCIPAL OFFICE	1	1	20	20
	STAFF ROOM	2	10	30	70
	PANTRY	1	3	15	15
	TOILET	2	3	20	40
B	ACADEMIC BLOCK				
	CLASSROOMS	10	20	50	300
	LABS	3	10	60	180
	COMPUTER LAB	1	20	40	80
	MUSIC ROOM	2	20	30	60
	ART ROOM	1	30	60	60
	PET ROOM	1		45	45
	MEDICAL INSPECTION ROOM	1	5	30	30
	TOILETS	2		20	40
	STORAGE	1		15	20
C	COMMON AREAS				
	LIBRARY				
	ENTRANCE	1	1	20	20
	OFFICE	1	1	15	15
	READING AREA	1	60	120	150
	BOOK STACK AREA	1		100	120
	GROUP STUDY AREA	1	40	60	80
	STORE ROOM	1		15	15
	TOILETS	2		20	40
	TAV ROOM	1	60	80	80
	STORAGE	1		15	15
	CANTEEN				
	KITCHEN	1		50	50
	SEATING	1	200	100	400
	TOILETS	2		20	40
D	OUTDOOR AREAS				
	AMPHITHETRE				
	PLAY AREA FOR KID				
	BASKETBALL GROUND				
	FOOTBALL GROUND				
E	WORKSHOPS				
	WORKSHOP 1	2	45	200	400
	WORKSHOP 2	2	45	200	400
	WORKSHOP 3	2	30	100	200
	WORKSHOP 4	2	40	200	400
	WORKSHOP 5	2	30	80	160
	WORKSHOP 1	2	20	200	400

• Area of plot more than 2500 sqm

• Ground coverage - 40%

Setbacks - Front 12m/side 9m / back 9m

• Maximum height of the building - 1.5 x road in front + front setback

• Parking-Minimum space for parking shall be provided at the rate of 1 car unit for every 115 sqmt. of built-up area.

• Open space requirements-Public buildings light/air/ parking facilities to be provided. All rooms should have interior or exterior open space. In case of interior open spaces, roof/weather shade more than 0.75 wide shall overhang on these open spaces.

• Landscaping:

At least 50% of the open area/Plantation/ Green Cover (unbuilt) to be land- scaped, a landscape plan is to be submitted for approval.

• Water supply and sanitary requirements

Assuming 5sqm floor area / person sanitary services need to be determined.

Water heating by solar panels is compulsory in these buildings.

Community center, hostel, hotels, and guest house, hospital and nursing homes

Solar energy plant should have a capacity 251 / person for bathing and 10L / person for kitchen services.

• Water tanks

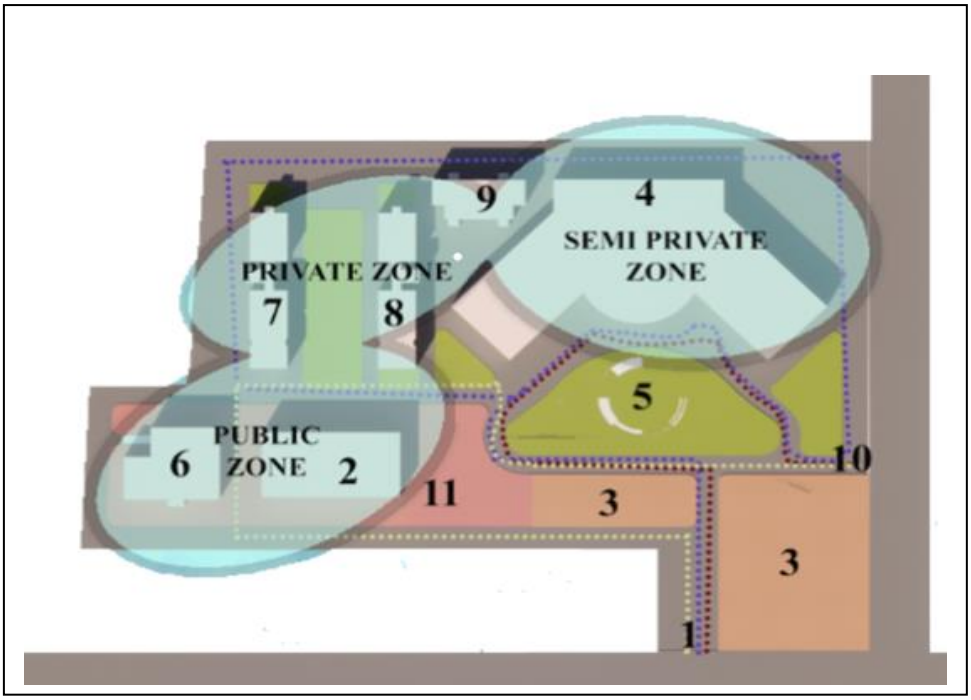
Every plot having more than 300 sqm area has compulsory to give a water storage tank.

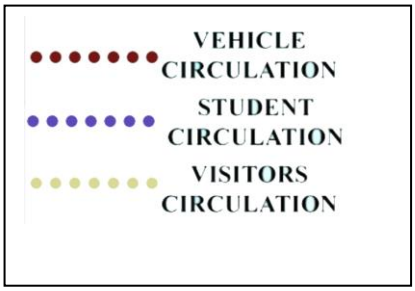
• Water closets

1WC/10 beds, 1 bath/6 beds, 1 basin/ 3 beds

SITE ZONING

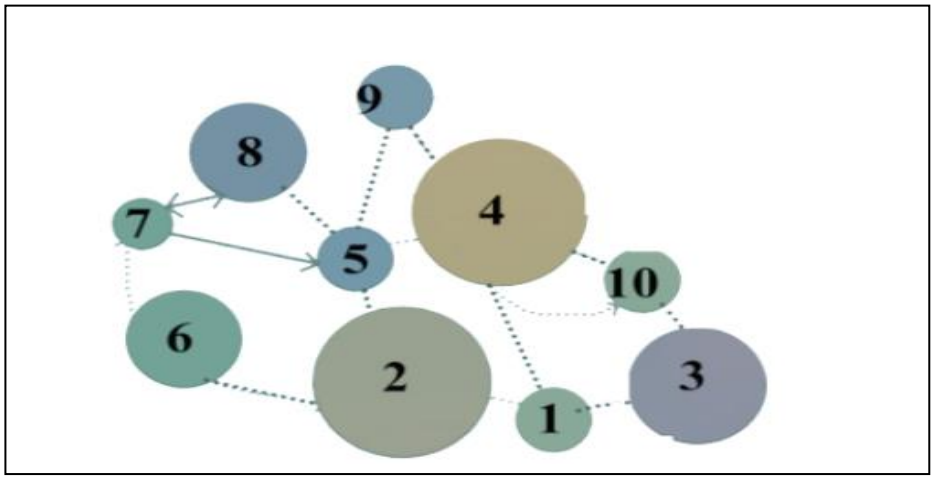
1. ENTRY
2. EXHIBITION AREA
3. PARKING
4.VOCATIONAL CENTRE
5. O.A.T.
6. CANTEEN
7. GIRLS HOSTEL
8. BOYS HOSTEL
9. STAFF RESIDENCE
10. EXIT
11. OPEN EXHIBITION





RED LINE represents vehicle circulation exiting from the site.
BLUE LINE shows the circulation of students and artisans throughout the site on a typical working day
YELLOW LINE shows the circulation of visitors during exhibition times.

Specialized spaces : machinery, and skill equipment
Generic spaces : knowledge, and multi use flexibility
Informal spaces : unstructured, social and interactive spaces



1. PRIVATE ZONE
The students from other places as it consists primary school and training. institute.
2. SEMI PRIVATE ZONE
The artisans and administrators working there, the faculty and students.
2. PUBLIC ZONE
The visitors, the artisans from other societies, coming to buy handicrafts and sell their products.

VERNACULAR ARCHITECTURE OF RAJASTHAN

In the Indian Sub-continent, vernacular architecture plays an important role in instructing architecture over sustainability, materiality, history and indentity. While traditional technologies are full of wisdom locally, they also have their shortcomings that new technology can compensate for a harmonious mix of the urban contemporary and traditional might be the answer to architecture that belongs and makes place for the future.

MATERIALS

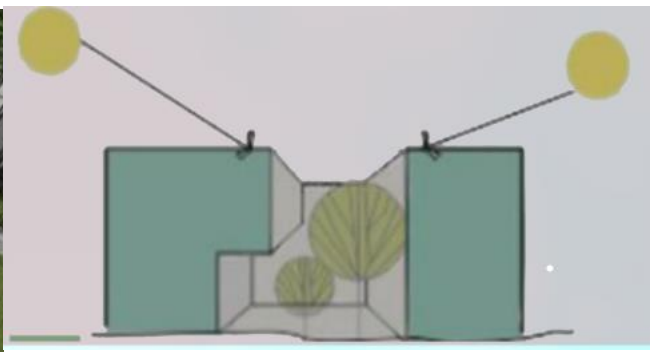
Thick walls for better thermal protection
Local materials - Brick jaali, marble, reclaimed wood
Exposed exterior walls -
Rammed earth Walls on north side 350mm rammed earth walls
Walls on east, west and south side - Cavity walls

PAVILLIONS

They came into being by multiplying very simple saptial units in mudules. The module consists of four columns and a roof, irrespective of the style and construction method. Offering a simultaneous experience of the inside and the outside.

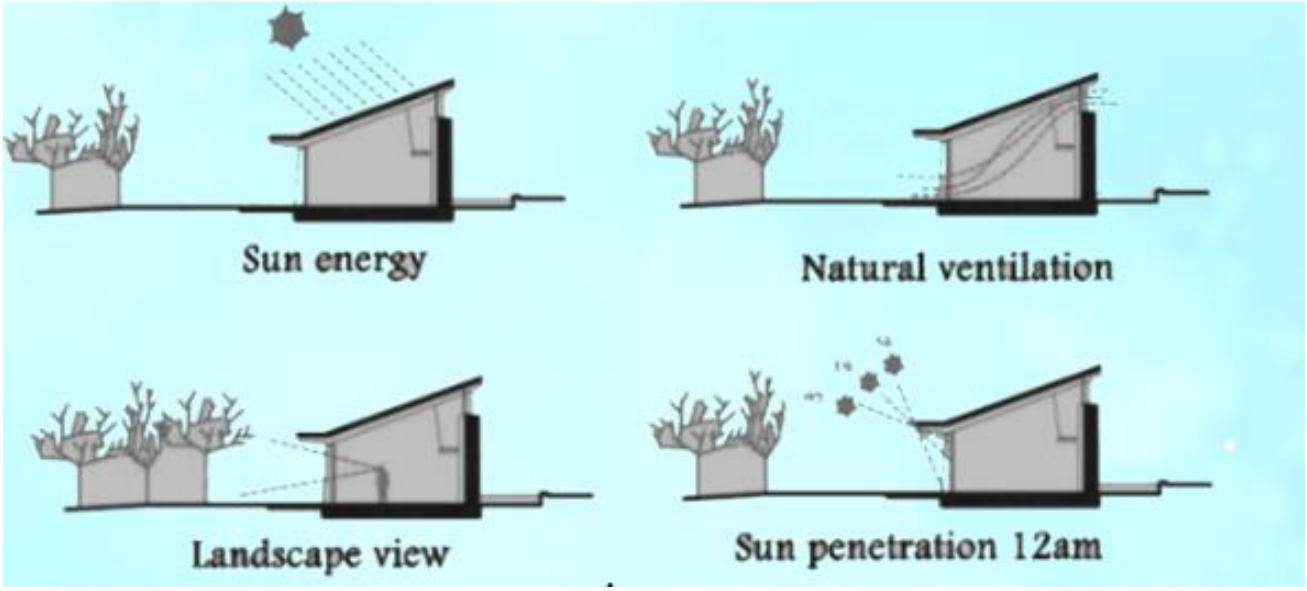
COURTYARDS

They act as a relief from the outside world by forming a peaceful microclimate and are agreat source of natural light and cross ventilation of the interior spaces. They also form a socio-cultural place of public activity connected visually through terraces and veandahs.



ROOF

The roof should slope down towards the courtyard, air in contact with the roof will be cooled at night and channeled by the slope into the courtyard and then into the rooms. Terracotta and clay have been in use for decades. They are suitable for hotter climates due to their cold nature. They are heat-resistant and keep interior safe from scorching heat of sun. They are extremely durable and can stay in optimal condition for long. However, despite their strength, they are quite attractive. They enhance the exterior of any building and keep the interior cool.



SUSTAINABILITY

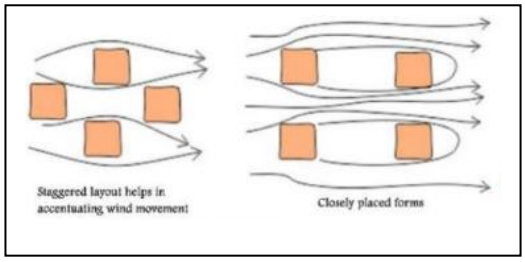
Passive cooling strategies

As inferred in the site analysis, that there is need to apply passive cooling strategies, so as to naturally reduce the ambient indoor temperature.

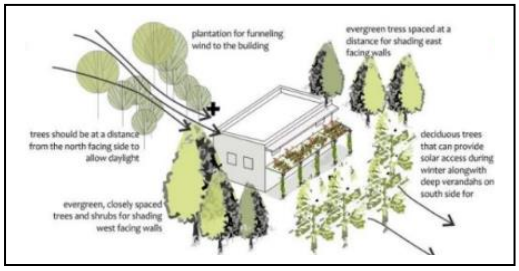
Site planning

The clusters and the built shall be designed so that they facilitate for natural wind movement across the site. Built shall be porous in nature, let in the breeze cross through the system. Wind shaded areas ned to be prevented. Site planning shall also promote mutual shading of the built, which helps reduce heat again.

VEGETATION



Vegetation also alters the micro-climate of a site and has been used as micro-cli- mate manager for as long as buildings have been built. rees and shrubs create different air flow patterns, provide shading and keep the surroundings cooler in warm weather. Vegetation can be used for energy conservation in buildings in the following ways:



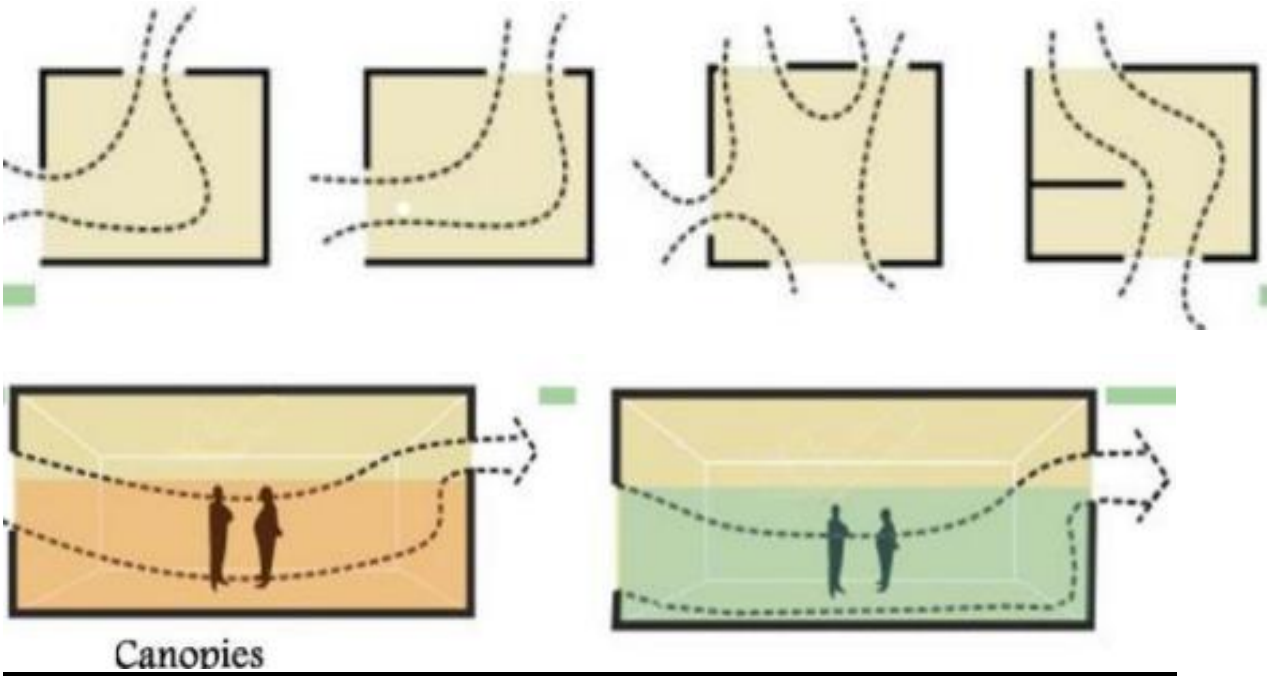
Shading of buildings and open spaces through landscaping Shading of vertical and horizontal surfaces (green walls) Buffer against hot winds Changing direction of wind.

VENTILATION

Living zone is the space commonly used by occupants. Air movement should be directed through this space. For good natural ventilation, building openings should be in opposite pressure zone (since natural ventilation rely on pressure to move fresh air through buildings).

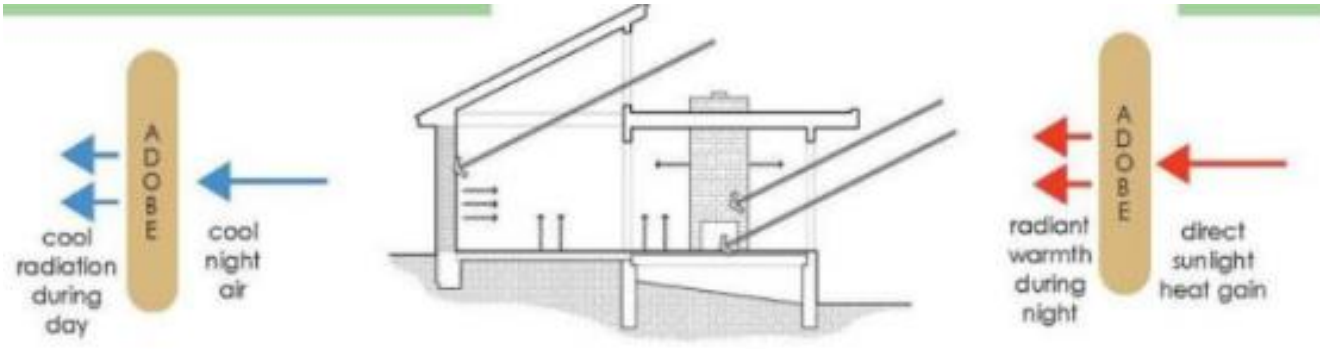
The building can be oriented 0° to 30° with respect to the prevailing wind di- rection (wind rose diagram) / most preferably orientating longer facades of the building towards predominant wind direction. If the space has only one façade exposed to the exterior, it is preferred to pro- vide at least 2 windows on the façade. Use of casement windows to catch and deflect wind from varying angles.

In hot and dry regions, the windows should generally be kept closed during the day to minimize solar heat gains to interior spaces. For regions experiencing high diurnal temperature differences (of the order of 12°C to 15°C cooler in night), Interior spaces should be opened to night time ventilation.



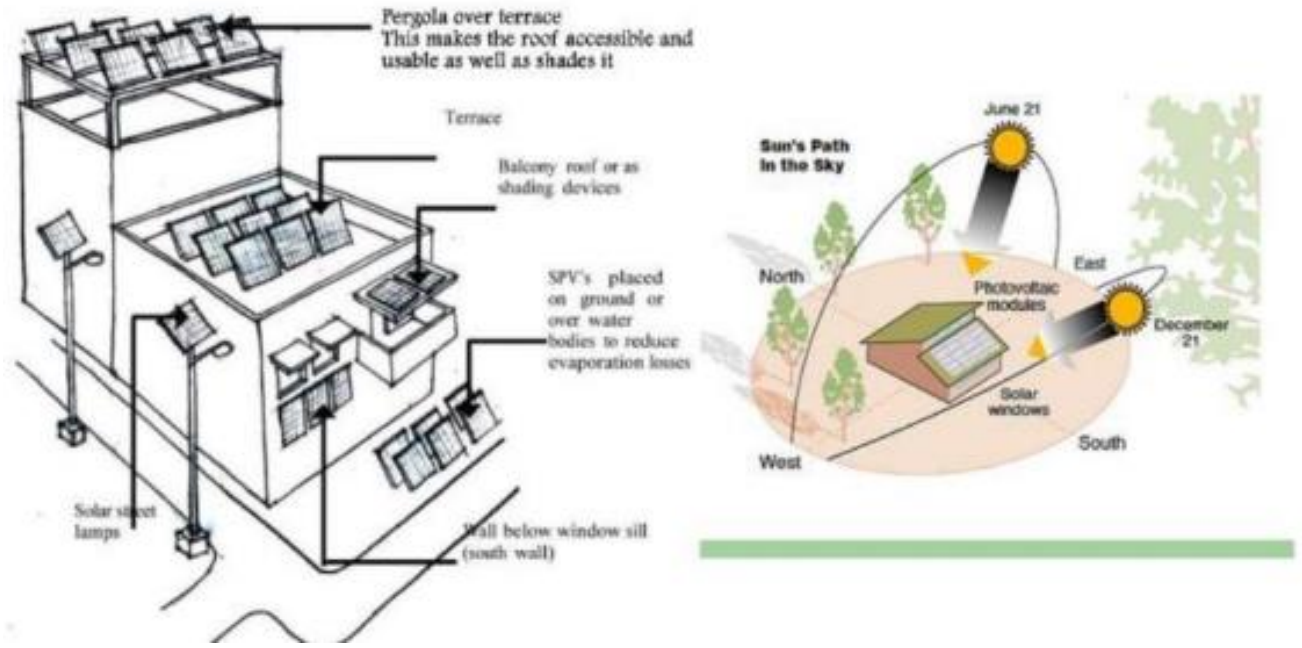
BUILDING INTERIOR

Default Values for Surface Reflectance are Wall or Vertical Internal Surfaces 50%, Ceiling 70%, Floor 20%, Furniture(permanent) 50%. According to the reflect ancees above, a color palette of warm colors ranging from off-white to oranges and browns shall be deployed. Walls Earthy shades of yellow oranege, Ceiling off white and light grey Floor White Mozzaic tiles Furniture Light polished wooden textured furniture.



RENEWABLE ENERGY FOR ELECTRICITY GENERATION

With high solar radiation available in the hot, dry climate zone, it is highly recommended to use solar energy to meet at least some part of the buildings electricity demand. The simplest way to generate solar energy is by using stand alone photo-voltaic (PV) systems with or without storage battery. Solar photovolatics Installation The ideal orientation for optimal performance of a solar celis at an angle equivalent to the latitude of the place of installation. Area required for generation of 1kWp electricity is on an average 12m² for 14% efficiency panels.

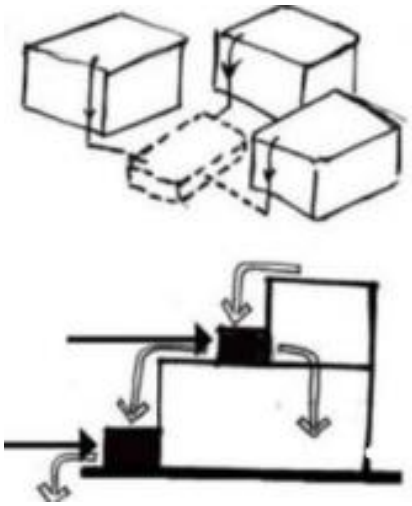


RAIN WATERHARVESTING

Water conservation and reuse is of utmost priority in the hot and dry climate. Cascade system of rain water harvesting for rain water reuse. Multiple buildings within a cluster can have a common rainwater harvesting system. Rainwater collected from terraces can be used for landscape.

Precautions

Filtration and first flush system essential to prevent entru of contaminants. Cleaning of tank at the beginning of summer and winter rainfalls.



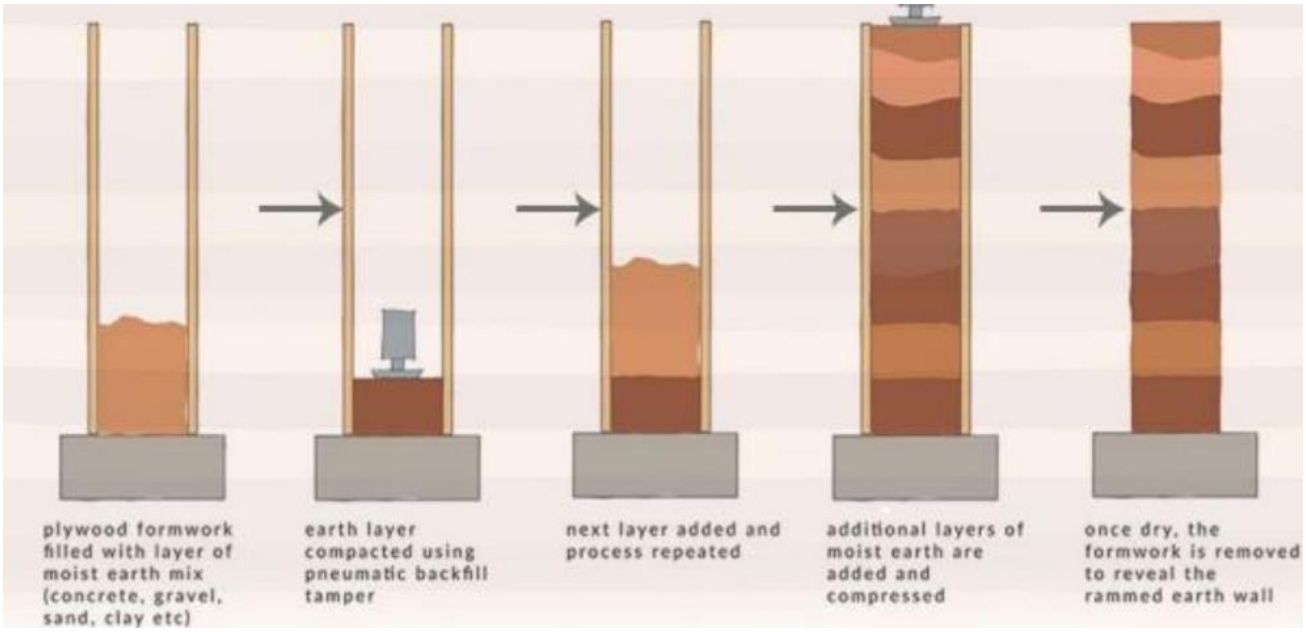
What is rammed earth construction?

Rammed earth construction is the process of ramming a mixture of aggregates, like gravel, sand, silt and clay into a formwork to create walls. When the earth is dry the formwork is removed to reveal solid monolithic walls. Rammed earth is an ancient form of construction, generally seen in drier hotter parts of the world. Although many rammed earth structures exist in this basic form, a new 'stabilised' rammed earth variant has been developed which adds a small amount of cement (5-10%) to the mixture to ensure strength and durability. Traditionally, a wooden pole is used to ram the earth into the formwork, but modern methods now use a mechanical ram. The process is labour intensive, but is considered to have a low environmental impact depending on materials used (cement content) and source of those materials. While some elements of the rammed earth wall will have a low embodied energy, cementitious products Durability

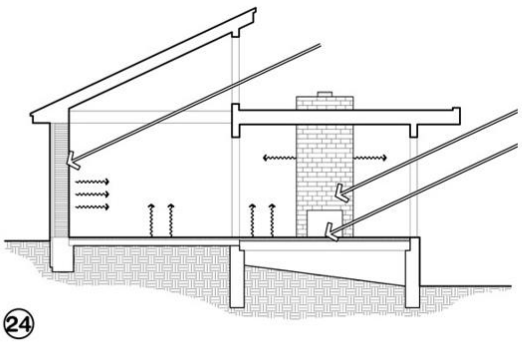
Walls should be protected from the weather as best as possible. Raised foundations should lift the wall at least 225mm above ground level, while roof over- hangs should protect the walls from rain. All water should be drained away from the walls and moisture should be allowed to evaporate easily.

Structure

Rammed earth is considered to be strong in compression and suitable for load bearing construction. It is possible to introduce reinforcement to the walls simi- lar to concrete, however this must be carefully designed due to possibility of cracking and difficulty ramming around the reinforcement bars.



SOME DESIGN STRATEGIES



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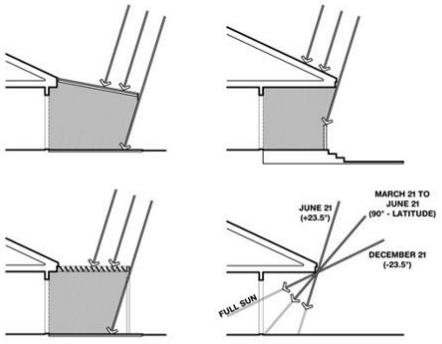
Use high mass interior surfaces like slab floors, high mass walls, and a stone fireplace to store winter passive heat and summer night 'coolth'



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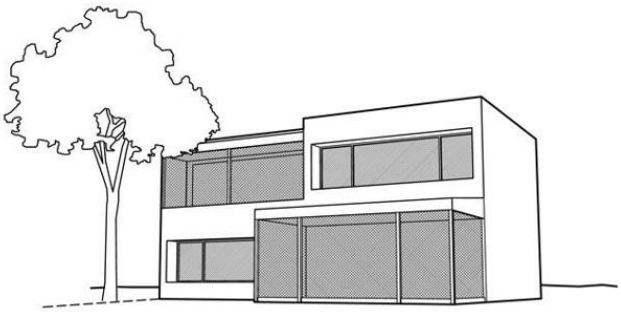
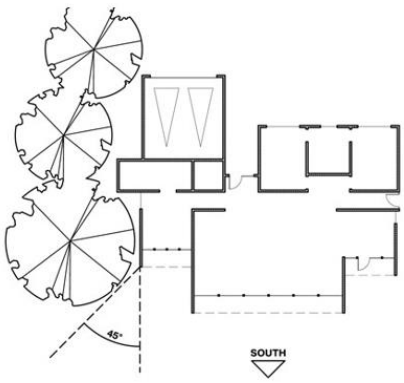
Window overhangs (designed for this latitude) or operable sunshades (awnings that extend in summer) can reduce or eliminate air conditioning



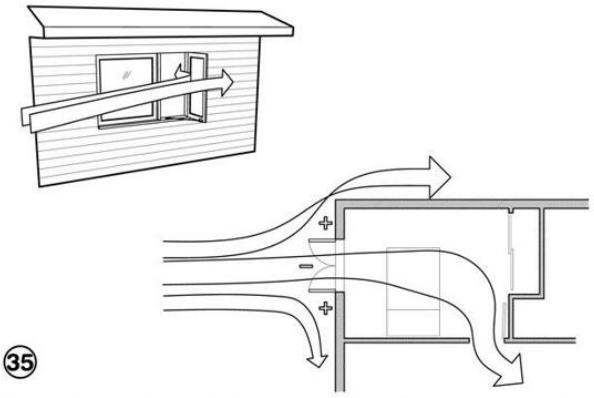
56

Screened porches and patios can provide passive comfort cooling by ventilation in warm weather and can prevent insect problems



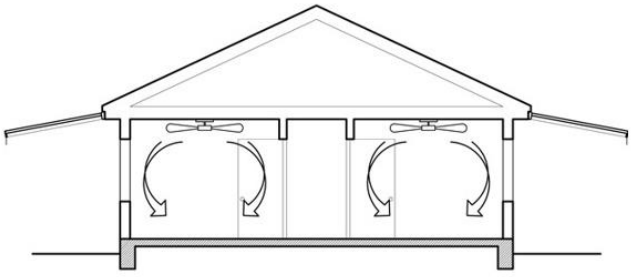
17

Use plant materials (bushes, trees, ivy-covered walls) especially on the west to minimize heat gain (if summer rains support native plant growth)



35

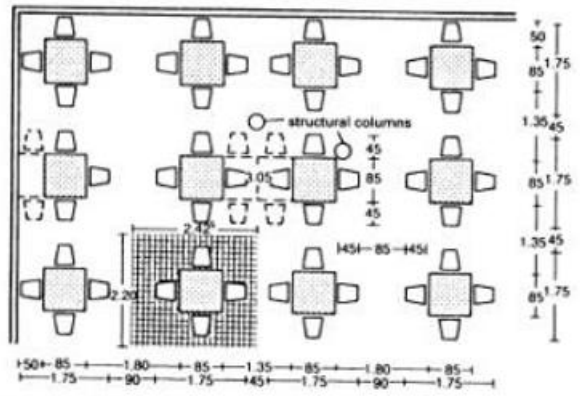
Good natural ventilation can reduce or eliminate air conditioning in warm weather, if windows are well shaded and oriented to prevailing breezes



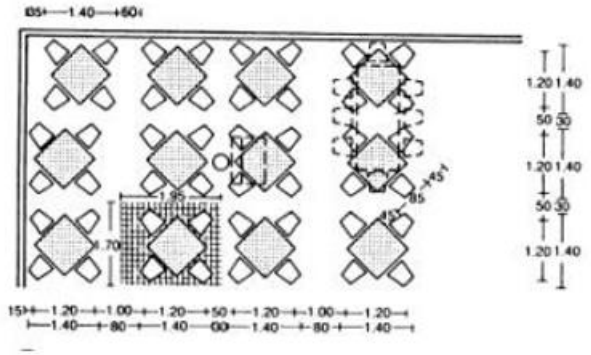
42

On hot days ceiling fans or indoor air motion can make it seem cooler by 5 degrees I (2.8C) or more, thus less air conditioning is needed

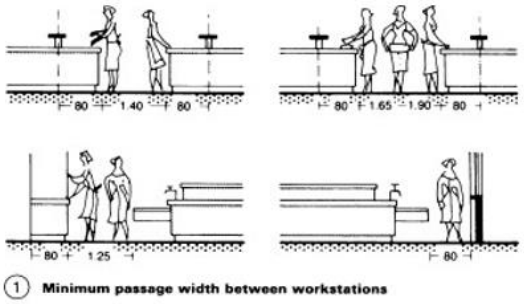
NEUFERT ANTHROPOMETRIC STANDARDS



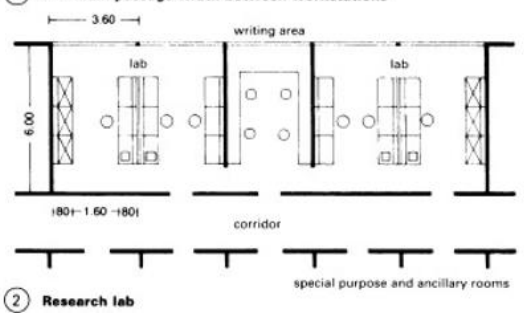
③ Parallel table arrangement



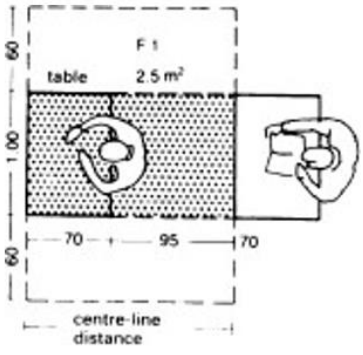
CANTEEN

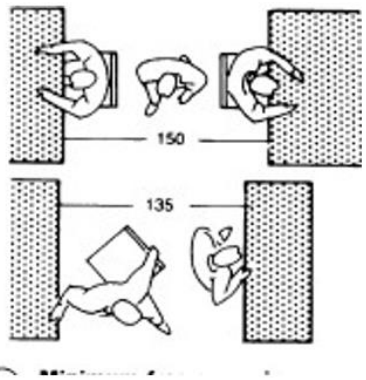


① Minimum passage width between workstations



② Research lab





LIBRARY

Source: neufert

NBC STANDARDS

- open spaces around the building shall be atleast 6m.
- Staircase width – 2m
- Occupant load for institutional building – 7.5 sqm/person
- Water consumption for hostels is 135 lpcd.
- **Green spaces should be atleast 15%** of site area
- Atleast 25% of plot area can be residential.
- Atleast 15% of plot area can be used for cultural and sports activities.

Table 11 Schools and Educational Institutions
(*Clause* 4.2.5.1)

Sl No.	Fixtures	Nursery School	Non-Residential		Residential	
			Boys	Girls	Boys	Girls
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	Water closets	1 per 15 pupils or part thereof	1 per 40 pupils or part thereof	1 per 25 pupils or part thereof	1 per 8 pupils or part thereof	1 per 6 pupils or part thereof
ii)	Ablution tap	One in each water closet	One in each water closet	One in each water closet	One in each water closet	One in each water closet
		1 water tap with draining arrangements shall be provided for every 50 persons or part thereof in the vicinity of water closets and urinals				
iii)	Urinals	—	1 per 20 pupils or part thereof	—	1 per 25 pupils or part thereof	—
iv)	Wash basins	1 per 15 pupils or part thereof	1 per 60 pupils or part thereof	1 per 40 pupils or part thereof	1 per 8 pupils or part thereof	1 per 6 pupils or part thereof
v)	Bath/showers	1 per 40 pupils or part thereof	—	—	1 per 8 pupils or part thereof	1 per 6 pupils or part thereof
vi)	Drinking water fountain or taps	1 per 50 pupils or part thereof	1 per 50 pupils or part thereof	1 per 50 pupils or part thereof	1 per 50 pupils or part thereof	1 per 50 pupils or part thereof
vii)	Cleaner's sink	← 1 per each floor →				

Table 12 Hostels
(*Clause* 4.2.5.1)

Sl No.	Fixtures	Resident		Non-Resident		Visitor/Common Rooms	
		Males	Females	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
i)	Water closets	1 per 8 or part thereof	1 per 6 or part thereof	1 for up to 15 2 for 16 to 35 3 for 36 to 65 4 for 66 to 100	1 for up to 12 2 for 13 to 25 3 for 26 to 40 4 for 41 to 57 5 for 58 to 77 6 for 78 to 100	1 per 100 up to 400 Over 400 add at 1 per 250	2 per 100 up to 200 Over 200 add at 1 per 100
ii)	Ablution tap	One in each water closet	One in each water closet	One in each water closet	One in each water closet	One in each water closet	One in each water closet
		1 water tap with draining arrangements shall be provided for every 50 persons or part thereof in the vicinity of water closets and urinals					
iii)	Urinals	1 per 25 or part thereof	—	Nil up to 6 1 for 7 to 20 2 for 21 to 45 3 for 46 to 70 4 for 71 to 100	—	1 per 50 or part thereof	—
iv)	Wash basins	1 per 8 persons or part thereof	1 per 6 persons or part thereof	1 for up to 15 2 for 16 to 35 3 for 36 to 65 4 for 66 to 100	1 for up to 12 2 for 13 to 25 3 for 26 to 40 4 for 41 to 57 5 for 58 to 77 6 for 78 to 100	1 per WC/ Urinal	1 per WC
v)	Bath/showers	1 per 8 persons or part thereof	1 per 6 persons or part thereof	—	—	—	—
vi)	Cleaner's sink	← 1 per each floor →					

BIBLIOGRAPHY

- NEUFERT THIRD EDITION DATA.
- JAIPUR DEVELOPMENT AUTHORITY
- JAIPUR MASTER PLAN
- TIME SAVER STANDARDS
- CEPT WEBSITE
- WWW.GOOGLE.COM
- WWW.NID.EDU
- WWW.WIKIPEDIA.COM

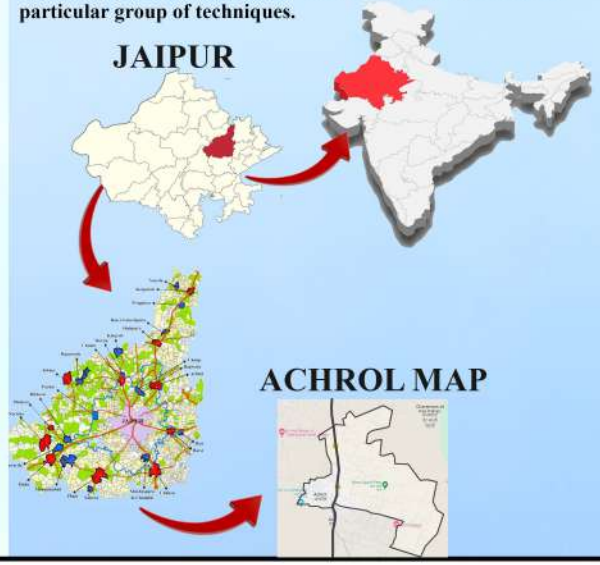
SITE & CLIMATE ANALYSIS

INTRODUCTION

Location: Village Achrol Jaipur, Rajasthan 303002
34 kilometers away from Jaipur
Site Area: 30851.62sqm (7.6 acres)
Site level: on the road level
Topography: Flat land
Coordinates: 27°08'22"N 75°57'32"E

Achrol is located 34 Km away from Jaipur city in Rajasthan. The handmade papercraft was traditionally practiceing Achrol. Achrol is a small Village situated approximately 34 kilometers away from Jaipur,the capital of Rajasthan. The total area of Achrol is about 3351 hectares.About 173.47 ha is un-irrigated area. About 742.53 ha is irrigated area. About 742.53 ha is irrigated by wells/tube wells.

Vocational, or skills-based, education is becoming more and more important today, with many employers expecting new employees to have all the practical skills they need to start work and for those who have to support their families immediately after senior secondary education.Vocational Education can be defined as the education that is based on occupation and employment. Vocational Education is also known as career and technical education (CTE) or technical and vocational education and training (TVET). It prepares people for specific trades, crafts and careers at various levels in all spheres of life. It involves various practical activities. It is some- times referred as technical education because the trainee directly develops expertise in a particular group of techniques.



SITE ACCESSIBILITY

Site accessibility

- Achrol is located on National Highway which is connected to NH-248 that leads to all major destinations in Jaipur and the rest of India.
- The Jaipur airport is located centrally in Achrol and is well connected to all major flight routes/ destinations domestically and internationally. Which is 42 km from achrol.
- Achrol nearest railway station is Jaipur Railway station are both well connected through Rajasthan and can be reached by any of the local trains.53 km from from Achrol.
- Achrol nearest Bus stand is Jaipur Bus stand. 30 km from Achrol.

MARKET
- 1.2 KM from the site,

This crowded market is popular among locals and tourists alike for its ornamental designs, both in textiles and jewelry.

SCHOOL
- Abhyas public school achrol,1.5 km from the site.

HIGHWAY
- NH 248 , 24 METER

National highway Which connects from Jaipur bypass nh 48 to Jamwa Ramgarh Road NH 21.

FOREST OFFICE
- Agriculture Forest office 0.5KM.From the site

LANDMARKS NEAR SITE

Surrounding land type

The surrounding land use comprises mostly mixed-use and residential use. The areas near the site boundary are largely vacant and covered in vegetation.
Public amenities nearby are banks, hospitals, and bus stands. Some wooden furniture shops are also nearby to the site.

Physical analysis

Groundwater use The main source of irrigation in district Jaipur is wells. Almost 95% of irrigation is through groundwater.
Sewerage system All the villages in the region have a septic tank and soak pits for disposal of night soil. It is necessary to develop a mechanism to con- nect all these villages with a sewerage network system.Power supply It is observed that all villages in the region benefit from the availability of power supply for domestic use.

SWOT analysis

SWOT ANALYSIS

Strength
Site is connected to a state highway
Site is well connected to the city by public transport
Loam is the best soil type for construction due to its ideal combination of silt, sand, and clay.

Weakness
Being near to highway noise may disturb the campus
No views from the site
Less number of trees near the site.

Opportunity
Campus can be seen from all the side.
As there are no views from the site opportunity to create internal views.

Threats
Sandstorms due to lack of trees.
Noise from highway

N

VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE

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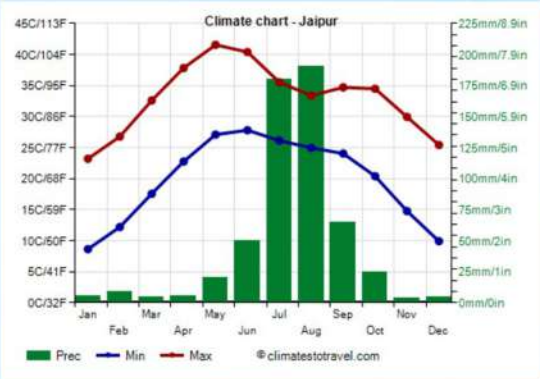
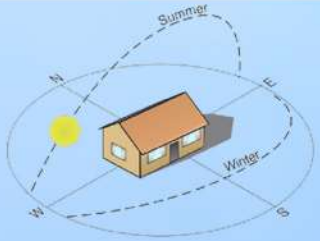
SITE & CLIMATE ANALYSIS

INTRODUCTION

The Achrol lies 441m above sea level.
The climate here is a hot semi-arid climate.
During the year there is little rainfall.
The average annual temperature in Achrol is 25.2 deg * C | 77.4 °F.About 599 mm | 23.6 inches of precipitation falls annually.
June is the warmest month of the year.
The temperature in June averages 33.4°C | 92.1°F.
January is the coldest month, with temperatures averaging 15.4 °C | 59.7 °F.
The climate of Jaipur is hot semi-arid, with a rainy season that runs from approximately from mid-June to mid-September, due to the monsoon, and a dry season from late September to early June.
The city is located in the north-west of India, in the state of Rajasthan (of which it is the capital), at 27 degrees north latitude and 430 meters (1,400 feet) above sea level, and on the banks of the Dravyavati River.



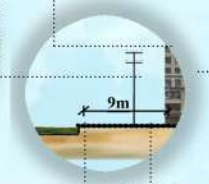


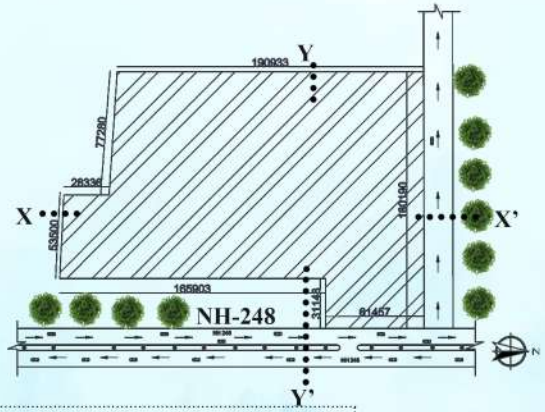
SUN PATH

PHYSICAL ASPECTS

GREEN AREA
INSTITUTIONAL AREA
MARKET AREA
SITE
RESIDENTIAL AREA

APEX UNIVERSITY
ELECTRIC POLE





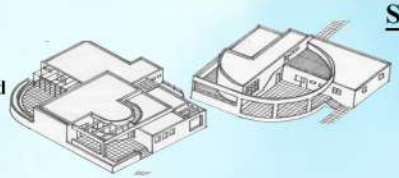
SECTION X-X'

SECTION Y-Y'

FORM AND PLANNING

- Shading of opening and wall by jali screen
- Shading of building surface by plantation
- Shading of building surface by texture

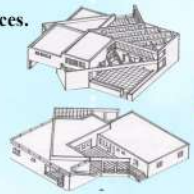
Out-door conditions are so hostile in this climate, that both the buildings and the external living spaces need to be protected as much as possible from the intense solar radiation and the hot, dusty winds.
Shading of roofs, walls and out-door spaces is critical. Projecting roofs, verandahs, shading utilization of surrounding walls and buildings are familiar techniques of solving this devices, trees and problem.
By aligning buildings close to each other, especially if east and west walls are placed close together, mutual shading will decrease the heat gains on external walls.



•Orientation and placement, to minimize sun exposure in summer.
•Form, compact to reduce surface areas of heat gain.
•Shade, for maximum sun protection in summer.
•Allow adequate heat gain in winter by movable shading devices.
•Ventilation, for regulation of air movement.

ORIENTATION OF BUILDING

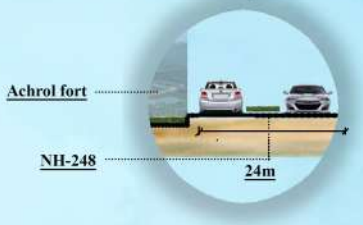
Sun orientation
West orientation is the worst
The larger building dimension should face north and south



WIND DIRECTION

South west to North east
Main walls and windows should face the wind direction in order to allow maximum cross-ventilation of the rooms. To reduce the effect of hot dusty winds, the leeward side of the house is better.

Electricle supply lines are on the main highway side



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SITE & CLIMATE ANALYSIS

Hot-dry desert and semi-desert climates are characterized by very hot, dry air and dry ground.
Day-time air temperatures may range between 27 and 49°C (normally higher than h / 31 * tc 34°C skin temperature), but at night it may fall as much as 22°C Humidity is continuously moderate to low.
There is little or no cloud cover to reduce the high intensity of direct solar radiation.
The clear skies do, however, permit a considerable amount of heat to be reradiated to outer space at night.
The dry air, low humidity and minimal rainfall discourage plant life, and the dry,dusty ground reflects The strong sunlight, producing an uncomfortable ground glare.
Local thermal winds often carry dust and sand.

CHARACTERISTIC

- Hot dry weather in summer and cold in winter.
- Very little rainfall
- Very low humidity
- Sandy or rocky ground with very low vegetation cover
- High temp. difference between night and day
- Hot winds and frequent dust-storms
- High summer day time temp.(32° C-36 °C)
- High solar radiation

Jaipur - Average precipitation

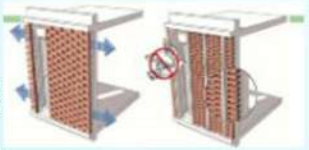
Month	Millimeters	Inches	Days
January	6	0.2	1
February	9	0.4	1
March	4	0.2	1
April	6	0.2	1
May	20	0.8	2
June	50	2	4
July	180	7.1	9
August	190	7.5	9
September	65	2.6	4
October	25	1	1
November	3	0.1	0
December	4	0.2	0
Year	565	22.2	32

Jaipur - Average temperatures (1991-2020)

Month	Min (°C)	Max (°C)	Mean (°C)	Min (°F)	Max (°F)	Mean (°F)
January	8.6	23.2	15.9	48	74	60.7
February	12.2	26.8	19.5	54	80	67.1
March	17.6	32.6	25.1	64	91	77.1
April	22.8	37.8	30.3	73	100	86.5
May	27.1	41.6	34.3	81	107	93.8
June	27.8	40.4	34.1	82	105	93.4
July	26.1	35.5	30.8	79	96	87.5
August	25	33.4	29.2	77	92	84.5
September	24	34.7	29.4	75	94	84.9
October	20.4	34.5	27.4	69	94	81.4
November	14.8	29.9	22.4	59	86	72.2
December	9.9	25.4	17.7	50	78	63.8
Year	19.7	33	26.3	67.5	91.4	79.5

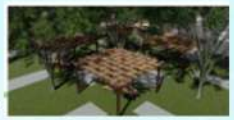
STRATEGIES FOR CLIMATE

Use of jali



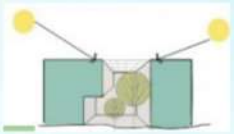
The use of jaali in this context has a huge advantage and it also posseses some historical importance. The patterns of the jaali are aslo used to beautify the facades, it is generally used as acooling device which cuts the sun light, reduces direct heat gain and lets the breeze to pass through it pores. The jaalis promote Natural cross ventilation by the using pressure difference formed by the wind flow through a jali, due to reduced flowing space, the amount of wind flowing through a jaali, due to reduced flowing space, the amount of wind flow- ing through a pore increases, incerasing the velocity and presure. This causes cooling effect. This phenomena is known as the Venturi effect.

PAVILLIONS



They came into being by multiplying very simple saptial units in mudules. The module consists of four columns and a roof, irrespective of the style and construction method. Offering a simultaneous experience of the inside and the outside.

COURTYARDS



They act as a relief from the outside world by forming a peaceful microclimate and are agreat soure of natural light and cros ventilation of the interior spaces. They also form a socio-cultural place of public activity connected visually throughh terraces and veandahs.

SHADING

Effective shading of windows and other glazed areas is one of the major requirements for indoor comfort in these regions during hot summer.
Such shading can be provided either by fixed shading devices; which are integral elements of the building's structure, or by openable shades.
Openable shading devices, such as shutters, Awnings, Venetian blinds, etc., can be either internal; or external to the glazing. Internal devices are much less effective than external shading in preventing solar heating of the interior space, although they can be very effective in controlling indoor natural lighting.

This south-facing view shows how the narrowness of the pathways and the use of vines trellised overhead both provide shade for pedestrians on summer days.

SUN PATH

PASSIVE COOLING STRATEGIES

there is need to apply passive cooling strate- gies, so as to naturally reduce the ambient indoor temperature.

SITE PLANNING

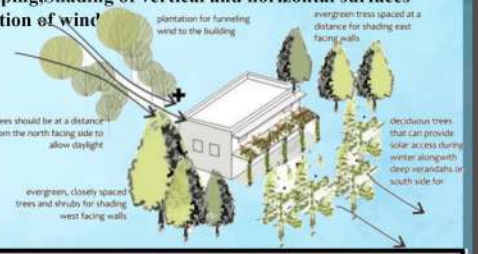
The clusters and the built shall be designed so that they facilitate for natural wind movement across the site. Built shall be porous in nature, leting the breeze cross throughthe system. Wind shadeed areas need to be prevented. Site planning shall also promote mutual shading of the built, which helps reduce heat again.

VEGETATION

Vegetation also alters the micro-climate of a site and has been used as micro-cli- mate manager for as long as buildings have been built. rees and shrubs create different air flow patterns, provide shading and keep the surroundings cooler in warm weather. Vegetation can be used for energy conservation in buildings in the following ways:
Shading of buildings and open spaces through landscaping,Shading of vertical and horizontal surfaces (green walls),Buffer against hot winds,Changing direction of wind

ROOF

Terracotta for roof.They leave small air pockets between tiles which allow water and heat to circulate easily Uniform and smooth circulation heat and air ensures that heat does not accumulate on the surface. This maintains the temperature of roof and thus prevents it from making your house warm.



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LITERATURE STUDY 1

VAGHALDHARA VOCATIONAL TRAINING CENTRE

INTRODUCTION

LOCATION: SHRI NATHUBHAI AND SHRIMATI PARVATIBEN NATHUBHAI DESAI VOCATIONAL TRAINING CENTRE,NH-8, VAGHALDHARA, VALSAD, GUJARAT
SITE AREA: 18000 SQ M
COMPLETION: 2010
FUNCTION: VOCATIONAL SCHOOL
ARCHITECT: PRINCIPLE ARCHITECT: FALGUNI DESAI, AE TERRAIN DESIGN ASSOCIATES
DEVELOPER: VAGHADARA VIBHAG KELAVANI MANDAL, GOVERNMENT OF GUJARAT

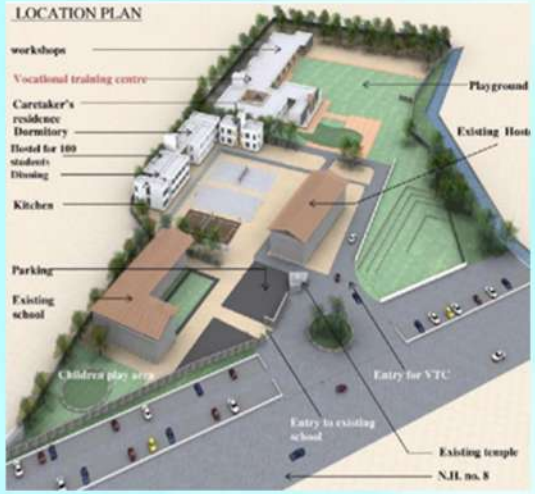
THE VOCATIONAL CENTRE IS RUN BY A CHARITABLE TRUST FOR UNDERPRIVILAGED TRIBAL STUDENTS IN THE VAGHALDARA AREA OF GUJARAT. THE TRUST ALSO RUNS A SCHOOL IN THE SAME COMPLEX.

VVKM IS ALSO MANAGING SHRI B.B. SHAH SARVAJANIK VIDYALAYA (SECONDARY SCHOOL) SINCE 1971. IT ALSO RUNS CHHATRALAYA (HOSTEL) NAMED SMT. GAJRABEN FAKIRCHAND SHAH SARVAJANIK CHHATRALAYA IN WHICH SC, ST, BAXI PANCH STUDENTS STAY AND STUDY. ON AN AVERAGE ABOUT OVER 250 STUDENTS STAY IN THE CHHATRALAYA WHILE 400 STUDENTS IN ALL STUDY IN THE SECONDARY SCHOOL. VVKM IS ALSO STARTED HIGHER SECONDARY SCHOOL FOR SCIENCE GUJARATI STEAM SINCE 2015.

COURSE OFFERED

1. ELECTRICAL AND HOUSE WIRING
2. ELECTRICIAN
3. REFRIGETOR AND AC MECHANIC
4. REFRIGERATION AND AC TECHNICIAN
5. DRAFTSMEN CIVIL
6. JUNIOR CIVIL SUPERVISOR
7. COMPUTER NAD TALLY OPERATOR
8. WELDER
9. TIG AND LIG WELDER
10. PLUMBER

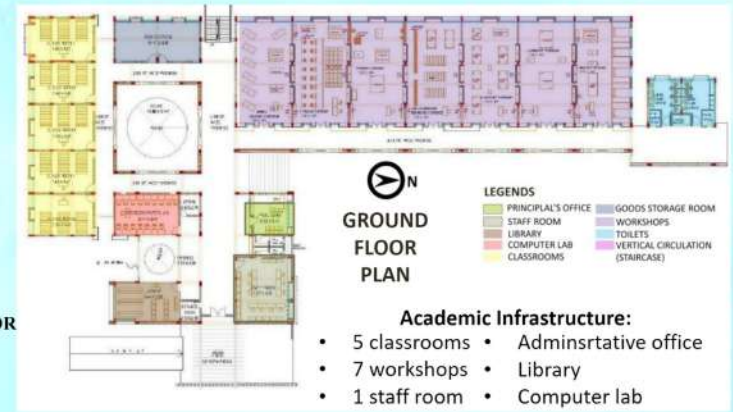
SITE MAP



WELDING WORKSHOP

PLUMBING WORKSHOP

MAIN BUILDING



Academic Infrastructure:

- 5 classrooms
- 7 workshops
- 1 staff room
- Adminsrtative office
- Library
- Computer lab

HOSTEL

GROUND FLOOR PLAN

FIRST FLOOR PLAN

BUILDING FACADE

THE BUILDING IS A COMPOSITE STRUCTURE COMPRISING EXPOSED CONCRETE, EXPOSED BRICKWORK AND PLASTERED MASONRY WORK AS BASIC MATERIALS.

INFRASTRUCTURE

VTC VAGHALDHARA IS ESTABLISHED AS MODEL TRAINING INSTITUTE WITH INDUSTRY RELEVANT COURSES, STATE OF ART LAB FACILITIES AND QUALIFIED TRAINERS. THE LUSH GREEN CAMPUS PROVIDED A HEALTHY, SAFE AND PEACEFUL ENVIRONMENT INSPIRING LEARNING AND SKILL DEVELOPMENT. VTC VAGHALDHARA HAS CREATED EXCELLENT INFRASTRUCTURE AND TRAINING FACILITIES FOR TRIBAL STUDENTS AND PROVIDED WITH GOOD HOSTEL FACILITIES AND FOOD, RECREATION AND PERIODICAL HEALTH CHECK-UP. WELL-EQUIPPED SEVEN WORKSHOPS AND ONE COMPUTER LAB, ONE LANGUAGE ROOM, SIX CLASSROOM, ONE CONFERENCE ROOM, ADMINISTRATIVE OFFICE, LIBRARY. OTHER FACILITIES ARE 100 NO OF STUDENTS STAYING IN HOSTEL, PLAYGROUND,

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LITERATURE STUDY 1

GEBZE INDUSTRIAL VOCATIONAL HIGH SCHOOL

INTRODUCTION

LOCATION: GEBZE, TURKEY
SITE AREA: 12000 SQ M
ARCHITECT: NORM ARCHITECTS
COMPLETION: 2015
LANDSCAPE-30%
CAR PARKING-150CARS

GEBZE INDUSTRIAL VOCATIONAL HIGH SCHOOL WAS DESIGNED WITHIN THE CONTEXT OF A SOCIAL RESPONSIBILITY PROJECT. PROJECT IS DESIGNED BY NORM MIMARLIK AN TURKISH ARCHITECT.

SITE

PROJECT LOCATED CLOSE TO A RESIDENTIAL AREA, THE BUILDING IS SURROUNDED BY ALMOST GREEN LANDS, IT IS AN GREEN BELT, ALSO THERE IS AN INDUSTRIAL BUILDINGS IN THE SOUTH, BUT IN THE NORTH THERE ARE EMPTY LANDS.

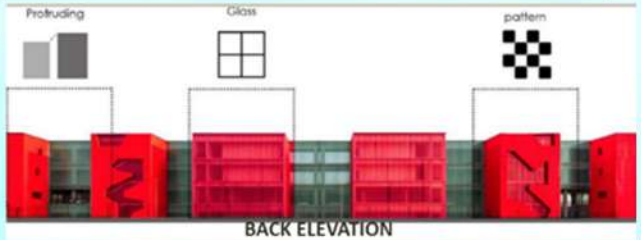
CLIMATE CONDITION

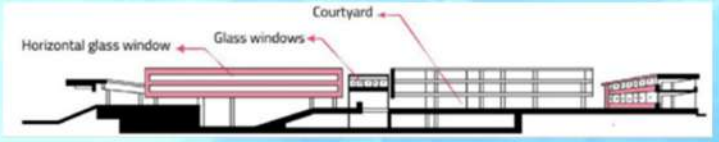
- ON AVERAGE, THE WARMEST MONTH(S) ARE JUNE, JULY AND AUGUST.
- MOST RAINFALL (RAINY SEASON) IS SEEN IN DECEMBER.
- GEBZE HAS DRY PERIODS IN JULY AND AUGUST.
- ON AVERAGE, THE WARMEST MONTH IS AUGUST.
- ON AVERAGE, THE COOLEST MONTH IS JANUARY
- DECEMBER IS THE WETTEST MONTH. THIS MONTH SHOULD BE AVOIDED IF YOU DON'T LIKE TOO MUCH RAIN.

MAIN BUILDING

THE VOCATIONAL SCHOOL PROVIDES CLASSROOMS, WORK-SHOPS AND GYM FOR AROUND 720 STUDENTS, TO SUPPORT UPSKILLING AND ON-SITE VOCATIONAL TRAINING FOR UN- EMPLOYED, THE NATIONAL EMPLOYMENT AGENCY, COVERS TRAINING PROGRAMME EXPENSES PROVIDED THAT A CERTAIN NUMBER OF THE TRAINEES ARE EMPLOYED BY THE COMPANY AFTER THE PROGRAMME. THE FRONT COURTYARD ON THE NORTH IS BORDERED BY THE EDUCATION BUILDING OVERLOOKING THE SOUTH AND THE WORKSHOP SPACE OVERLOOKING THE NORTH; IN THIS SENSE, THE COURTYARD FUNCTIONS AS THE CENTRAL AND MAIN SPATIAL ELEMENT OF THE ENTIRE STRUCTURE. CONNECTING TO THE AMPHITHEATER LOCATED ON LOWER EAST END, THE COURTYARD REPRESENTS THE REAL ARRIVAL POINT OF THE BUILDING AND OPENS UP TOWARDS THE NATURE ON THE NORTH END. THE ENTIRE LOBBY IS LOCATED AROUND COURTYARDS AT DIFFERENT ELEVATIONS WITHIN THE CONTEXT OF THE RELATIONSHIP BETWEEN THE INDOOR AND OUTDOOR. THIS DESIGN DETERMINED APPROACH ENABLES A GREAT IDENTITY AND CHARACTER FOR THE BUILDING, THE DESIGN ALLOW THE CLEARNESS FOR THE ARRANGEMENTS AND RELATIONSHIPS WITH THE NATURE, THE RESULTING A GREAT INTERACTION BETWEEN THE USERS AND THE NATURE.

ELEVATION &SECTION





STRUCTURE &MATERIAL

MATERIAL THAT USED FOR THE FACADES THAT CAN BE ADAPT TO THE CLIMATE SURROUNDING THE BUILDING ELEMENTS FAÇADES COMPRISING OF EXPOSED CONCRETE AND OPAQUE REFLECTED PANELS MAKE REFERENCES TO THE SIMPLE AND TECHNICAL ASPECTS OF DESIGN. BUILDING MATERIALS SUCH AS CONCRETE AND STEEL COMPOSITE STRUCTURES, HEAT RESISTANT JOINTS FOR MOVEABLE SURFACES, ALSO THE PRESENT OF THE (PV) PANELS ON THE SOUTH/SOUTH-WEST ARE FOR THE CONSTRUCTION SYSTEM OF THE BUILDING. IT IS KNOWN THAT THE ENTRANCE STRUCTURE WILL REFINE IN TIME WITH THE PRACTICES OF USERS, WITHOUT EVER LOSING ANYTHING FROM ITS CHARACTER, AND ALSO THAT MAKE THE PROJECT HAS ITS ON CHARACTER.

ENVIRONMENTAL IMPACT

THE COURTYARD OF THE BUILDING MAKE AN AIR CURRENT THROUGH THE WHOLE BUILDING, GLASS WINDOWS PROVIDE THE NATURAL LIGHT FOR ALL SPACES, AND THE PHOTOVOLTAIC PANELS (PV)WHICH ACT AN IMPORTANT ROLE IN THE BUILDING QUALITY.

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LIVE CASE STUDY 1

NATIONAL VOCATIONAL TRAINING INSTITUTE FOR WOMEN, NOIDA

SITE

N.V.T.I

NATIONAL VOCATIONAL TRAINING INSTITUTE IS THE TRAINING INSTITUTE ONLY FOR WOMEN.
THE INTITUTE WAS ESTABLISHED BY MINISTERY OF LABOUR AND EMPLOYMENT 1977.

INTRODUCTION

- DESIGNED AND LAUNCHED IN 1977.
- THE PROGRAMME ATTEMPS TO PROMOTE THE WOMEN EMPLOYMENT IN INDUSTRY (MAINLY ORGANISED SECTOR) AS SEMI- SKILLED/SKILLED & HIGHLY SKILLED WORKERS BY INCREASING THEIR PARTICIPATION IN SKILL TRAINING FACILITIES.
- SITE AREA -8 ACRE (APPROX)
- D-1, BLOCK D, SECTOR 1, NOIDA, UTTAR

SITE ACCESSIBILITY

750 M FROM SEC 15 METRO STATION
6.6 KM FROM NOIDA BUS STAND
11.5 KM FROM OKHLA RAILWAY STATION

AIM & OBJECTIVES

1- PLANNING, DESIGNING, EXECUTING AND PURSUING LONG-TERM POLICIES FOR VOCATIONAL TRAINING OF WOMEN IN AREAS HAVING WAGE/SELF EMPLOYABILITY; THEREBY INCREASING WOMEN'S PARTICIPATION IN ECONOMIC & SOCIAL DEVELOPMENT OF THE COUNTRY.
2- DRAWING PLANS AND SCHEMES FOR PROMOTING PARTICIPATION OF WOMEN IN VOCATIONAL TRAINING.
3- IDENTIFICATION OF VOCATIONAL SKILL TRAINING AREAS.
4-SENSITIZING SOCIAL ENVIRONMENT THROUGH PUBLICITY CAMPAIGNS.

SITE AND SURROUNDINGS

THE MAIN LANDMARK AROUND NVTI IS 22 STOREY GAIL BUILDING.
IT ALSO HAS CONNECTIVITY WITH METRO.
40% OF SITE AREA IS COVERED IN GREEN.

VIEW OF GAIL BUILDING FROM NVTI'S ENTRANCE

ADMINISTRATIVE BLOCK

- PRINCIPAL OFFICE
- RECEPTION AREA
- ASSISTANT DIRECTOR OFFIC
- WAITING AREA
- STAFF ROOM
- D.T.P SECTION
- STORE ROOM
- LIBRARY
- CANTEEN
- SECRETARIAL PRACTICE – COMPUTER LAB
- HUB (DLP)
- CONFERENCE ROOM
- DINING ROOM (FOR GUEST)


ELEVATION


WAITING AREA


COMPUTER OPERATOR


JAALIS OF SUCH TYPE ARE PROVIDED IN MANY WALLS OF THE BUILDING FOR LIGHT AND VENTILATION IN CORRIDOR.


HUB(DLP)


DTP ROOM

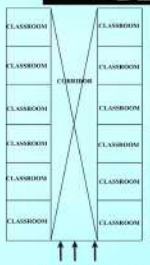

CANTEEN

MERITS

AMPLE AMOUNT OF NATURAL VENTILLATION IN CLASSROOM

PROPER ARRANGEMENT OF ELECTRICITY UNIT AND WATER OVERHEAD TANK

DEMERITS



WORKSHOP BLOCK - 2

- THEORY ROOMS
- COSMETOLOGY
- FASHION DESIGNING (BASIC)
- FASHION DESIGNING (ADVANCED)
- DRESS MAKING SEWING LAB
- FASHION TECHNOLOGY LAB
- HSC LAB
- DRAFTING LAB
- AUDIO VISUAL LAB


WORKSHOP BLOCK


COSMETOLOGY BLOCK

AREA CHART

S.NO.	SPACE	AREA
1	Business center	450 sqm
2	Administrative block	400 sqm
3	Institutional block	1200 sqm
4	Workshop block	2400 sqm
5	Mess/Kitchen	600 sqm
6	Hostel block 1	600 sqm
7	Hostel block 2	600 sqm

S.NO.	WORKSHOP BLOCK 2	AREA (SQM)
1	Electronic theory	80
2	CITS Room	120
3	AUDIO VISUAL LAB	140
4	ELECTRONICMECH.LAB	80
5	ELECTRONICMECH.LAB	80
6	TEACHING -I	60
7	TEACHING -II	60
8	TOILETS	30
9	CUTTING AND SEWING LAB	120
10	THEORY ROOM	60

SERVICES

1- INSTITUTE IS LOCATED IN NOIDA, HAS NO ELECRICITY ISSUE AND HAVE ITS OWN DIESEL GENERATOR INCASE OF POWER EFFICIENCY.
2- FOR WATER SUPPLY IT HAS ITS OWN OVERHEAD TANK THAT STORES WATER FROM MINICIPALITY AND SUPPLY IT IN WHOLE INSTITUTE.

COURSES

1- AS THIS VOCATIONAL INSTITUTE ID FOR ONLY GIRLS. THEY HAVE PROVIDED HOSTEL FACILITY FOR ALL THE STUDENTS AT VERY CONVENIENT FEES BECAUSE ITS AN GOVERNMENT INSTITUTE.
2- THIEY ARE TWO TYPES OF COURSES ARE THERE SHORT AND LONG TERM.
3- FOR BOTH WORSHOPS ARE THERE, ONE CLASSROOM FOR EACH COURSE 15X10M.

WORKSHOP BLOCK - 1

MEDITATION ROOM
ARCHITECTURAL DRAUGHTSMANSHIP
ELECTRONIC MECHANIC
CAD LABS
INTERIOR DESIGNING CLASS
AUDIO - VISUAL LAB
PRINCIPLES OF TEACHING


FASHION TECHNOLOGY CLASSES


SOLAR PANELS INSTALLED AT ROOF TOP

VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE

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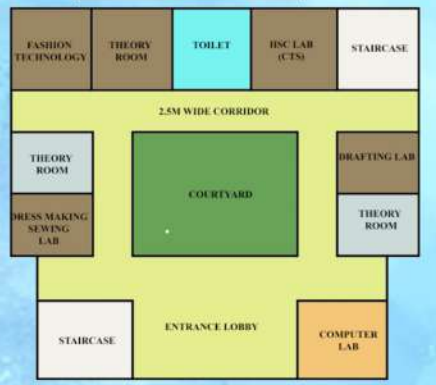
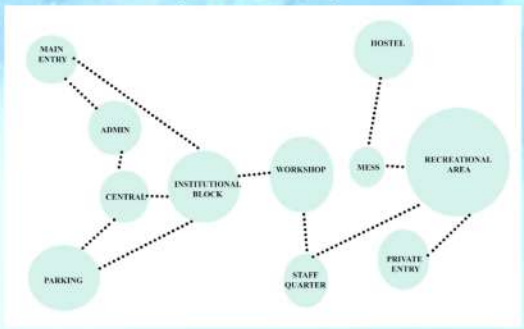
LIVE CASE STUDY 1

NATIONAL VOCATIONAL TRAINING INSTITUTE FOR WOMEN, NOIDA

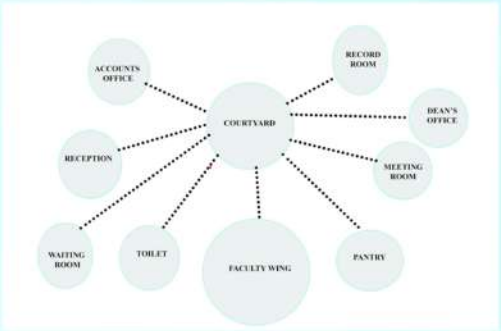
WORKSHOP BLOCK



SITE ZONING



ADMINISTRATIVE BLOCK

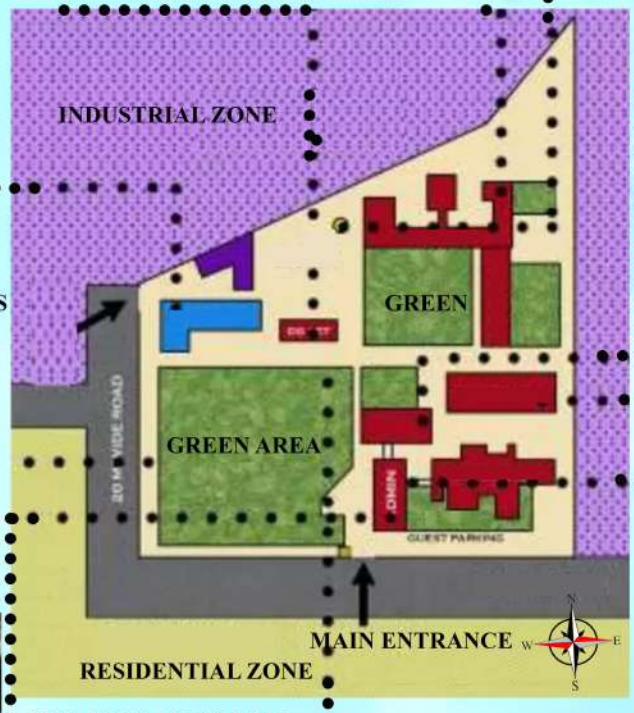


D.G SETS
PROPER FACILITY FOR ELECTRICITY BY PROVIDING INDIVIDUAL STRUCTURE

GIRLS HOSTEL
ACCOMODATION FACILITY FOR BOTHE LONG AND SHORT TERM COURSES.

OVERHEAD WATER TANK
INSTITUTE HAS ITS OWN WATER TANK FOR SUPPLY IN HOSTEL AND OTHER BLOCKS.

SURFACE PARKING
COVERED PARKING FOR TEACHERS FOR APPR. 8 CARS



N.V.T.I MODEL
MODEL OF N.V.T.I PLACED NEAR ADMIN BLOCK

WIDE PATHWAYS
8 M WIDE PATHWAYS ON ALL SIDES FOR FIRE BRIGADE

WORKSHOP-2
- 3 STOREY BUILDING WITH APPR.
- 15 CLASSROOMIN 1ST & 2ND FLOOR WITH LONG AND UNVENTILATED CORIDOORS.
- GROUND FLOOR HAVE CLASSROOMS WITH STAFF ROOMS.

ADMIN BLOCK
RECEPTION ON ENTRANCE WITH TRAINING SECTION, WAINTING, PRICIPAL CHAMBER, DIRECTOR OF TRAINING, ADIMINSTRATIVE SECTION

SITE AREA =28720 SQM
7.1 ACRE

FEE SUBMISION
FEE SUBMISSION IS BETWEEN TWO BLOCKS AND COVERED WITH GREEN CURVED FIBRE SHEET

VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE

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CASE STUDY 2

INDIAN INSTITUTE OF CRAFTS & DESIGN

INTRODUCTION

NAME-INDIAN INSTITUTE OF CRAFTS & DESIGN
LOCATION-JAIPUR, RAJASTHAN
SITE AREA-28000SQM (7 ACRE)
ARCHITECT-AR. JOESPH ALLEN STEN
GROUND COVERAGE-20%
PARKING-SURFACE PARKING 42 CARS

The Indian Institute of Crafts & Design was setup as an autonomous institute by the Government of Rajasthan in the year 1995 to act as a catalyst of change in the craftsector. Since October 2007, the Institute is being funded and managed by Ambuja Educational Institute (AEI) under the Public Private Partnership (PPP) model.Beginning from the 2017-18 sessions, the fresh intake of ICD now awards degrees in Bachelor in Design and Master in Design in collaboration with The Central University of Rajasthan This Institute works towards the evolution of crafts and the craft persons in the contemporary socio economic context. Through the programmes of Education,Research, Documentation, Training, Outreach and Consultancy the Institute strives to become a Centre of Excellence. ICD is continuously evolving in a vibrant environment of experimentation and innovation Spread over lush green and cheerful campus in the Jhalana Institutional Area, Jaipur, IICD infrastructure such as the academic,administrative and hostel blocks with studios, library, workshops and research labs,resource centre, administrative offices,

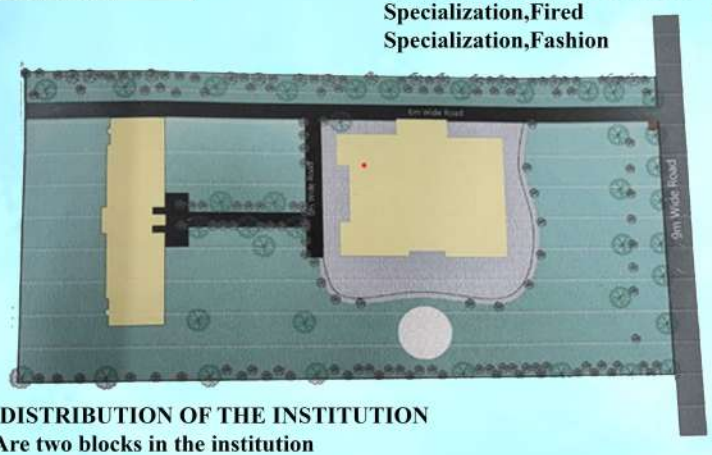
APPROACH

10.5 Kms from Jaipur Railway Station
7.5 Kms From Jaipur International Airport
8.0 Kms from Sindhi Camp Bus Stand
Main Road: 9m Wide Road
Internal Road: 6m Wide Road

SURROUNDINGS

East-Institute of development studies
West-Smriti Van
North-Anti Corruption Bureau
South-National Archieves Of India

SITE PLAN



AREA DISTRIBUTION OF THE INSTITUTION
There Are two blocks in the institution

- Institutional Block
- Hostel Block
- Area Of Block 1 (Institutional Block)= 2250 Sqm
- Area Of Block 2 (Residential Block) =1250 Sqm

STUDIO

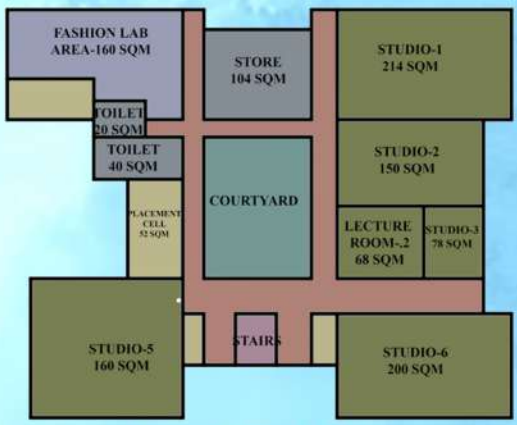
Open Studio concept is one of the best ways to keep the students fresh and calm specially in the field of Craft and designing. The institution also has this open studio concept for the students to explore more from the natural world and green environment. At the backyard of the Institutional Block there is green lawn having some stone pebbles which can be easily used for the exploration of different ideas and thoughts in that green environment The most of the unbuilt area of the institution is green as it is having only 17.5% of the ground coverage so out of the rest of the 82.5% area the 60% is green.

STUDIO

Studio And lecture rooms are one of the most important part of an institution. Speacially related to crafts and architecture. This institution is having 4 lecture rooms and 5 Studio"s. As the Institution is having under Graduation and post-Graduation for both the Programmes The under Graduate program is of 4 years with the maximum Capacity of 80 Students in a batch leading for different Under Graduate Programs The Different Programmes are Soft Material Specialization,Hard Material Specialization,Fired Material Specialization,Fashion Design

WORKSHOP FLOOR PLANS

GROUND FLOOR PLAN



FIRST FLOOR PLAN

THIS TYPE OF WORKSHOP COMES UNDER HARD MATERIAL SPECIALIZATION, THIS WORKSHOP IS DESIGNED FOR THE 30 STUDENTS WHO CAN WORK AT A TIME. IN THIS WORKSHOP MAJOR WORKS TO PERFROM ARE DRILLING. GRINDING, WELDING, CUTTING,POLISHING,MOULDING

VOCATIONAL TRAINING AND
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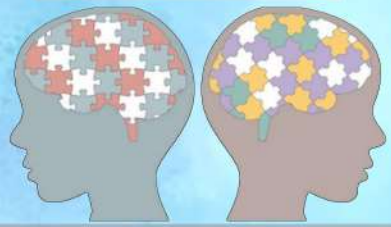
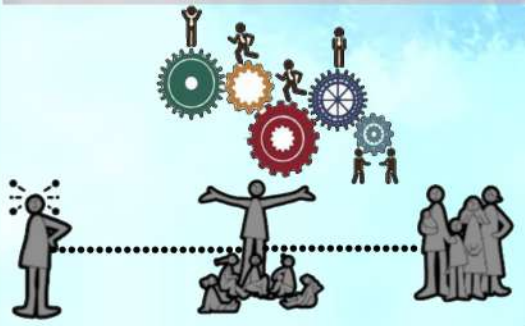
CONCEPT

CREATIVE MIND



VOCATIONAL, OR SKILLS-BASED, EDUCATION IS BECOMING MORE AND MORE IMPORTANT TODAY, WITH MANY EMPLOYERS EXPECTING NEW EMPLOYEES TO HAVE ALL THE PRACTICAL SKILLS THEY NEED TO START WORK AND FOR THOSE WHO HAVE TO SUPPORT THEIR FAMILIES IMMEDIATELY AFTER SENIOR SECONDARY EDUCATION.VOCATIONAL EDUCATION CAN BE DEFINED AS THE EDUCATION THAT IS BASED ON OCCUPATIONAND EMPLOYMENT. VOCATIONAL EDUCATION IS ALSO KNOWN AS CAREER AND TECHNICAL EDUCATION (CTE) OR TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (TVET).IT PREPARES PEOPLE FOR SPECIFIC TRADES, CRAFTS AND CAREERS AT VARIOUS LEVELS IN ALL SPHERES OF LIFE.

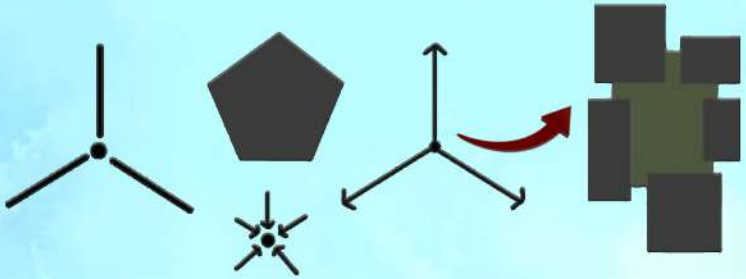


CAMPUS IS A PLACE WHERE LARGE NUMBER OF PEOPLE COME TOGETHER INTERACTIVE PRODUCTIVITY PRODUCTIVELY AND DEVELOPED THROUGH LEARNING FROM EACH OTHER.CREATIVE THINKING AND DIRECT EXPERIENCE ARE VALUED ABOUT LEARNING MEMORIZATION IS POSSIBLE BY UNDERSTANDING THE NEED OF USERS STUDENT HAVE BOUNDLESS IMAGINATION AND IT CAN INVOLVES STUDENT IN THE ARMS OF LEARNING IT IS THUS CAREFUL INTEGRATION OF BUILDING AND OPEN SPACES WHICH ULTIMATELY DEFINE A PHYSICAL PRESENCE OF A CAMPUS

CONCEPTUAL IDEA

CREATIVE CAMPUS

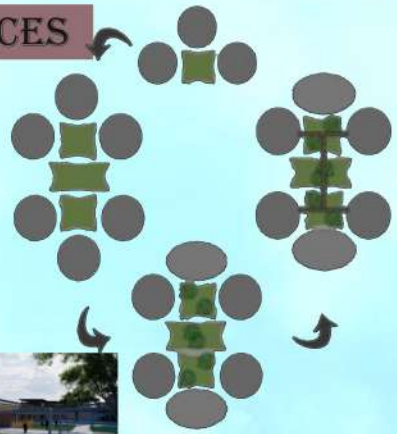
THE RURAL PSYCHE IS TRADITIONAL, CONSERVATIVE, AND MAINLY OPPOSED TO CHANGE.THEY LIKE TO LIVE IN THEIR WORLD AND HENCE DO NOT LIKE ANYONE DISTURBING THE STATUS QUO. THIS SITUATION CREATES A KIND OF VACUUM WHERE THE RURAL PEOPLE FIND THEMSELVES CAUGHT IN A WEB.
A CREATIVE CAMPUS IS A GATHERING SPOT FOR DIFFERENT TYPES OF PROFESSIONS. HERE LEARNERS CAN COME TO SPEND TIME AND SHARE KNOWLEDGE. MAKING A BRIDGE IN BETWEEN ALL DEPARTMENTS BECAUSE THEY ARE RELATED BY CREATIVE FIELD ALONG WITH CREATIVITY. CREATING COLLABORATIVE SPACES WHICH WILL PROMOTE LEARNING AMONG STUDENTS FROM A DIFFERENT POINT OF VIEW.



A RADIAL ORGANIZATION OF SPACE COMBINES ELEMENTS OF BOTH CENTRALIZED AND LINEAR ORGANIZATIONS. IT CONSISTS OF A DOMINANT CENTRAL SPACE FROM WHICH SEVERAL LINEAR ORGANIZATIONS EXTEND RADIALLY. WHEREAS A CENTRALIZED ORGANIZATION IS AN INTROVERTED SCHEME THAT FOCUSES INWARD ON ITS CENTRAL SPACE, A RADIAL ORGANIZATION IS AN EXTROVERTED PLAN THAT REACHES OUT TO ITS CONTEXT. WITH ITS LINEAR ARMS, IT CAN EXTEND AND ATTACH ITSELF TO SPECIFIC ELEMENTS OR FEATURES OF ITS SITE.

CREATING POCKET SPACES

AS FOR THE ACADEMIC SPACES AND INFORMAL ACTIVITIES ON THE CAMPUS, SMALL POCKET SPACES CAN BE PROVIDED IN THE LANDSCAPED AREA BEHIND THE BUILDINGS. THESE WILL ACT AS COLLECTION SPACES FOR THE USERS. THE CANTEEN, EXHIBITION SPACES AND STUDENT INFORMAL SPACE CAN BE IN SUCH AREAS.

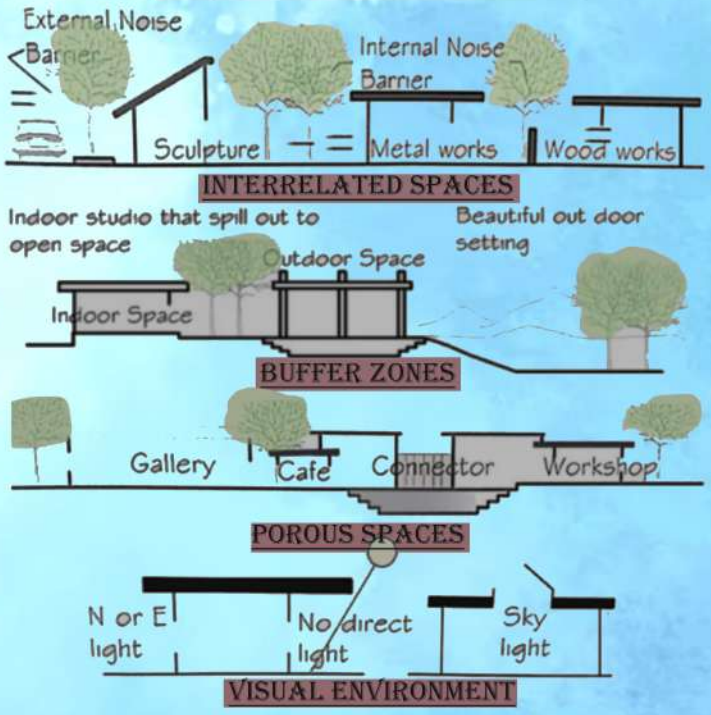


DESIGN DEVELOPMENT

INITIAL MASSING

THE INITIAL MASSING IDEA WAS TO CREATE VARIOUS POCKETS IN EACH CLUSTER. THIS MASSING IS SCATTERED AND PATHWAYS CONNECTING THEM MAY NOT WORK IN THE ASPECT OF WALKING DISTANCE. AS CIRCULATIO IS THE KEY ASPECT IN CAMPUS PLANNING THIS MASSING.

SPACES THAT FAVOUR IN SKILL LEARNING



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CONCEPT

JAIPUR BUILDING BYE LAWS

- AREA OF PLOT MORE THAN 2500 SQM

- GROUND COVERAGE - 40%
  SETBACKS - FRONT 12M/SIDE 9M / BACK 9M

- MAXIMUM HEIGHT OF THE BUILDING - 1.5 X ROAD IN FRONT + FRONT SETBACK

- PARKING
MINIMUM SPACE FOR PARKING SHALL BE PROVIDED AT THE RATE OF 1 CAR UNIT FOR EVERY 115 SQMT. OF BUILT-UP AREA.

- OPEN SPACE REQUIREMENTS
PUBLIC BUILDINGS LIGHT/AIR/ PARKING FACILITIES TO BE PROVIDED. ALL ROOMS SHOULD HAVE INTERIOR OR EXTERIOR OPEN SPACE. IN CASE OF INTERIOR OPEN SPACES, ROOF/WEATHER SHADE MORE THAN 0.75 WIDE SHALL OVERHANG ON THESE OPEN SPACES.

- LANDSCAPING:
AT LEAST 50% OF THE OPEN AREA/PLANTATION/ GREEN COVER (UNBUILT) TO BE LAND- SCAPED, A LANDSCAPE PLAN IS TO BE SUBMITTED FOR APPROVAL.

- WATER SUPPLY AND SANITARY REQUIREMENTS
ASSUMING 5SQM FLOOR AREA / PERSON SANITARY SERVICES NEED TO BE DETERMINED.
WATER HEATING BY SOLAR PANELS IS COMPULSORY IN THESE BUILDINGS.
COMMUNITY CENTER, HOSTEL, HOTELS, AND GUEST HOUSE, HOSPITAL AND NURSING HOMES
SOLAR ENERGY PLANT SHOULD HAVE A CAPACITY 251 / PERSON FOR BATHING AND 10L / PERSON FOR KITCHEN SERVICES.

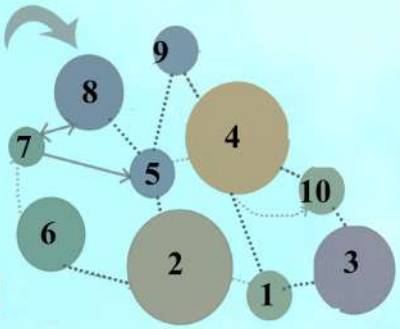
- WATER TANKS
EVERY PLOT HAVING MORE THAN 300 SQM AREA HAS COMPULSORY TO GIVE A WATER STORAGE TANK.

- WATER CLOSETS
1WC/10 BEDS, 1 BATH/6 BEDS, 1 BASIN/ 3 BEDS

1. PRIVATE ZONE
THE STUDENTS FROM OTHER PLACES AS IT CONSISTS PRIMARY SCHOOL AND TRAINING. INSTITUTE.
2. SEMI PRIVATE ZONE
THE ARTISANS AND ADMINISTRATORS WORKING THERE, THE FACULTY AND STUDENTS.
2. PUBLIC ZONE
THE VISITORS, THE ARTISANS FROM OTHER SOCIETIES, COMING TO BUY HANDICRAFTS AND SELL THEIR PRODUCTS.

CREATIVE CAMPUS

SITE ZONING



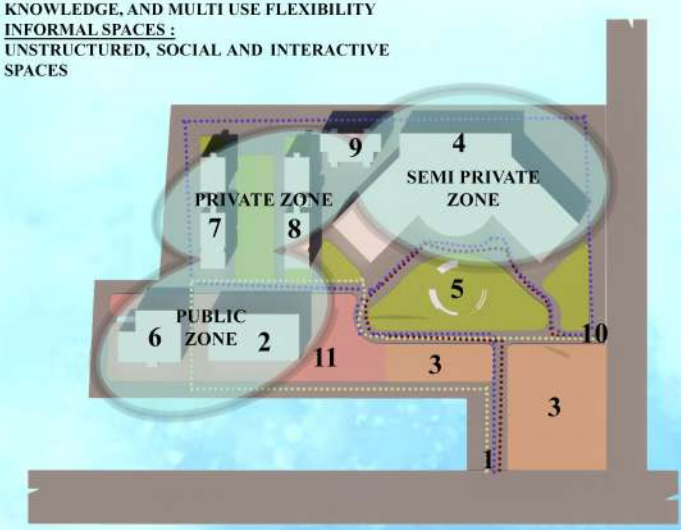
EXHIBITION
RECREATIONAL
LEARNING
INTERECTION

1. ENTRY
2. EXHIBITION AREA
3. PARKING
4. VOCATIONAL CENTRE
5. O.A.T.
6. CANTEEN
7. GIRLS HOSTEL
8. BOYS HOSTEL
9. STAFF RESIDENCE
10. EXIT
11. OPEN EXHIBITION

VEHICLE CIRCULATION
STUDENT CIRCULATION
VISITORS CIRCULATION

CIRCULATION

SPECIALIZED SPACES :
MACHINERY, AND SKILL EQUIPMENT
GENERIC SPACES :
KNOWLEDGE, AND MULTI USE FLEXIBILITY
INFORMAL SPACES :
UNSTRUCTURED, SOCIAL AND INTERACTIVE SPACES



RED LINE REPRESENTS VEHICLE CIRCULATION EXITING FROM THE SITE.
BLUE LINE SHOWS THE CIRCULATION OF STUDENTS AND ARTISANS THROUGHOUT THE SITE ON A TYPICAL WORKING DAY
YELLOW LINE SHOWS THE CIRCULATION OF VISITORS DURING EXHIBITION TIMES.

MODE OF TRANSPORT	SPACES NEEDED	FREQUENCY OF VISIT.
WALKING STUDENTS	VOCATIONAL CENTRE	EVERYDAY
PRIVATE VEHICLE SHOPKEEPERS /ARTISANS	EXHIBITION DISPLAY AREA PLAZA	ONCE A WEEK 6-10 HOURS PER VISIT
PUBLIC TRANSPORT / PRIVATE VEHICLE. EMPLOYEES	ADMIN FOOD COURT PARKING	EVERYDAY
PUBLIC TRANSPORT WALKING TOURISTS	EXHIBITION DISPLAY AREA FOODCOURT	TWICE A MONTH
PUBLIC TRANSPORT PRIVATE VEHICLE CASUAL VISITORS	PLAZA FOOD COURT	TWICE A MONTH

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CONCEPT

AREA SHEET

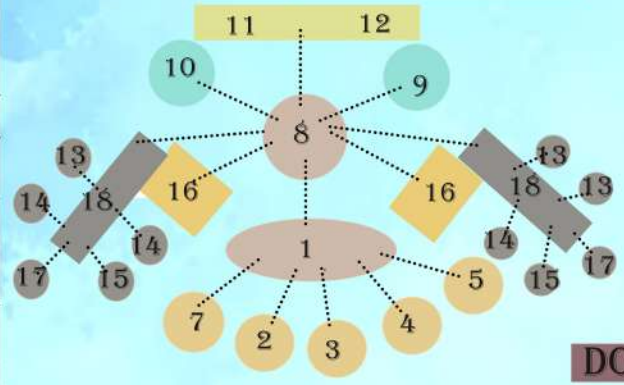
SR. NO.	SPACES	NO.	NO. OF USERS	AREA IN SQM	TOTAL AREA
A	ADMIN BLOCK				
	RECEPTION AREA	1	2	20	20
	WAITING AREA	1	20	40	40
	MEETING ROOM	1	5	20	20
	STAFF ROOM	3	2	20	60
	MULTIPURPOSE ROOM	1	10	50	50
	PRINCIPAL OFFICE	1	1	20	20
	STAFF ROOM	2	1 0	30	70
	PANTRY	1	3	15	15
	TOILET	2	3	20	40
B	ACADEMIC BLOCK				
	CLASSROOMS	10	20	50	300
	LABS	3	10	60	180
	COMPUTER LAB	1	20	40	80
	MUSIC ROOM	2	20	30	60
	ART ROOM	1	30	60	60
	PET ROOM	1		45	45
	MEDICAL INSPECTION ROOM	1	5	30	30
	TOILETS	2		20	40
	STORAGE	1		15	20
C	COMMON AREAS				
	LIBRARY				
	ENTRANCE	1	1	20	20
	OFFICE	1	1	15	15
	READING AREA	1	60	120	150
	BOOK STACK AREA	1		100	120
	GROUP STUDY AREA	1	40	60	80
	STORE ROOM	1		15	15
	TOILETS	2		20	40
	TAV ROOM	1	60	80	80
	STORAGE	1		15	15
	CANTEEN				
	KITCHEN	1		50	50
	SEATING	1	200	100	400
	TOILETS	2		20	40
D	OUTDOOR AREAS				
	AMPHITHETRE				
	PLAY AREA				
	BASKETBALL GROUND				
	FOOTBALL GROUND				
E	WORKSHOPS				
	WORKSHOP 1	2	45	200	400
	WORKSHOP 2	2	45	200	400
	WORKSHOP 3	2	30	100	200
	WORKSHOP 4	2	40	200	400
	WORKSHOP 5	2	30	80	160
	WORKSHOP 1	2	20	200	400

COMPARATIVE ANALYSIS

PARTICULARS	CASE STUDY-1	CASE STUDY-2	LITERATURE STUDY-1	LITERATURE STUDY-2
NAME	NATIONAL VOCATIONAL TRAINING INSTITUTE FOR WOMEN NOIDA	INDIAN INSTITUTE OF CRAFTS & DESIGN	VAGHALADHARA VOCATIONAL TRAINING CENTRE	GEBZE INDUSTRIAN VOCATIONAL HIGH SCHOOL
LOCATION	BLOCK-D NOIDA	JAIPUR, RAJASTHAN	VAGHALADHARA, GUJRAT	GEBZE TURKEY
SITE AREA	8 ACRE	280005QM (7 ACRE)	18000 SQM	12000 SQM
ARCHITECT	MINESTRY OF SKILL AND ENTREPRENEURSHIP	AR. JOESPH ALLEN STEN	FALGUNI DESAI, AE TERRAIN DESIGN ASSOCIATES	NORM MIMARLIK, NORM ARCHITECT
COMPLETION YEAR	1977	1994	2010	2016
GROUND FLOOR AREA	14688 SQM		3173 SQM	
GROUND COVERAGE	23 %	20%	17.62 %	
TOTAL BUILT UP AREA	29136		5896	
MAX. BUILDING HEIGHT			9M	8
FUNCTION	VOCATIONAL TRAINING FOR WOMEN	VOCATIONAL TRAINING PROGRAMME	OFFER SKILL TRAINING PROGRAM TO TRIBAL YOUTH IN RESIDENTIAL STATE-OF THE ART MULTI- SKILLS CENTRE	THE VOCATIONAL SCHOOL PROVIDES CLASSROOMS, WORKSHOPS AND GYM FOR AROUND 720 STUDENTS, TO SUPPORT UPSKILLING AND ON-SITE VOCATIONAL TRAINING FOR UN-EMPLOYED YOUTH.
STAIRS WIDTH	1.5 M	1.5 M	1.5 M	1.5 M
FACADE	NORAMAL BRICKS AND MORTAR ARE USED	RCC, BRICK	THE BUILDING IS A COMPOSITE STRUCTURE COMPRISING EXPOSED CONCRETE, EXPOSED BRICKWORK AND PLASTERED MASONRY WORK AS BASIC MATERIALS	MATERIAL THAT USED FOR THE FACADES THAT CAN BE ADAPT TO THE CLIMATE SURROUNDING THE BUILDING ELEMENTS FACADES COMPRISING OF EXPOSED CONCRETE AND OPAQUE REFLECTED PANELS MAKE REFERENCES TO THE SIMPLE AND TECHNICAL ASPECTS OF DESIGN. BUILDING MATERIALS SUCH AS CONCRETE AND STEEL COMPOSITE STRUCTURES, HEAT RESISTANT JOINTS FOR MOVEABLE SURFACES, ALSO THE PRESENT OF THE (PV) PANELS ON THE SOUTH/SOUTHWEST ARE FOR THE CONSTRUCTION SYSTEM OF THE BUILDING
COURSE OFFERED	Cosmetology, Fashion Designing (Basic), Fashion Designing (Advanced), Dress Making sewing lab, Fashion technology lab, Architectural Draughtsmanship., Electronic Mechanic, CAD Labs, Interior Designing Class		ELECTRICAL AND HOUSE WIRING, ELECTRICIAN, REFRIGETOR AND AC MECHANIC, REFRIGERATION AND AC TECHNICIAN, DRAFTSMEN CIVIL, JUNIOR CIVIL SUPERVISOR, COMPUTER OPERATOR AND PROGRAMMING ASSISTANT, COMPUTER NAD TALLY OPERATOR, WELDER, TIG AND LIG WELDER, PLUMBER, TURNER, CNC TURNING OPERATOR	

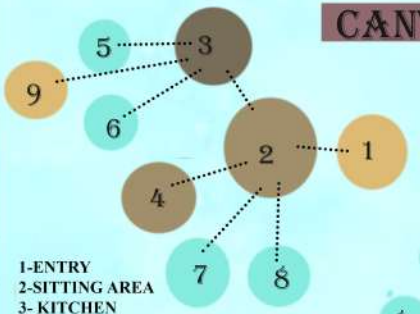
LANDSCAPE	40%	60%	25 %	30 %
PARKING	200 cars	SURFACE PARKING 42 CARS	250 CARS	750 CARS
CIRCULATION		RANDOM MOVEMENT ACROSS THE SITE THROUGH THE SPINES CONNECTING VARIOUS BLOCKS	PEDESTRIAN MOVEMENT WITHIN THE CAMPUS. THE MOVEMENT THROUGH INFORMALLY LAID CORRIDORS SURROUNDED BY COURTYARDS IS A PLEASANT VIEW	

WORKSHOP



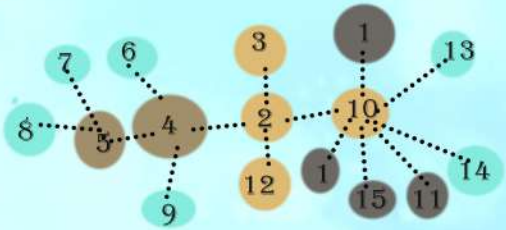
1-WAITING AREA
2-OFFICE
3- ENTRANCE
4-RECEPTION
5-DIRECTOR ROOM
6- PRINCIPLE OFFICE
7-GUEST FACULTY
8-O.T.S.
9-FACULTY TOILET
10-STUDENT TOILET
11-CAFETERIA
12-STAFF ROOM
13-STUDIO
14-WORKSHOP
15-STAIRS
16-STAIRS
17-ENTRY
18-CORRIDOR

CANTEEN



1-ENTRY
2-SITTING AREA
3- KITCHEN
4-OPEN SITTING AREA
5-PANTRY
6- TOILET
7-HE TOILET
8-SHE TOILET
9-BACK ENTRY

DORMITORY



1-ENTRY
2-LOBBY
3- STAIRS
4-DINNING
5-KITCHEN
6- TOILET
7-PANTRY
8-STORE
9-HAND WASH AREA
10-CORRIDOR
11-COMMON RROM
12-WARDEN ROM
13-TOILET
14-TOILET
15-VISITORS ROOM

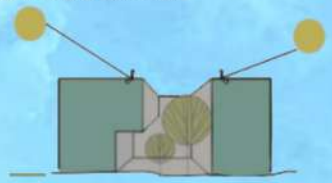
STRATEGIES

PAVILLIONS

THEY CAME INTO BEING BY MULTIPLYING VERY SIMPLE SAPTIAL UNITS IN MUDULES. THE MODULE CONSISTS OF FOUR COLUMNS AND A ROOF, IRRESPECTIVE OF THE STYLE AND CONSTRUCTION METHOD. OFFERING A SIMULTANEOUS EXPERIENCE OF THE INSIDE AND THE OUTSIDE.

COURTYARDS

THEY ACT AS A RELIEF FROM THE OUTSIDE WORLD BY FORMING A PEACEFUL MICROCLIMATE AND ARE AGREAT SOURE OF NATURAL LIGHT AND CROS VENTILATION OF THE INTERIOR SPACES. THEY ALSO FORM A SOCIO-CULTURAL PLACE OF PUBLIC ACTIVITY CONNECTED VISUALLY THROUGHH TERRACES AND VEANDAHS.



LEARNINGS FROM CASE STUDIES

1. VEHICULAR CIRCULATION SHALL BE RESTRICTED TO THE PERIPHERY, MAKING THE SITE PEDESTRIAN FRIENDLY.
NATURAL ELEMENTS LIKE PLANTATION TIES THE SCHEME.

2. TOGETHER AND CREATES AN AMBIENCE AND MICRO-CLIMATE. COURTYARDS SERVE AS IMPORTANT BINDING ELEMENTS AND TOOLS FOR PLACE MAKING.

3. AMALGAMATION OF MODERN TYPOLOGY OF SPACES AND SPIRIT OF THE STREET BAZAR SHOPPING.

4. ZONING SHALL BE DONE APPROPRIATELY THAT IT RESPONDS THE CONTEXT AND MOVEMENT IN AND AROUND THE SITE.

5. CREATING SPACE ANCHORS SHIFTING THE CENTRES OF PUBLIC ATTRACTION.

6. THE ZONING AND INTER RELATION BETWEEN FUCTIONS SHALL BE SUPPORTIVE FOR EACHOTHER.

7. A PLACE SHALL EVOKE EMOTIONS IN THE USER THROUGH ITS PLANNING AND PLAY OF VOLUMES.

VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE

GUIDE- PROF. (DR.) MOHIT KUMAR AGARWAL

COORDINATOR-AR. SHAILESH KUMAR YADAV

NAME-AKANKSHA KUSHWAHA
B.ARCH 5TH YR (1190101004)
COLLEGE-B.B.D. UNIVERSITY LUCKNOW

SECTION X-X'

PLOT AREA =7.6 ACER(30851.62 SQM)

ACADEMIC BLOCK
GROUND FLOOR AREA=3292.23 SQM
FIRST FLOOR AREA=3312.72 SQM
SECOND FLOOR AREA=1818.30

STAFF ACCOMMODATION
GROUND FLOOR AREA=366 SQM
FIRST FLOOR AREA=336 SQM
SECOND FLOOR AREA=336 SQM

MALE DORMITORY
GROUND FLOOR AREA=641.15
FIRST FLOOR AREA=619.15
SECOND FLOOR AREA=619.15

FEMALE DORMITORY
GROUND FLOOR AREA=641.15
FIRST FLOOR AREA=619.15
SECOND FLOOR AREA=619.15

CANTEEN BLOCK
GROUND FLOOR AREA=559.25 SQM

TOILET BLOCK
AREA=56 SQM

EXHIBITION SHOPS
AREA=280 SQM

COVERED AREA
5896 SQM

GROUND COVERAGE=19.5 %

SUPER BUILT UP AREA=13864 SQM

PARKING-90 CARS

FRONT SETBACK-12M
BACK SIDE SETBACK=9M
SIDE SETBACK=9M

LANDSCAPING AREA=55%

VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE

SITE PLAN

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B.B.D.U. L.K.O.

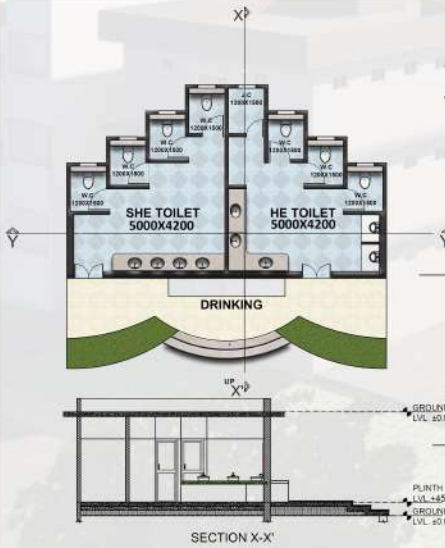
SCALE 1:500 N







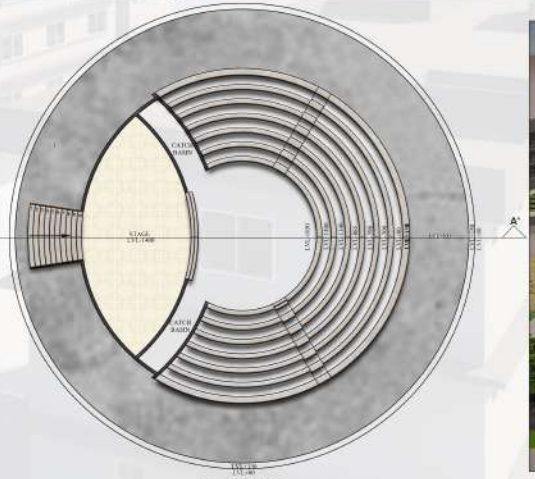
TOILET BLOCK



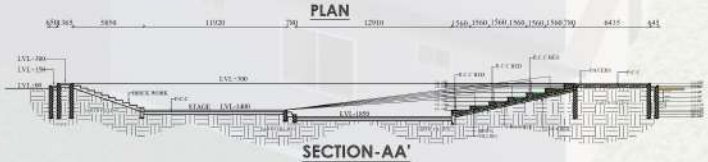
SECTION X-X'

ELEVATION

SECTION Y-Y'



PLAN



SECTION-AA'

VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE

SITE VIEWS

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WORKSHOP 1- DEVELOPEMENT OF INNOVATIVE JOINERY IN WOODEN FURNITURE(120 STUDENTS)

WORKSHOP 2- PATERN CUTTING AND STICHING OF GARMENTS (120 STUDENTS)

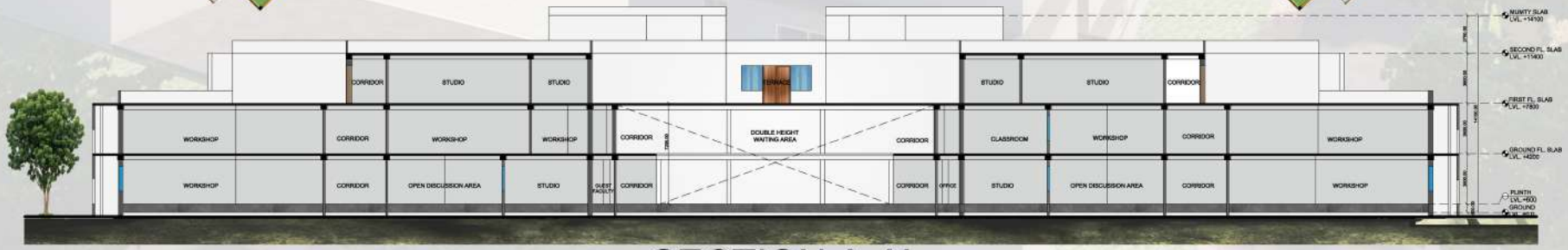
WORKSHOP 3-HAND BLOCK PRINTING (160 STUDENTS)

WORKSHOP 4-DEVELOPEMENT TRAINING IN HANDMADE PAPER MAKING(40 STUDENTS)

WORKSHOP 5- ENTREPRENEURSHIP DEVELOPEMENT IN HANDICRAFTS(40 STUDENTS)

WORKSHOP 6-ART WORKSHOP(80 PERSON)

GROUND FLOOR PLAN
AREA=3292.23 SQM



SECTION A-A'

VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE

ACADEMIC BLOCK

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B.ARCH 5TH YEAR (2023-2024)

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SCALE 1:200 N

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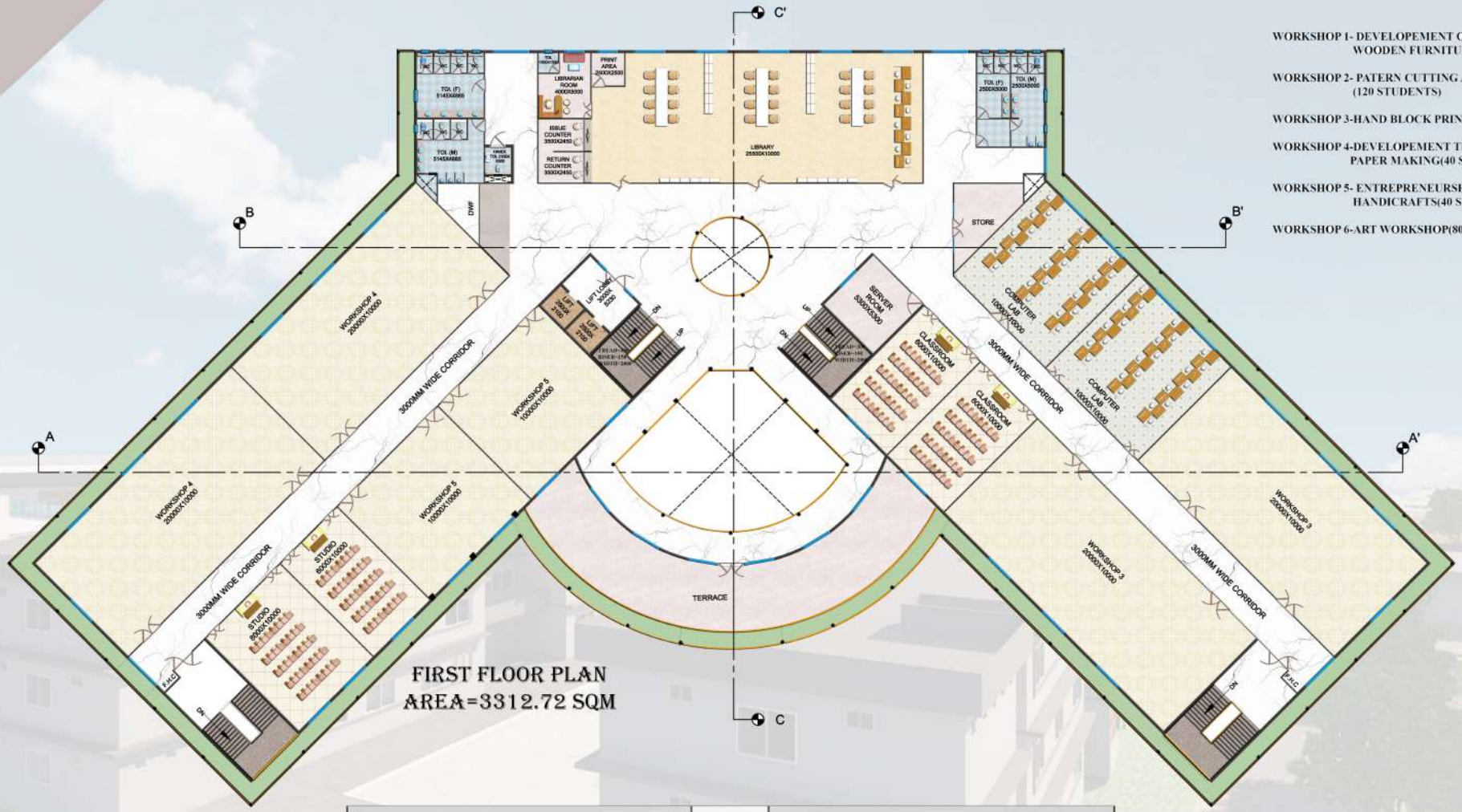
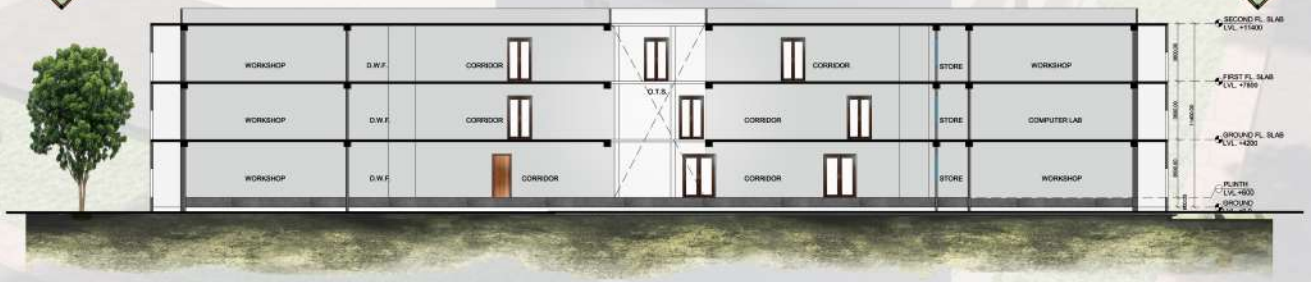


FIRST FLOOR PLAN
AREA=3312.72 SQM



SECTION B-B'

VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE

ACADEMIC BLOCK

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SCALE 1:200 N

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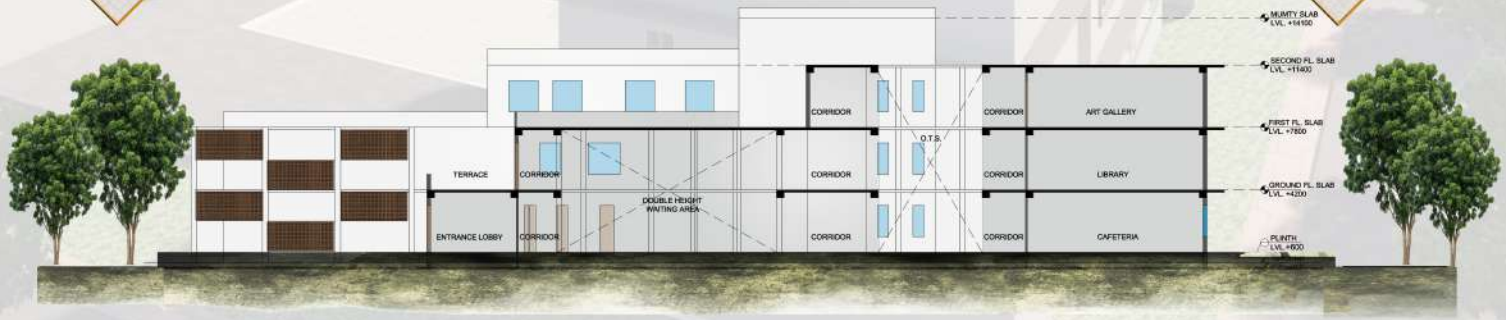
WORKSHOP 5- ENTREPRENEURSHIP DEVELOPEMENT IN HANDICRAFTS(40 STUDENTS)

WORKSHOP 6-ART WORKSHOP(80 PERSON)

SECOND FLOOR PLAN
AREA=1818 .30SQM

WORKSHOP 6-ART WORKSHOP(80 PERSON)



SECTION C-C'

VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE

ACADEMIC BLOCK

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SCALE 1:200 N

FRONT ELEVATION

BACK SIDE ELEVATION

SIDE ELEVATION

VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE

ACADEMIC BLOCK

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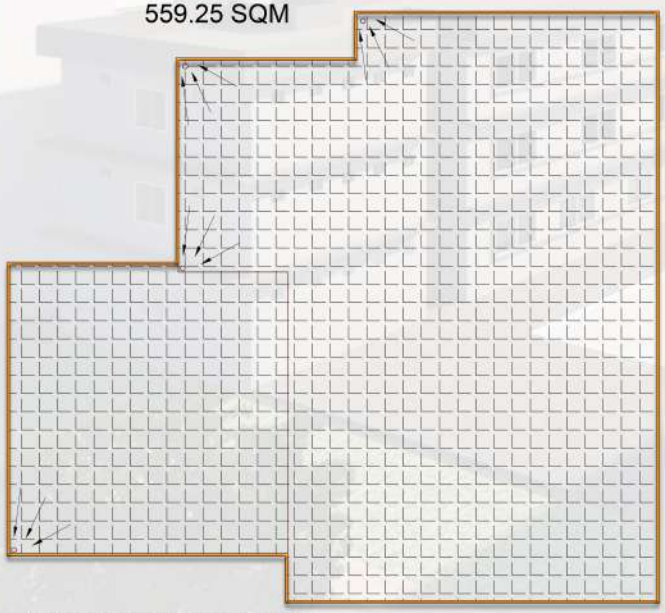
SCALE 1:200 N

GROUND FLOOR PLAN
559.25 SQM

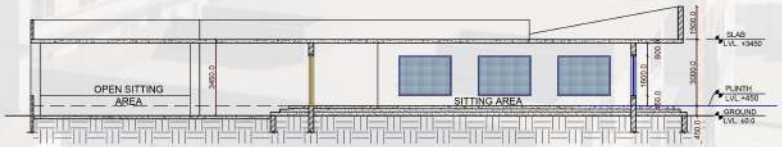


TERRACE FLOOR PLAN

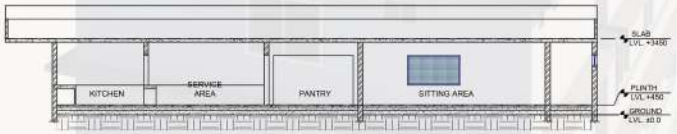
FRONT ELEVATION

SIDE ELEVATION

BACK SIDE ELEVATION



SECTION A-A'



SECTION B-B'

INTERIOR VIEW

VIEWS

VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE

CANTEEN BLOCK

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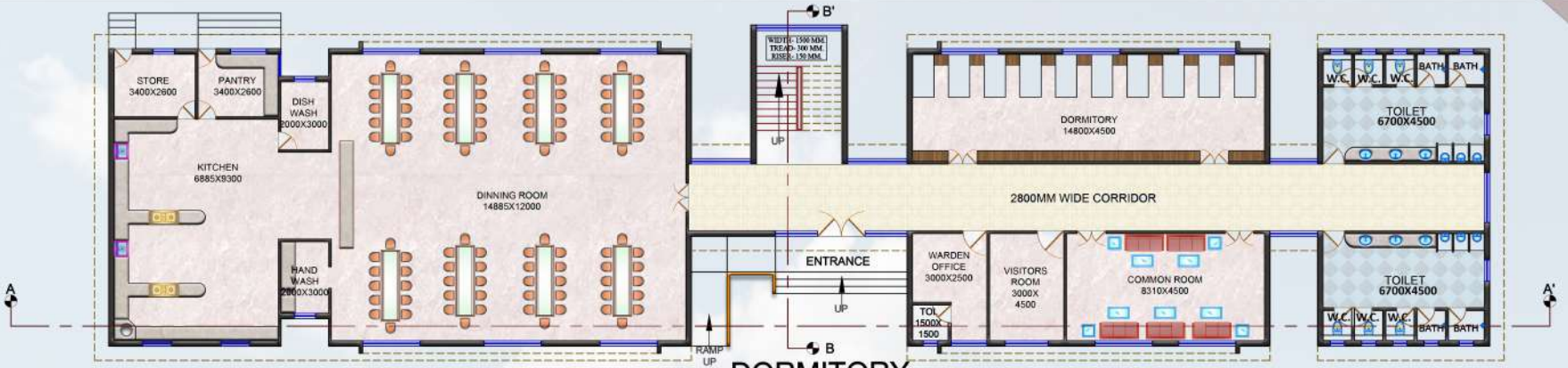
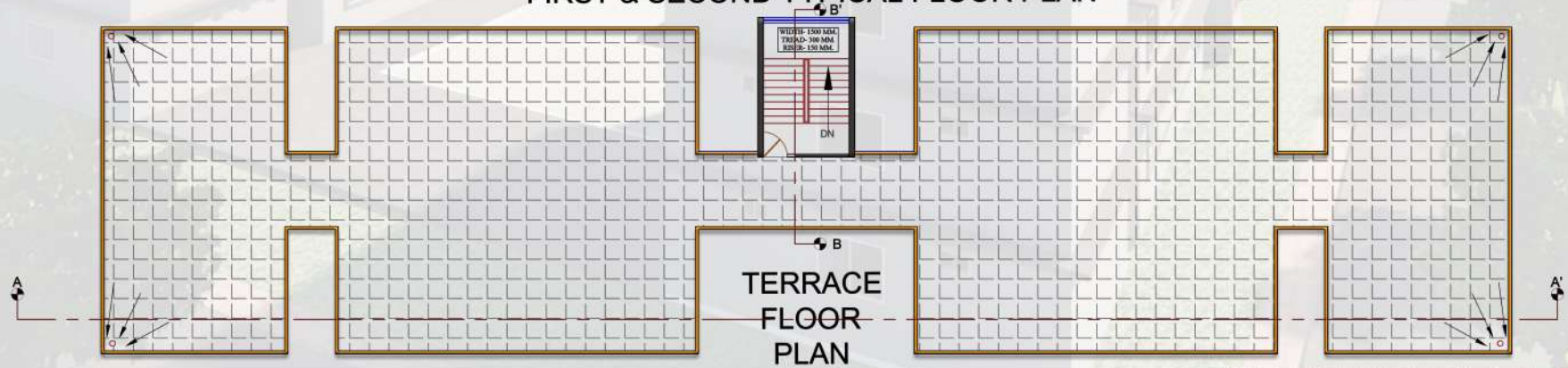
SCALE 1:100 N



DORMITORY
GROUND FLOOR PLAN

DORMITORY
FIRST & SECOND TYPICAL FLOOR PLAN



TERRACE
FLOOR
PLAN

VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE

MALE DORMITORY PLANS

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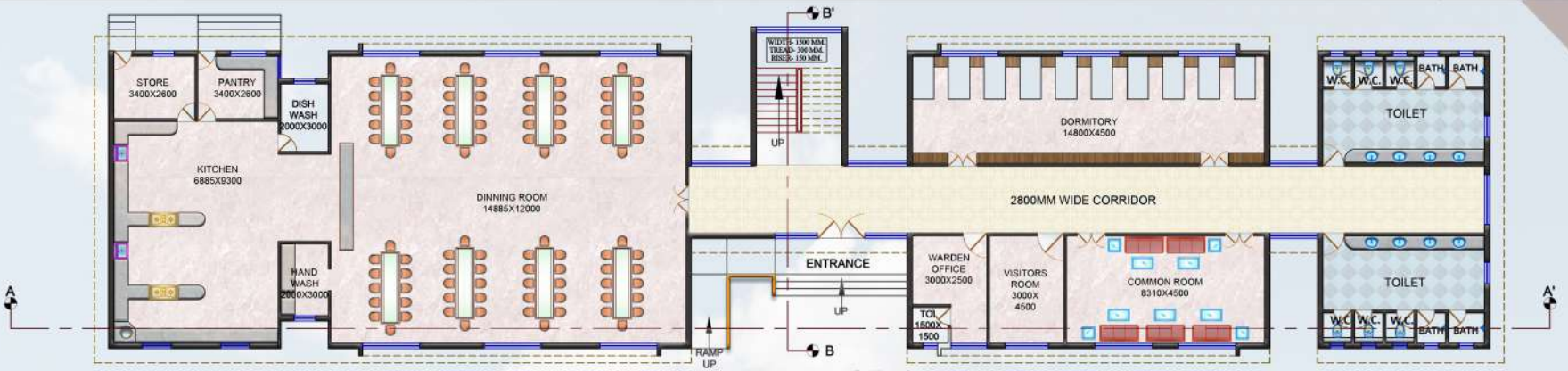
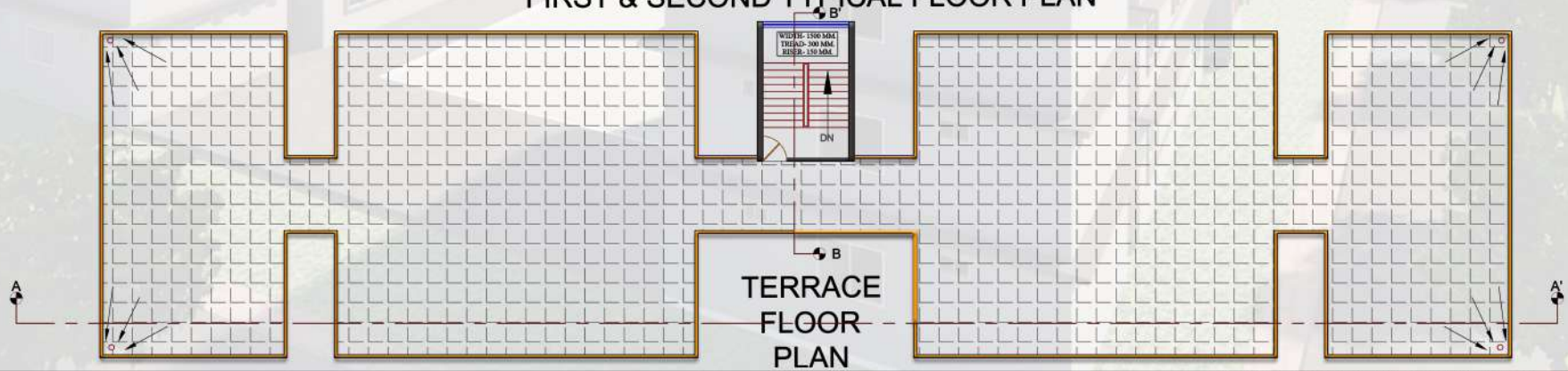
SCALE 1:100

N



DORMITORY
GROUND FLOOR PLAN

DORMITORY
FIRST & SECOND TYPICAL FLOOR PLAN



TERRACE
FLOOR
PLAN

VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE

FEMALE DORMITORY PLANS

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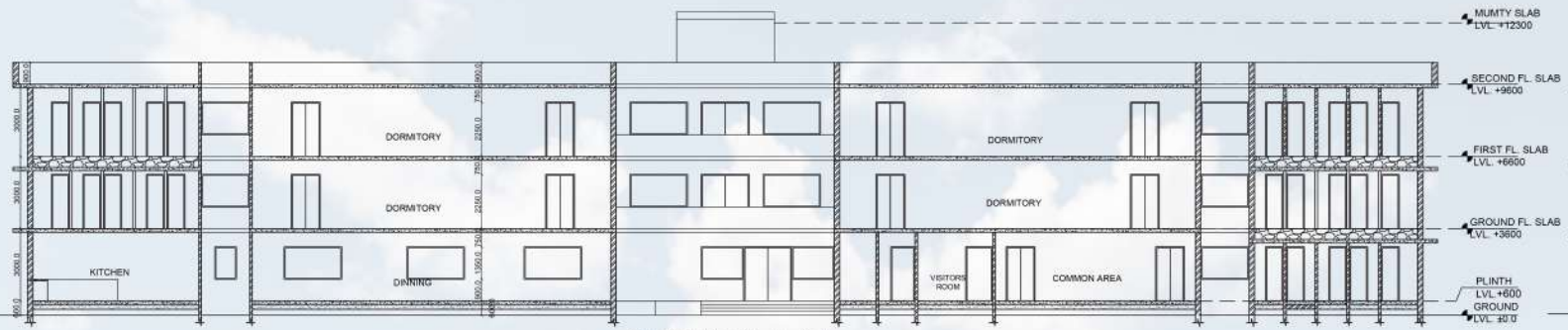
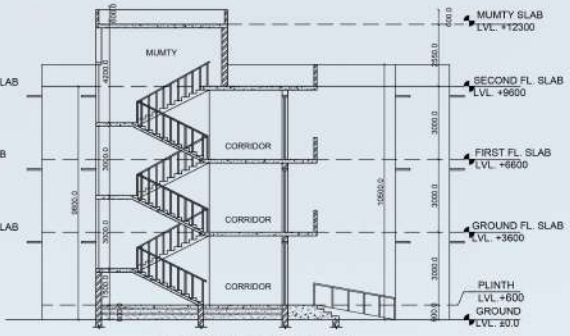
SCALE 1:100

N

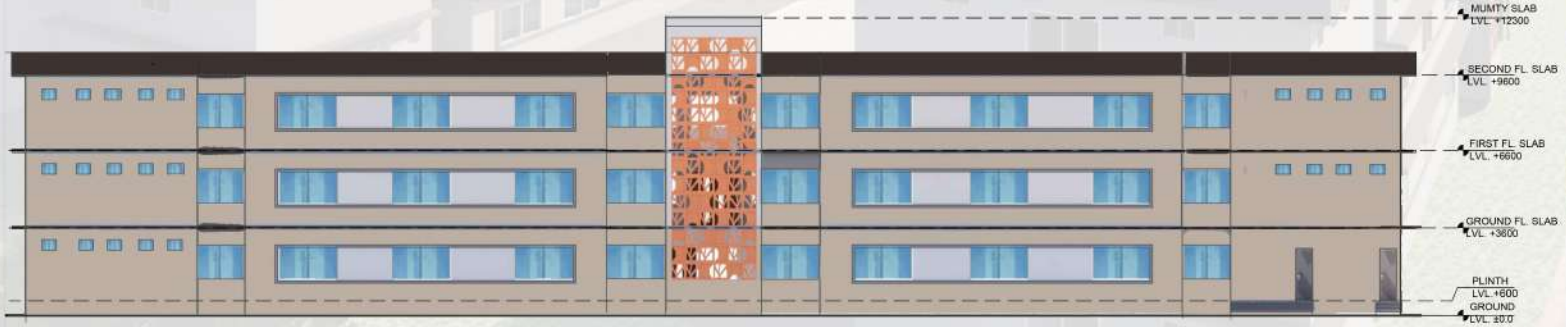


SECTION A-A'



SECTION B-B'

FRONT ELEVATION



BACK SIDE ELEVATION

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VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE

DORMITORY SECTION & ELEVATION

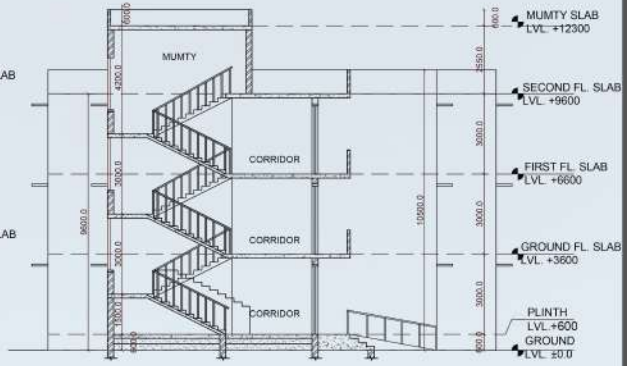
SCALE 1:100

N

GROUND FLOOR PLAN
AREA-326.20 SQM

FIRST & SECOND
FLOOR TYPICAL PLAN
AREA-296.20 SQM

FRONT ELEVATION



SECTION B-B'

BACK SIDE ELEVATION
ELEVATION

SECTION A-A'

VIEWS

VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE

STAFF ACCOMMODATION

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SCALE 1:100 N

	NAME	BOTANICAL NAME	HEIGHT
	NORTH INDIAN ROSEWOOD	DALBERGIA SISSOO	46 TO 9M

MAXIMUM TEMPERATURE RANGES FROM 38°C TO 50°C THE INDIAN ROSEWOOD, A NATIVE OF TROPICAL AND SUBTROPICAL CLIMES, CAN WITHSTAND EXTREME HEAT BUT NOT COLD

	NAME	BOTANICAL NAME	HEIGHT
	SWEET ACACIA	VACHELLIA FARNESIANA	UPTO 25M

IT MAKES AN EXCELLENT SHADE TREE THAT ALLOWS SOME FILTERED LIGHT THROUGH.HE SWEET ACACIA IS WELL ADAPTED TO WARM AND SUNNY CLIMATE AREAS

	NAME	BOTANICAL NAME	HEIGHT
	NEEM	AZADIRACHTA INDICA	15 M

NATURAL COOLING PROPERTIES TO IMMUNE-BOOSTING ANTIOXIDANTS, NEEM LEAVES OFFER RELIEF FROM HEAT

	NAME	BOTANICAL NAME	HEIGHT
	COSMOS	C O S M O S BIPINNATUS	1 TO 2 M

IT LOVES FULL SUN, PREFERS POOR SOILS, IS DROUGHT TOLERANT AND DOES BEST IN HOT, DRY LOCATIONS. COSMOS ATTRACTS BIRDS AND BUTTERFLIES.

DOUBLE PATHWAY DETAILS

MICRO CLIMATE

MICRO CLIMATE THROUGH VEGETATION

LAWNS AND VEGETATIVE COVER AROUND CREATES A FAVOURABLE MICROCLIMATE BY ABSORBING SOLAR RADIATION AND PROVIDING COOLER PASSAGE OF AIR.

PLANTINGDECIDUOUS TREES TO SHADE EAST AND WEST WALLS WOULD PROVE BENEFICIAL IN HOT AND DRYZONES. IN SUMMER, THEY PROVIDE SHADE FROM INTENSE MORNING AND EVENING SUN, REDUCE GLARE, AS WELL AS CUT OFF HOT BREEZES.

HARDSCAPE PLAN

LOCAL TRADITIONAL MATERIAL

THE MAIN GOAL OF USE OF LOCAL TRADITIONAL MATERIAL, ON A MACRO (SETTLEMENT) AND MICRO (BUILDING) LEVEL, IS HENCE TO REDUCE UNCOMFORTABLE CONDITIONS CREATED BY EXTREMES OF HEAT AND DRYNESS. BUILDINGS MATERIAL MUST BE ADAPTED TO EXTREME SUMMER / WINTER AND DAY/NIGHT CONDITIONS TO ACHIEVE A WELL-BALANCED INDOOR CLIMATE.

- ASPSHALT PAVERS
- BUFF SANDSTONE PAVING
- DRIVE WAY PAVING STONES
- JACK MULTI COLOR SLATE MOSAIC

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LANDSCAPING PLAN

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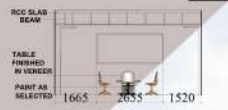
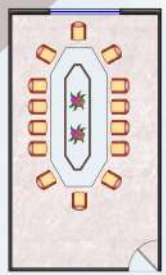
SCALE 1:500 N

CONFERENCE





CONFERENCE
6000X10000

CONFERENCE

LIFT AREA

FACULTY

PERLATO SISILIYA
GOLDEN STATUARIO
PERLATO SISILIYA
RED TRAVENTINE CLADDING UP TO 3 MT.

STORE ROOM VIEW

CANTEEN

WOODEN WORKSHOP

CANTEEN BLOCK VIEW 2

CANTEEN BLOCK VIEW 1

WORKSHOP VIEWS

CLASSROOM VIEW 1

CLASSROOM VIEW 2

COMPUTER LAB VIEW

GARMENTS STICHING WORKSHOP

HAND BLOCK PRINTING WORKSHOP

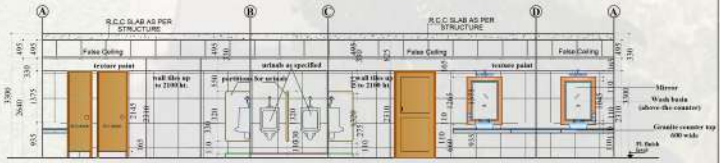
HAND MADE PAPER WORKSHOP

TOILET BLOCK

LEGEND	
a	Hand dryer at 1000 ht.
b	Ablution tap at 230 mm from floor lvl
c	Floor trap
d	Toilet paper holder at 450 ht.
e	Cloth hanger at 1800 ht.
f	Fancy light
g	Cold water tap
h	Hot water tap
i	Towel ring at 1500 ht.
k	telephonic / wall shower
m	Mirror
n	Liquid soap bottle
o	Liquid soap dispenser
p	Health faucet at 300mm from floor lvl
r	cistern at 900 ht. from fl. lvl.

SURFACE DEVELOPMENT OF W.C.

SURFACE DEVELOPMENT OF SHE TOILET



SURFACE DEVELOPMENT OF HE TOILET

SURFACE DEVELOPEMENT

VOCATIONAL TRAINING AND SKILLS DEVELOPMENT CENTRE

INTERIOR

NAME-AKANKSHA KUSHWAHA | ROLL NO.-1190101004

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SCALE 1:200

N