

Glimpses of studio works

# KALEIDOSCOPE

2022-23

MSAP



**MANIPAL SCHOOL  
OF ARCHITECTURE AND PLANNING**  
MANIPAL  
*(A constituent unit of MAHE, Manipal)*

# ARCHITECTURE

Glimpses of studio works

# KALEIDOSCOPE

2022-23

MSAP

Architecture and Department of Design

Kaleidoscope is a glimpse of some of the studio works from programs offered at Manipal School of Architecture and Planning. These works have been collected and compiled by the Repository team from the odd and even semesters of the 2022-23 academic year. The content included in this edition has been provided by the respective students and faculties. This isn't the entire collection of all student works, but a colourful window to the different hues from a few course-works in Architecture and Design.



**MANIPAL SCHOOL  
OF ARCHITECTURE AND PLANNING**  
MANIPAL  
*(A constituent unit of MAHE, Manipal)*

## Our Vision

- Excellence in design education, enabling sustainable endeavors for societal well-being.

## Our Mission

- Develop core competencies of design and professionalism to address societal and environmental concerns.
- Enable experiential learning and community engagement to encourage inclusive and sustainable design.
- Provide an international platform for interdisciplinary learning and collaborative research.

## Recognitions

- Council of Architecture (CoA), New Delhi

## Certifications

- ISO 9001:2008 ISO 4001:2004 certified.

## Membership

- Institutional Member, Indian National Trust for Art and Cultural Heritage (INTACH), New Delhi

## Accreditations

- National Assessment and Accreditation Council (NAAC), MAHE Grade A++

# Message

DIRECTOR

**DR. NANDINENI RAMADEVI**

Manipal School of Architecture and Planning welcomes every bibliophile with great pleasure and immense pride to the kaleidoscopic world of architectural exploration and innovation, beautifully encapsulated within the pages of our yearbook, "Kaleidoscope 2022-2023", which is a culmination of our students' dedication, creativity, and scholarly pursuits. It is an enormous honor to introduce this year's edition, a treasure trove of creativity, design ingenuity, and the relentless pursuit of architectural excellence.

This yearbook reflects the vibrant tapestry of our academic endeavors, capturing the essence of MSAP's pursuit of knowledge and its dissemination. Within its pages, there is a vibrant spectrum of architectural styles, concepts, and visions, from the abstract to the functional, from the timeless to the cutting-edge showcasing the diversity and innovation of the creative minds behind these designs, who have embraced the challenges of the past year and turned them into opportunities for growth.

The diversity and depth of the contributions within this yearbook are a testament to the multidisciplinary nature of our academic community. The yearbook isn't merely a compilation of student works; it's a testimony to our Institution's commitment to nurturing architects and designers, who not only design structures but also craft the environments in which people live, work, and dream, thus shaping the world around us.

I extend my profound gratitude to all the students who have contributed to this yearbook by pouring their hearts and souls into their work and to the faculty who have provided guidance and inspiration. The collective efforts have produced a kaleidoscope of ideas that will continue to inspire and shape the future of architecture and design.

JOINT DIRECTOR

**DR. PRADEEP KINI**

I'm delighted to introduce '*Kaleidoscope*', an e-book which provides a glimpse of some of the exemplary studio works over the last year of Architecture and Design community of Manipal School of Architecture and Planning comprising its talented staff, creative students and notable alumni.

The magazine has highlighted our commitment to promote globally competitive undergraduate, post graduate and PhD programs that support intellectual growth and acquisition of new skills to make industry ready graduates while developing core competencies to address societal and environmental needs.

MSAP, MAHE is a diverse learner centric campus environment and infrastructure that facilitates creativity, research and cognitive thinking across all facets of building design and construction while enabling experiential learning and community engagement to create sustainable communities. The focus is also to facilitate partnerships that provide an international platform for interdisciplinary learning and collaborative research. These collaborations drive innovation and enrich education while serving the needs of the architecture, design, engineering and construction industry.

We appreciate the hard work and efforts of the entire Repository Team towards collection and congratulate them for this compilation lead by Ar. Nikhil S Kohale and Aiswarya Ajith, supported by Komal Jaiswal along with the student team of Siddhi Manocha, K Sarvesh, Harishbala, Anushka Singh in their efforts to come out with this edition of book which showcases the spectrum of academic works at MSAP.





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## YEAR 1

### Semester I (8)

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Architectural Representation - I  
Building Construction & Materials - I  
History Theory & Criticism - I

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Building Construction & Materials - II  
History Theory & Criticism - II

## YEAR 2

### Semester 3 (28)

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## YEAR 1

### Semester 1 (78)

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### Semester 2 (83)

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## YEAR 2

### Semester 3 (94)

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Urban Land Economics



# BACHELOR OF ARCHITECTURE

*Undergraduate Program*

Bachelor of Architecture  
Undergraduate Program

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Year

1

Architecture



# ARC 1101 Architectural Design & Detailing - I

## KIOSK DESIGN

### COURSE OBJECTIVES:

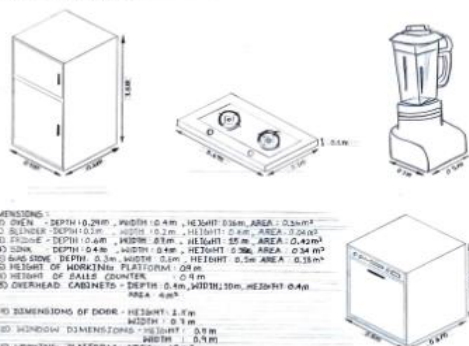
To create a basic Single-User Space Design such as Kiosk, Stall, etc. using the fundamentals of basic design principles and 2D/3D translation and composition skills.

To introduce the fundamentals of basic design composition and principles.

### PROJECT BRIEF:

food bar is a single-user space for preparing and serving food & drinks. It provides customers with healthy drinks and customized meals. On completing fitness challenges customers will be rewarded with free drinks. The site is located in the MIT campus near the innovation center.

**AREA ANALYSIS:**

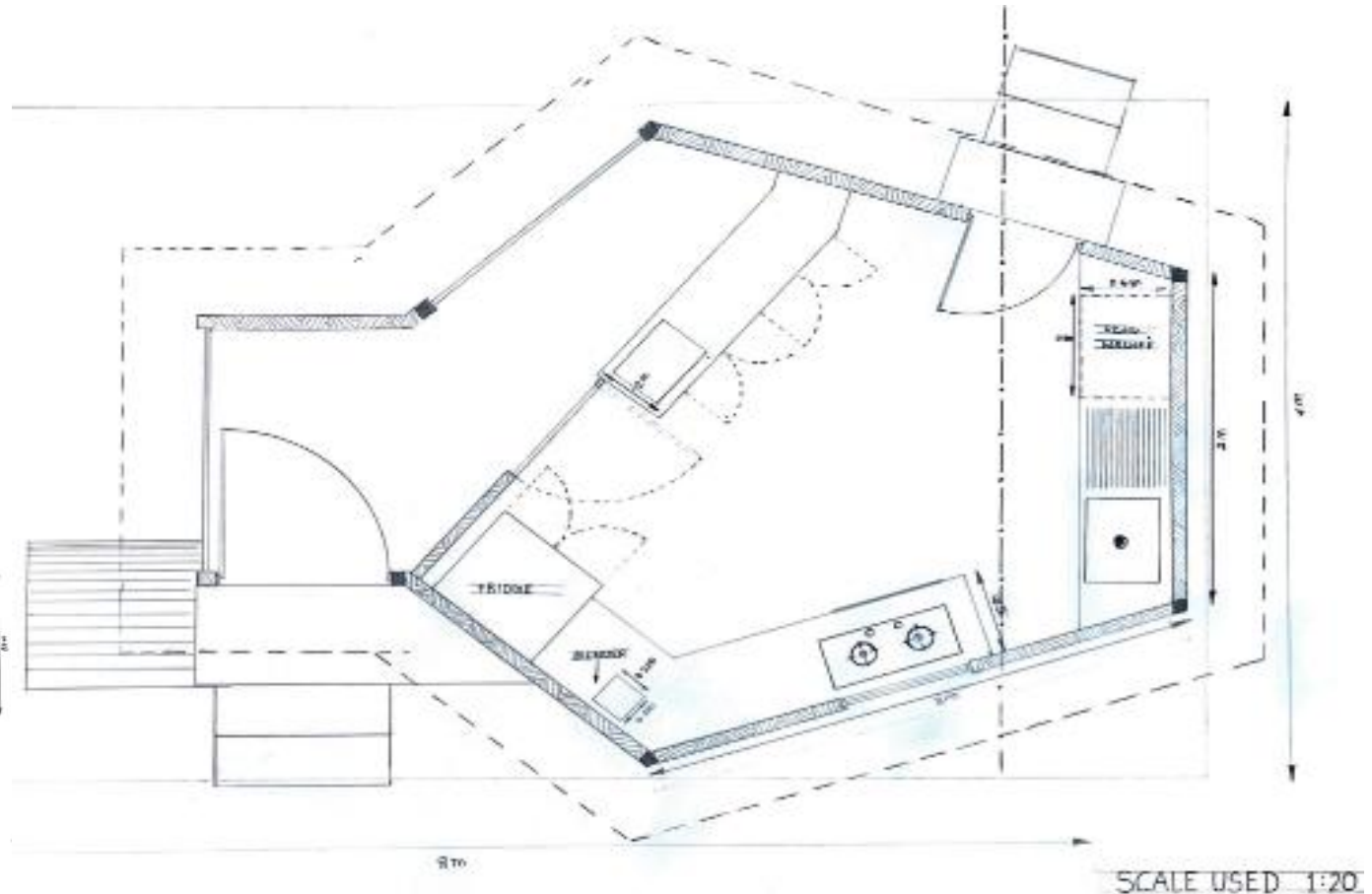



**DIMENSIONS:**

- 01 OVEN - DEPTH 0.29m, WIDTH 0.4m, HEIGHT 0.36m, AREA: 0.36m<sup>2</sup>
- 02 SINKS - DEPTH 0.2m, WIDTH 0.2m, HEIGHT 0.2m, AREA: 0.04m<sup>2</sup>
- 03 STOVE - DEPTH 0.4m, WIDTH 0.8m, HEIGHT 0.15m, AREA: 0.42m<sup>2</sup>
- 04 SINK - DEPTH 0.4m, WIDTH 0.4m, HEIGHT 0.2m, AREA: 0.34m<sup>2</sup>
- 05 BREAD SLICE - DEPTH 0.3m, WIDTH 0.5m, HEIGHT 0.3m, AREA: 0.15m<sup>2</sup>
- 06 HEIGHT OF WORKING PLATFORM: 0.9m
- 07 HEIGHT OF SINKS COUNTER: 0.9m
- 08 OVERHEAD CABINETS - DEPTH 0.4m, WIDTH 1.30m, HEIGHT 0.4m, AREA: 0.52m<sup>2</sup>
- 09 DIMENSIONS OF DOOR - HEIGHT: 1.4m, WIDTH: 0.7m
- 10 WINDOW DIMENSIONS - HEIGHT: 0.9m, WIDTH: 0.9m
- 11 WORKING PLATFORM AREA: 2.0m<sup>2</sup>
- 12 SINKS COUNTER AREA: 0.34m<sup>2</sup>
- 13 TOASTER - DEPTH 0.2m, WIDTH 0.2m, HEIGHT 0.2m, AREA: 0.04m<sup>2</sup>

**CONCEPT**

THE KIOSK WAS INSPIRED FROM THE SHAPE OF A DUMBBELL IN WHICH FURTHER AREA WAS REDUCED AND ALTERED



STUDENT: APARNA A D (223701118)  
FACULTY: SANJANA SHETTY

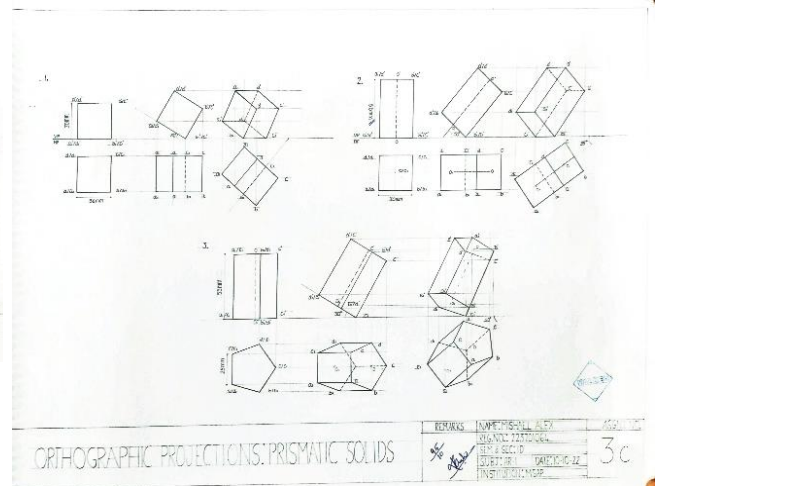
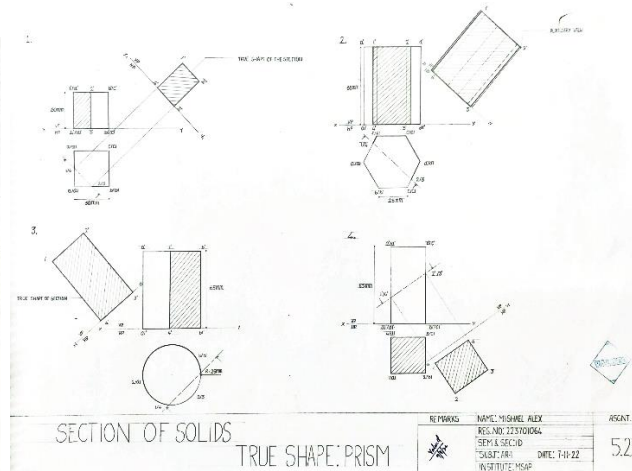
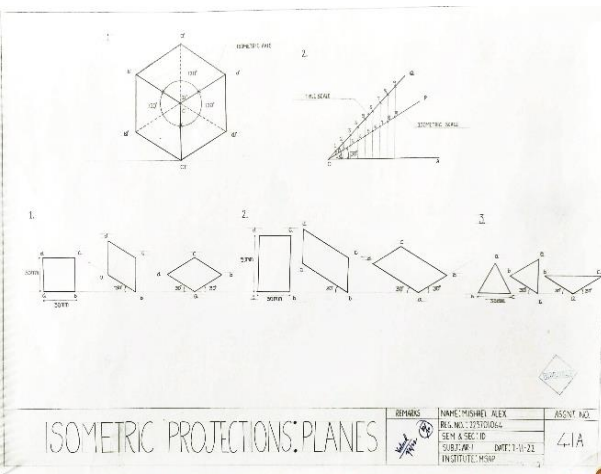
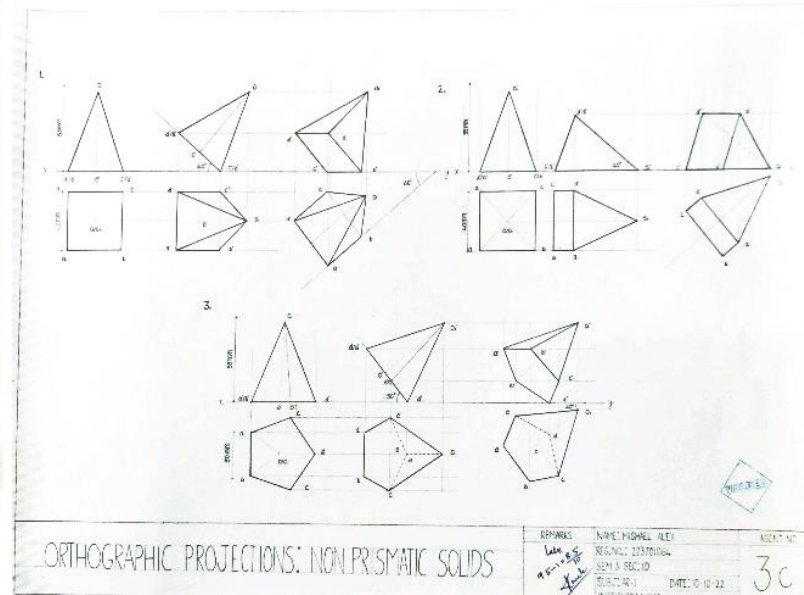
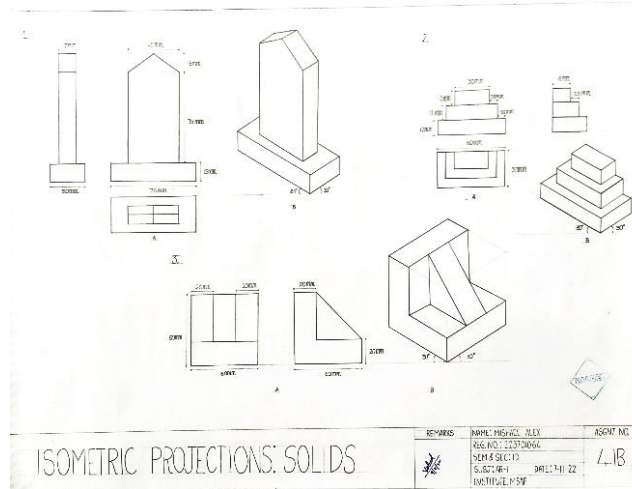
# ARC 1103 Architectural Representation - I

## COURSE OBJECTIVES:

To communicate through graphic language and geometrical construction. To understand the basics of planes and their representation. To understand solid geometry through exercises of increasing complexity

## PROJECT BRIEF:

Introduction to Architectural Graphics and sign conventions and scales. Conic sections, Construction and Architectural applications, Orthographic Projections of architectural built elements and built forms, Pictorial representations like Isometric and Axonometric, Sections of solids, the concept of section planes



STUDENT: MISHAEL ALEX (223701064)  
FACULTY: KALA C K



# ARC 1105 Building Construction and Materials - I

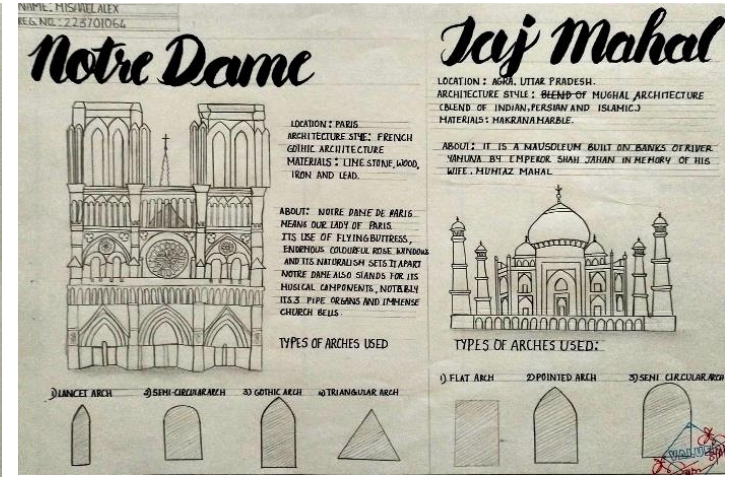
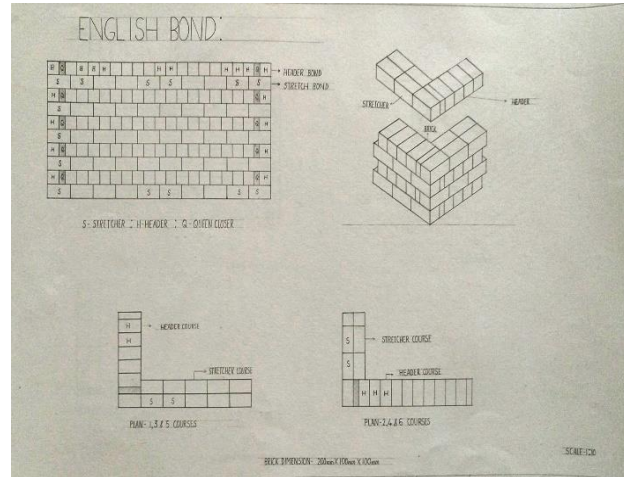
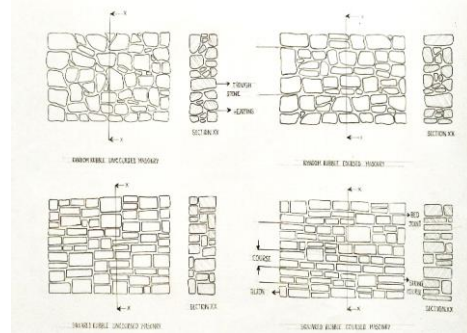
## MASONRY

### COURSE OBJECTIVES:

To understand the various types of stones, stone masonry & understand and relate the application of same. To identify various building components such as walls, floors, columns, beams, foundations etc. through graphic representation.

### PROJECT BRIEF:

**Rocks / Stones:** Classification; Characteristics of a good stone; Processes involved in dressing stones; Uses; Deterioration & Preservation of stones and Stone masonry. **Clay:** Classification; Composition; Manufacturing process; Properties; Products; Qualities of Clay bricks, Terracotta tiles & Clay blocks. **Foundations:** Types of Masonry (Stone & Brick) and construction details. **Openings in Masonry Works:** Arches & Lintels. **Building components:** Walls, Floors and Roofs with their types & uses; Overview of their structural behavior.



**STUDENT: MISHAEL ALEX (223701064)**  
**FACULTY: JOHN BENETTE JOHN**

# ARC 1109 History Theory & Criticism - I

## ANCIENT CIVILIZATIONS

### COURSE OBJECTIVES:

To study the architectural style, with regards to its architectural component, nomenclature and major features of the style being studied. To understand the settlement patterns and their physicality in relation to the geographical, and geological aspects. To understand the built environment, techniques and materials used for the construction.

### PROJECT BRIEF:

This course intends to introduce and understand ancient civilizations and analyze the evolution, general settlement pattern, geographic and climatic influence, socio-political background, construction technology, material influence and design principles of the cities and its built form in different parts of the



STUDENT: TIA KULKARNI (223701132)  
FACULTY: MONIKA JADHAV

CIRCA 5000-1100 BC  
**MESOPOTAMIA**

**THE TOWER OF BABEL (BABYLON)**

→ Story from the Bible as well.

→ ATTEMPT TO BUILD A TOWER WHICH WOULD REACH THE HEAVENS

**THE GREAT ZIGURAT**

4 "floors" →

1. Lowest Terrace: White  
↳ Representing Apsu, God of Waters
2. Second Terrace: Black  
↳ Representing Ea, the creator
3. Third terrace: Red  
↳ Representing the sun
4. Temple at top: Bwe  
↳ Representing heaven above Earth.

BASE: 100M x 65M  
HEIGHT: 21M

\* main lines were built with slight curves to correct optical illusion.

**THE HANGING GARDENS, BABYLON**

One of the Seven Ancient Wonders of the world.

Cannot be found as of the 21st century as the city is ruins.

**CITY OF UR**

→ oval in shape, situated along the Euphrates river

→ Basic building material: MUD & TIMBER mixed with reeds

→ Partly planned, partly organic

Labels in plan: NORTH HARBOR, PHALIS, TEMPLE, PORT (KASSITE), HOUSES (UR III LATER), ROYAL TOMBS, WEST HARBOR, HOUSES (UR III LATER), HOUSES (UR III LATER), LATE BABYLONIAN QUARTER, ENNA TEMPLE, City wall.

REMARKS

*Tia*  
12/01/22

TIA KULKARNI  
223701132  
I-B ~ B.Arch  
SHEET NO: 1  
MSEP, MANIPAL

DATE: 30/04/2022



# ARC 1102 Architectural Design & Detailing - II

## RESIDENCE DESIGN

### COURSE OBJECTIVES:

To design a residence for a specific client with regulating all the required rules and norms and specific client requirements.

### PROJECT BRIEF:

The project aims to design a modern residence that provides comfort, functionality, and style. The residence should be a reflection of the client's lifestyle, needs and preferences. The design should incorporate sustainable and local eco-friendly features that fulfills client requirements.

### First Floor Plan



STUDENT: RUTWIK NANAL (223701008.)  
FACULTY: SAHANA G, IPSITA DAS



Ground Floor Plan



# ARC 1102 Architectural Design & Detailing - II

## RESIDENCE DESIGN

### COURSE OBJECTIVES:

To be able to outline client's requirements, analyze learnings from relevant case literature studies and the site. Justify design concept and propose design solutions. Use appropriate materials and building techniques keeping in mind the function. Users and space planning To present the residence in the form of a model.

### PROJECT BRIEF:

Designing a 2 Story residence for a family of 5. Using various building techniques and materials that suit the climate to overcome the weakness of the site, making the residence a comfortable welcoming space. Positioning each room in the house with logical reasons and developing a legible plan for the ground and first floor. Developing elevations for all the facades and showing the sectional elevation. Visually representing everything with the concept and developing a model for the residence.

STUDENT: RAISEL ANTU (223701120)  
FACULTY: SHARMILA K

### COMMON SPACE...

**LIVING ROOM**

- MORE SPACIOUS WITH EXTRA CIRCULATION SPACE
- NEUTRAL INTERIORS.
- BIGGER SPACE FOR MORE GATHERINGS WITHOUT FEELING CONGESTED.

**DINING ROOM**

- POSITIONED ADJACENT TO KITCHEN
- EASY MOVEMENT BETWEEN KITCHEN & DINING

**TV ROOM**

- COZY SEATING
- KARAOKE SYSTEM
- EXTRA AREA FOR OTHER ACTIVITIES.
- KARAOKE FOR DAUGHTERS INTERESTS & ENTERTAINMENT
- EXTRA SPACE FOR GAMES, ACTIVITIES, FRANKING ETC...

**COMMON BATHROOM**

### FAMILY BREIF

#### FATHER

- AGE: 39
- OCCUPATION: ENGINEER.
- HOBBIES: WATCHING TV, FITNESS
- ARCH PREFERENCE: SPACIOUS, SIMPLE

#### GRANDMOTHER

- AGE: 60
- OCCUPATION: RETIRED TEACHER
- HOBBIES: COOKING, KNITTING, GARDENING
- ARCH PREFERENCE: SPACIOUS, CALM.

#### MOTHER

- AGE: 38
- OCCUPATION: YOUTUBER
- NUTRITIONAL COOKING & KITCHEN GARDEN
- HOBBIES: BLOGGING, GARDENING, COOKING
- ARCH PREFERENCE: EARTHY, MINIMAL.

#### DAUGHTER 1

- AGE: 18
- STUDENT: 7<sup>th</sup> GRADE
- HOBBIES: PAINTING, SINGING
- ARCH PREFERENCE: PASTEL, ARTSY

#### DAUGHTER 2

- AGE: 16
- STUDENT: 10<sup>th</sup> GRADE.
- HOBBIES: READING, MUSIC
- ARCH PREFERENCE: MINIMAL, SERENE

### PRIVATE SPACE...

**KITCHEN**

- KITCHEN ISLAND PROVIDED
- ONE OPEN KITCHEN & ONE CLOSED WORK AREA KITCHEN.
- GOOD LIGHTING.
- ISLAND FOR AN OPEN PLACE TO WORK & MOVE AROUND WHILE SHOOTING VIDEO
- GOOD LIGHTING FOR GOOD QUALITY VIDEO
- SHARED AREA PROVIDED.
- SEATING PROVIDED
- SEATING AND SHADING AREA TO REST AND FOR DURING HARSH SUN.

**MASTER BEDROOM**

- HUGE SPACE.
- LIGHT TONES USED FOR INTERIOR.
- AS PER FATHER'S PREFERENCE A SPACIOUS BEDROOM & INTERIORS SATISFYING MOTHER'S PREFERENCES.
- OPEN KITCHEN MAJORLY USED FOR SHOOTING & ONE KITCHEN FOR EVERYDAY USAGE

**GRANDMA BEDROOM**

- CHAIR & TABLE AREA PROVIDED.
- GROUND FLOOR LOCATION
- AREA PROVIDED FOR GRANDMOTHERS KNITTING
- PLACED IN 0<sup>th</sup> FLOOR FOR EASE AS SHE IS OLD & CANT CLIMB STAIRS.

**KIDS BEDROOM**

- 2 SPACIOUS TABLE
- EVERY FURNITURE DOUBLE
- WIDE LINTEL FOR WINDOW.
- BIG TABLES FOR STUDY & WORK REASONS.
- BIG ROOM AS IT IS SHARED BY 2 SISTERS.

### USER PROFILE

TIME SPENT BY EACH MEMBER IN EACH ROOM.

MEMBER	TIME SPENT IN THE HOUSE ON AN AVERAGE.
FATHER...	5:00pm - 7:00am
MOTHER...	FULL DAY
G.MOTHER...	FULL DAY
DAUGHTER 1	2:00pm - 7:00am
DAUGHTER 2	5:00pm - 7:00am

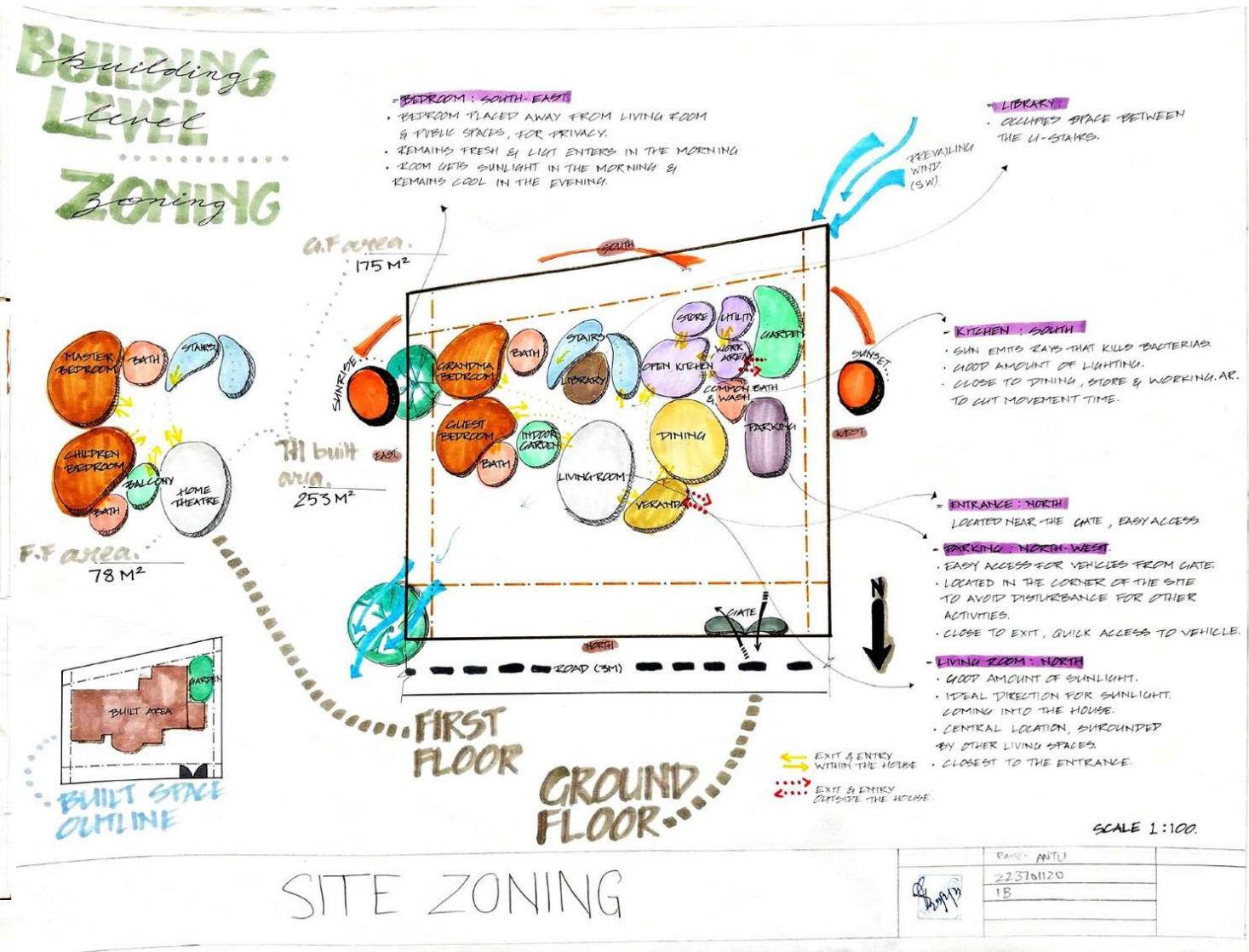
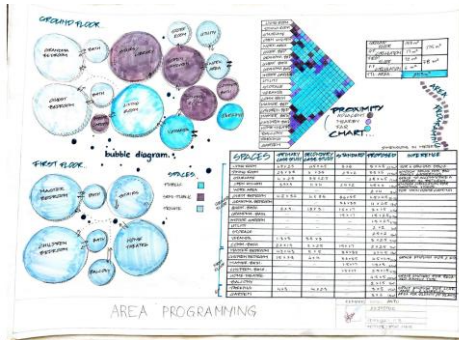
REMARK: *Good Attempt!*

NAME: RAISEL ANTU  
REG NO: 223701120  
SEM & SEC: 118  
SUBJ: ADD  
INSTITUTE: MSAP, MAHE

ASSGT. NO. 212

# ARC 1102 Architectural Design & Detailing - II

## RESIDENCE DESIGN



STUDENT: RAISEL ANTU (223701120)  
FACULTY: PROF. SHARMILA K



# ARC 1102 Architectural Design & Detailing - II

## RESIDENCE DESIGN

### Concept

**TRADITIONAL Tuscan style**

RUSTIC YET SOPHISTICATED, WARM, EARTHY, INVITING INSPIRED BY ITALIAN, MEDITERRANEAN COUNTRYSIDE.

**DEVELOPED FORM.**

**MODERN stacked block form**

THE FORM OF THE BUILDING IS DERIVED FROM THE CONCEPT OF SIMPLE STACKED BLOCKS OVERLAPPING AND PROTECTING. THE USE OF SLOPED & FLAT ROOF COMBINE ADDS CHARACTER TO THE FORM. THE SLOPED ROOFS BEING TRADITIONAL BRING IN SENSE OF WARMTH. WHILE THE FLAT ROOFS ADD A MODERN TOUCH. THE OVERALL STRUCTURE IS KEPT SIMPLE YET ELEGANT. THE FORM CREATES A SENSE OF BALANCE AND HARMONY.

TALL WINDOWS HAVE BEEN USED THAT ALLOW AMPLE LIGHT IN, CREATING A BRIGHT & WELCOMING ATMOSPHERE. A SKYLIGHT HAS BEEN PROVIDED TO THE KITCHEN WHICH BRINGS IN LOTS OF NATURAL LIGHT. AN INDOOR GARDEN HAS BEEN PROVIDED, ADDING A TOUCH OF NATURE TO THE INTERIORS ESTABLISHING A CONNECTION BETWEEN THE INDOOR AND OUTDOORS.

STONE CLADDING HAS BEEN USED FOR THE EXTERIOR WALLS, GIVING IT AN AUTHENTIC TUSCAN LOOK. THE COMBINATION OF WARM EARTHY TONES, AND MODERN ELEMENTS WITH TUSCAN ELEMENTS CREATES A PERFECT BLEND OF TRADITIONAL & CONTEMPORARY STYLE.

RANDOM STONE MASONRY WALLS (EXTERIOR)

TERRACOTTA ROOF

TEXTURED CEILING = WOODEN RAFTERS

DECORATIVE IRON ELEMENTS LIKE:  
- STAIR RAILS  
- GATE  
- CHANDELIER

COURTYARD (INDOOR GARDEN)

ARCHED WALL

SKYLIGHT KITCHEN ROOF

MODERN DESIGN EMPHASIZES CLEAN LINES & GEOMETRIC SHAPES.

### MODEL

GROUND FLOOR PLAN

FIRST FLOOR PLAN

STUDENT: RAISEL ANTU (223701120)  
FACULTY: SHARMILA K

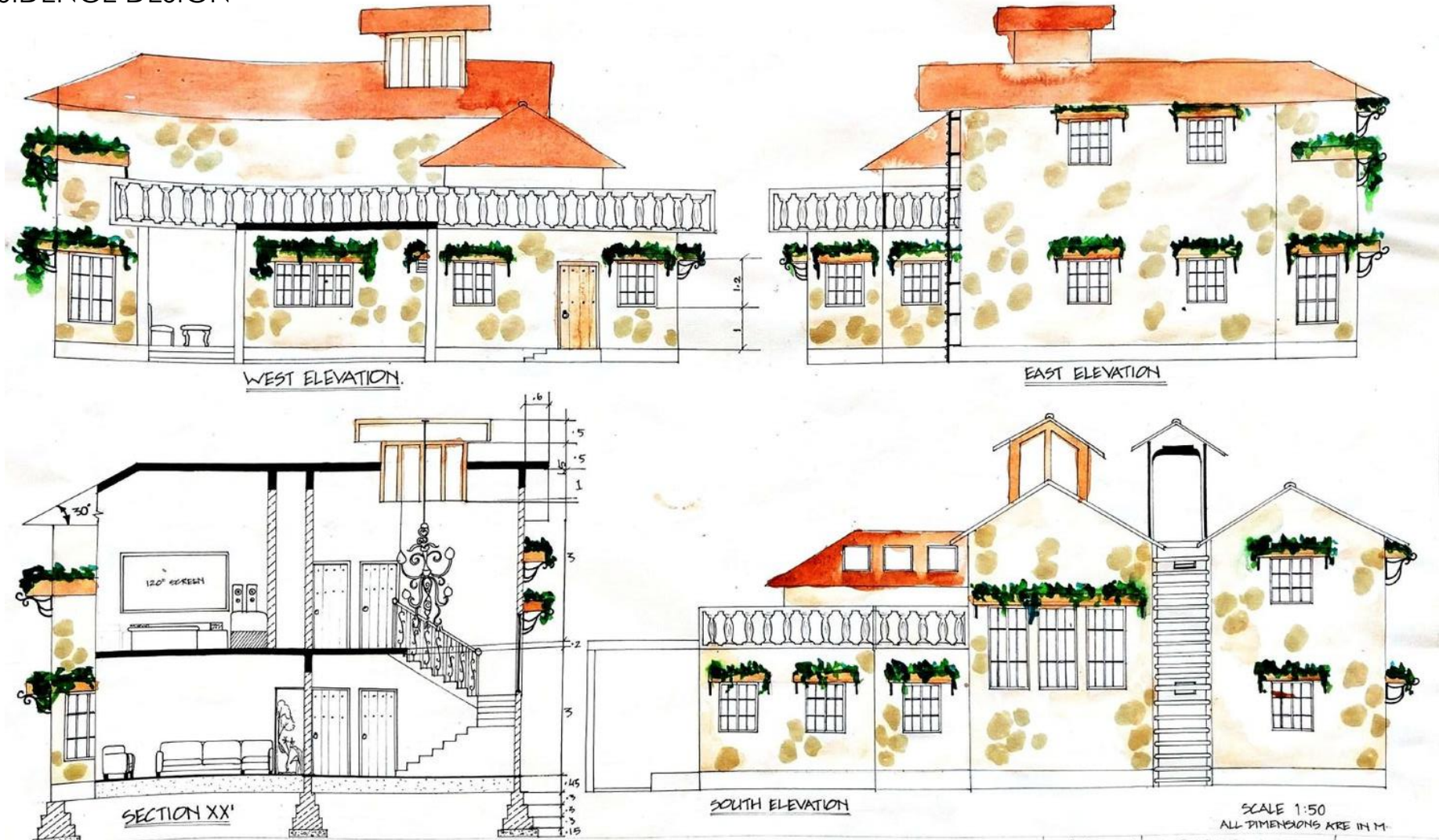
Concept Development

Floor Plans



# ARC 1102 Architectural Design & Detailing - II

## RESIDENCE DESIGN



STUDENT: RAISEL ANTU (223701120)

FACULTY: SHARMILA K

Elevations and Sections



# ARC 1106 Building Construction and Materials - II

## TIMBER CONSTRUCTION

### COURSE OBJECTIVES:

To familiarize with timber as a building material & its construction technique in various building components, and to understand the basic building elements, their function, and behavior under various conditions with specific reference to timber construction.

### PROJECT BRIEF:

Qualities of good timber; Seasoning of timber; Defects & Decay; Preservation; Various sizes & uses of timber; Market forms of Timber; Timber Products — Plywood, Particle & Fibre boards. Openings: Timber Doors, Windows & Ventilators - Types, Uses & Applications; Components; Fixing & Joinery details; Structural concepts. Timber Stairs — Types; Applications; Various configurations; Components; Fixing & Joinery details; Structural Concepts. Timber Flooring: Types; Applications; Components; Fixing & Joinery details; Construction details. Timber Roofs: Types; Applications; Components; Fixing & Joinery details; Construction details.

### NATURAL TIMBER

NATURAL TIMBER IS THE WOOD CUT FROM TREES INTO PLANKS OF DIFFERENT SHAPES, SIZES, AND CROSS SECTIONS.

THE TWO TYPES OF NATURAL TIMBER ARE: A) SOFTWOOD [CONIFEROUS TREES] B) HARDWOOD [DECIDUOUS TREES]

**DISADVANTAGES:**

- CHANGES PHYSICALLY IN DIFFERENT CLIMATIC CONDITIONS.
- PRONE TO PEST, ROT, MOULD.

**ADVANTAGES:**

- NATURALLY ANTI-CORROSIVE.
- NON-TOXIC, ECO-FRIENDLY.

### INDUSTRIAL TIMBER

INDUSTRIAL TIMBER IS MANUFACTURED SCIENTIFICALLY IN FACTORIES. BECAUSE OF ITS SCIENTIFIC NATURE, IT IS STRONGER, MORE DURABLE, AND OF DESIRED SHAPE AND SIZE.

**ADVANTAGES:**

- HIGH IMPACT RESISTANCE.
- CHEMICAL RESISTANCE.
- NO OBSERVABLE WOOD EXPANSION OR SHRINK-AGE.

**DISADVANTAGE:**

- TOXIC CHEMICALS USED FOR GLUING.
- NOT EASY TO SCULPT.
- LOW RESALE VALUE.

## TIMBER

### TEAK

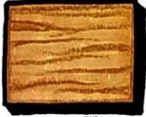
FOUND IN: SOUTHERN ASIA, TROPICAL REGIONS OF AFRICA, AMERICA.

COLOUR/TEXTURE: GOLDEN, MEDIUM BROWN. STRAIGHT GRAIN, COARSE UNEVEN TEXTURE. NATURAL LUSTRE.

USES: SHIPS, BOATS, CARVING, FURNITURE, VENEER, ETC.

TREE SIZE: 30-40m TALL, 1-1.5m THICK

\*AVG. PRICE: ₹2000-₹3600 PER CUBIC FEET OF INDIAN TEAK WOOD.



TEAK

### BAMBOO


FOUND IN: SOUTH ASIA

POACEAE FAMILY

USES: PAPER, FLOORING, LADDERS, WINDOW BLINDS, ETC.

TREE SIZE: 15-30m TALL, 10-20cm THICK

\*AVG. PRICE: ₹65-95 PER PIECE.



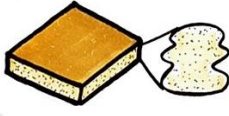
BAMBOO GRASS

### FIBRE BOARDS

PRESSED OR RECONSTRUCTED WOOD

TYPES: A) INSULATING BOARD, B) MEDIUM-HARD BOARD, C) SUPER-HARD BOARD, D) LAMINATED BOARD

USES: BASE FOR DECORATIVE FINISHES, SUSPENDED CEILING



### MAHOGANY


FOUND IN: SOUTHERN MEXICO TO CENTRAL SOUTH AMERICA.

COLOUR/TEXTURE: PALE PINKISH BROWN TO DEEP REDDISH BROWN. REGULAR OR IRREGULAR GRAIN PATTERN. UNIFORM TEXTURE W/ MODERATE LUSTRE.

USES: CABINETRY, MUSICAL INSTRUMENTS, ETC.

TREE SIZE: 46-60m TALL, 1-2m THICK

\*AVG. PRICE: ₹1250-₹2500 PER CUBIC FEET OF MAHOGANY WOOD



MAHOGANY

### PLYWOOD

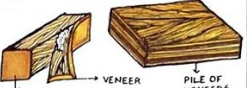
BETULA ALNODISE

COLOUR/TEXTURE: REDDISH BROWN W/ WHITE SAPWOOD. STRAIGHT GRAIN WITH LOW LUSTRE.

USES: CRATES, INTERIOR TRIM.

TREE SIZE: 20-30m TALL, 0.6-1m THICK

AVG. PRICE: ₹45-88 FOR 8'x6' SHEET



INSULATING MATERIAL

TIMBER

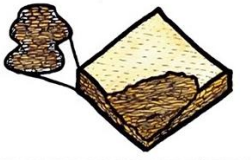
VENEER

PILE OF VENEERS

### PARTICLE BOARD

MANUFACTURED BY PRESSING WOOD PARTICLES TOGETHER IN THE PRESENCE OF HEAT OR MOISTURE.

USES: PARTITIONS, CEILINGS, DOORS, ETC.



## TIMBER

**WHAT IS TIMBER?**

OLD ENG. FOR 'BUILDING MATERIAL'. LARGE SHAPED WOOD FOR FURNITURE AND HOUSES.

**ADVANTAGES:** LIGHT WEIGHT, DURABLE, HEAT INSULATING AND HIGH STRENGTH.

**USES OF TIMBER:**

RESIDENTIAL: ROOFS, WALLS, FLOORS, FURNITURE

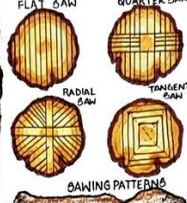
COMMERCIAL: LARGE SPAN ROOFS, BRIDGES, DECKS

**PROPERTIES OF GOOD TIMBER:**

DURABILITY, GOOD UNIFORM COLOUR, RESISTANCE TO SHOCKS

**HOW IS TIMBER OBTAINED?**

TREES ARE FELLED. FACTORS: AGE, MATURITY, TYPE, SEASONING - NATURAL AND CONTROLLED DRYING. CONVERSION OF TIMBER: CUT AND SAWN INTO SECTORS. PRESERVATION OF TIMBER.



FLAT SAW, QUARTER SAW, RADIAL SAW, TANGENTIAL SAW

GRAIN PATTERN: WAVY GRAIN, INTER-LOCKED, SPIRAL, DIAGONAL, IRREGULAR, STRAIGHT GRAIN

**TEAK** *Tectona grandis*

**MAHOGANY** *Bauhinia macrophylla*

**BAMBOO** *POACEAE FAMILY*

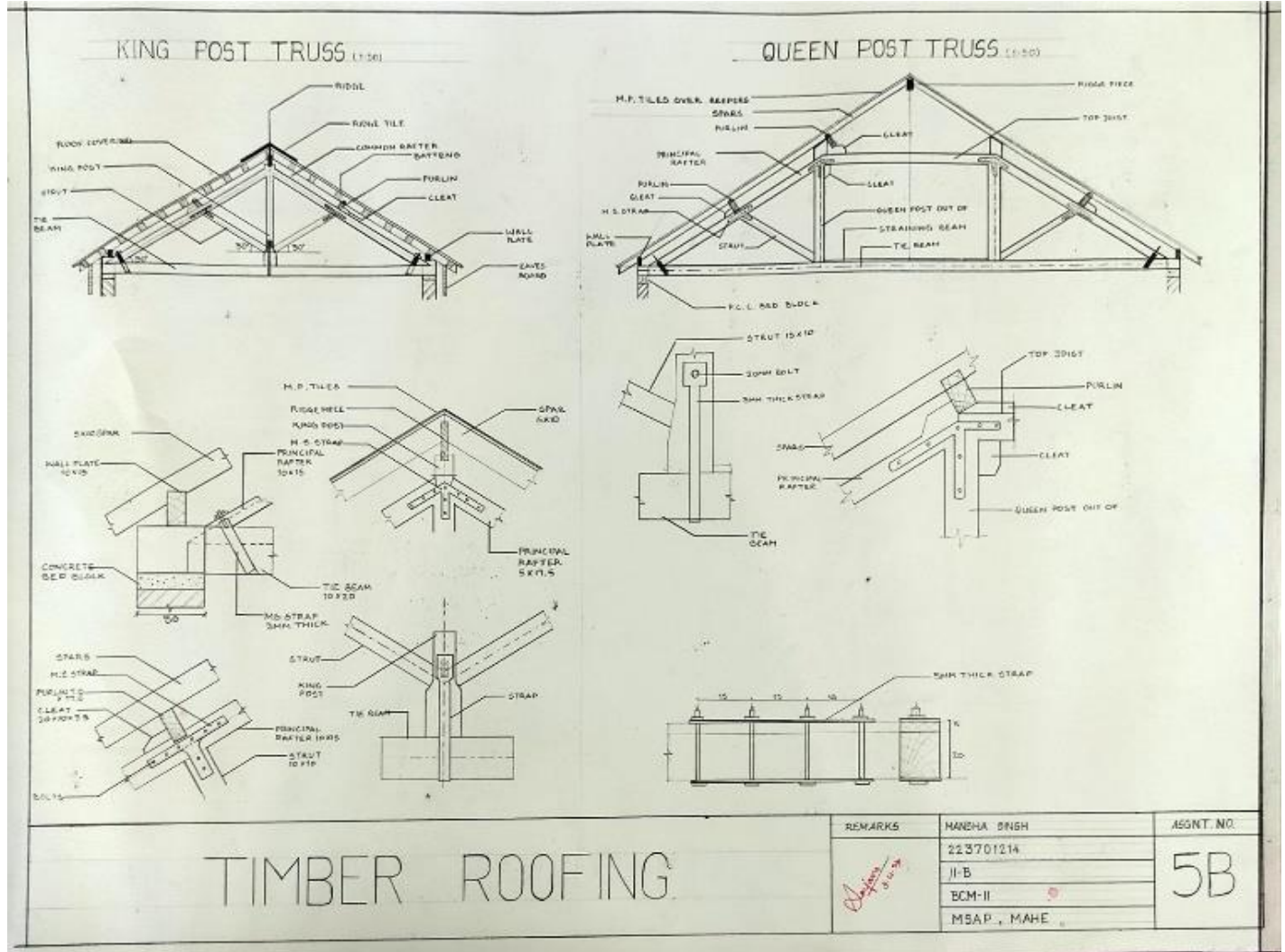
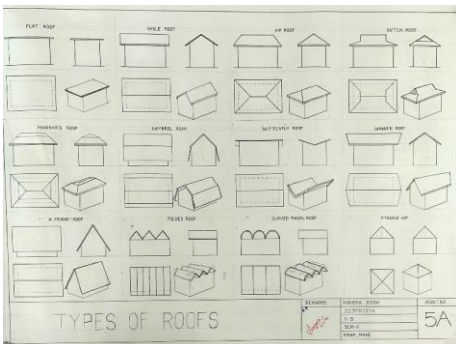
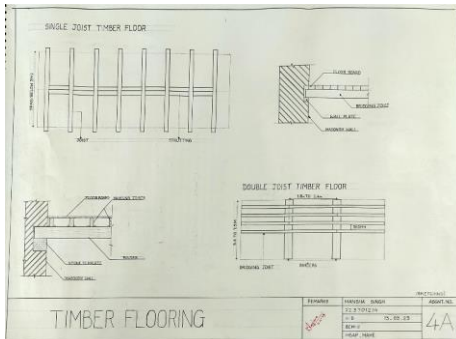
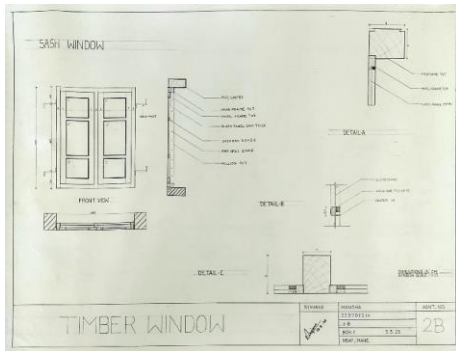
**PLYWOOD** *BETULA ALNODISE*

STUDENT: MANSHA SINGH (223701214)  
FACULTY: SANJANA S SHETTY, IPSITAA P DAS

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	REG. NO: 223701214	1A
	SEM/SEC: 11B	
	SUB: BCM-11 DATE: 13.1.23	
	INSTITUTE: M.S.A.P. MAHE	

# ARC 1106 Building Construction and Materials - II

## TIMBER CONSTRUCTION

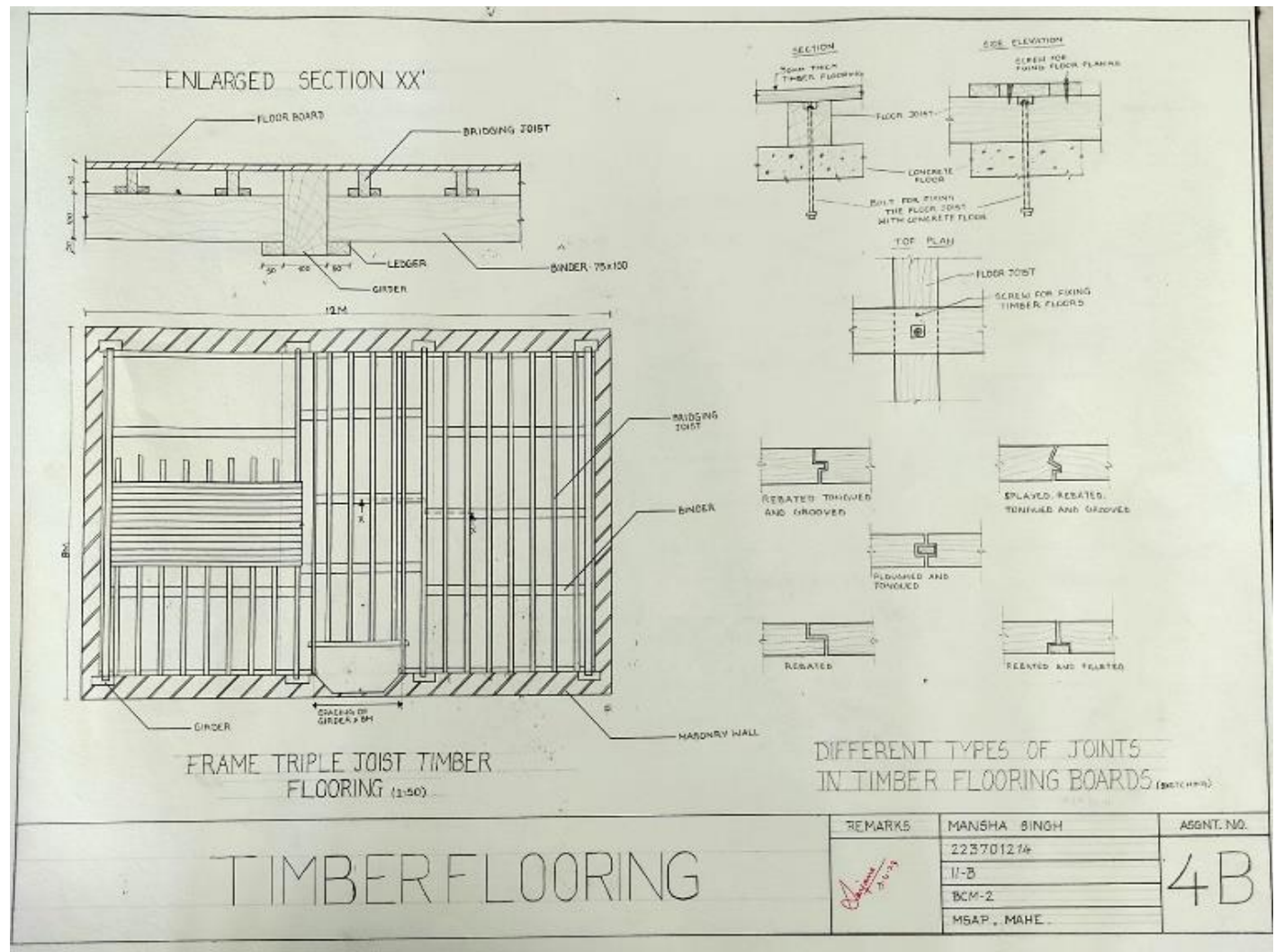
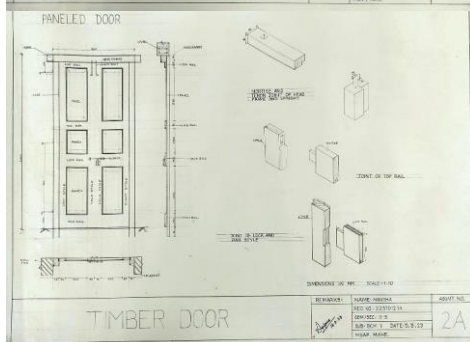
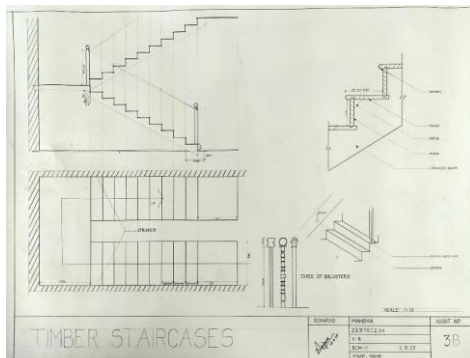
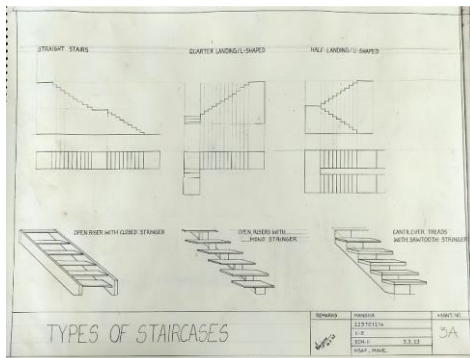


STUDENT: MANSHA SINGH (223701214)  
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# ARC 1106 Building Construction and Materials - II

## TIMBER CONSTRUCTION



STUDENT: MANSHA SINGH (223701214)  
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# ARC 1106 Building Construction and Materials - II

## TIMBER CONSTRUCTION

### TIMBER

**NATURAL TIMBER**

**TEAK**  
TEAK IS A CLOSE-GRAINED TYPE OF HARDWOOD IS MOSTLY CONSIDERED TO BE THE "KING OF WOODS" AND HAS EXCELLENT DURABLE FORMING QUALITY. DUE TO ITS WATER-RESISTANCE, DURABILITY AND BEAUTY.

**OAK**  
OAK WOOD COMES IN A NUMBER OF VARIETIES, BUT ITS GRAIN PATTERN IS QUITE UNIQUE. OAK IS MOSTLY USED FOR FLOORING, PARTS OF SHIP AND SOME GREAT STAINED OR WITH A CLEAR, NATURAL FINISH.

**MAHOGANY**  
IT IS VERY FAMOUS FOR ITS STRONG LEARN AND RED-BROWN COLOR. IF PROTECTED AND DRY PROPERLY, MAHOGANY WILL LAST FOR A LONG TIME. IT COMES IN A WIDE RANGE OF COLORS WHICH MAKE IT VERY VERSATILE.

**ENGINEERED TIMBER**

**PLYWOOD**  
PLYWOOD IS WOOD VENEER BLENDED TOGETHER TO PRODUCE A FLAT SHEET. AN EXTREMELY VERSATILE PRODUCT, USED FOR A WIDE RANGE OF STRUCTURAL INTERIOR AND EXTERIOR APPLICATIONS.

**BLOCK BOARD**  
BLOCK BOARD CONSISTS OF A CORE MADE OF WOODEN STEPS OR BLOCKS PLACED TOGETHER BETWEEN TWO LAYERS OF PLYWOOD, WHICH ARE THIN GLUED TOGETHER UNDER HEAT AND PRESSURE.

**PARTICLE BOARD**  
PARTICLE BOARD IS MADE BY COMBINING OR COMPOUNDING OF LOW-DENSITY, FIBERBOARD, IS AN ENGINEERED WOOD PRODUCT MANUFACTURED FROM WOOD CHIPS AND SYNTHETIC RESIN.

**TIMBER TYPES**

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	INSTITUTE: MSAP, MAHE	

### TYPES OF TIMBER WINDOWS

TIMBER WINDOWS ARE WINDOWS THAT ARE MADE FROM WOOD. IT IS DURABLE, ELEGANT AND MAINTENANCE FREE. TIMBER WINDOWS ARE AVAILABLE FOR A WIDE RANGE OF PROFILES, BOTH TRADITIONAL AND CONTEMPORARY.

**DOUBLE HUNG WINDOW**  
A WINDOW WITH TWO SIZES THAT OPEN UP INDEPENDENTLY AND USE OF HANDSOME WOOD FINISHING.

**EAVE WINDOW**  
A SLIGHTLY INCLINED WINDOW WITH AT LEAST THREE TIMBER SETS AT DIFFERENT ANGLES TO CREATE A PROFOUND 3D EFFECT.

**CASMENT WINDOW**  
A CASMENT WINDOW IS FIXED TO THE FRAME BY THE USE OF WOODEN BOLTS. THEY ARE USED MAINLY IN INDOOR SPACES WITH A CLASSIC FINISH.

**LOUVERED WINDOW**  
ALSO KNOWN AS WINDOW BLINDS WITH HORIZONTAL SLATS THAT ARE ABLE TO MOVE UP AND DOWN TO CONTROL LIGHT AND AIR FLOW.

**SLIDING WINDOW**  
THESE WINDOWS MOVE EITHER HORIZONTALLY OR VERTICALLY.

### TYPES OF STAIRCASES

STRAIGHT STAIRS: THE FLOW OF STAIRS GOING IN ONE DIRECTION AND SUPPORTED BY A LANDING.

QUARTER LANDING STAIRS: ONE LANDING WHICH CHANGES THE DIRECTION OF THE FLIGHT BY 90 DEGREES.

WINDER STAIRS: STAIRS WITH A TURN BY USING SQUARELY SHAPED ON THE TURN, WINDERS - SHAPED TREADS ARE USED.

SPIRAL STAIRS: THESE ARE WINDING - SHAPED STAIRS HAVE A CENTRAL VERTICAL POST - CONSTITUTING THE BACKUP SUPPORT FOR ALL TREADS ON THE FLIGHT.

**TYPES OF STAIRCASES**

REMARKS	NAME: MIA MARIAM ALEX	ASSIGNMENT NO.
	REG. NO: 223701058	
	SEM: 4 SEC: 2A	3A
	SUBJ: BCM-II	DATE: 23-08-2022
	INSTITUTE: MSAP, MAHE	

### SITE VISIT

**DOOR**

**WINDOW**

**STAIRCASE**

**TRUSS**

**MANIPAL HOUSE**

**STEPS**

**SITE VISIT**

REMARKS	NAME: MIA MARIAM ALEX	ASSIGNMENT NO.
	REG. NO: 223701058	
	SEM: 4 SEC: 2A	
	SUBJ: BCM-II	DATE: 23-08-2022
	INSTITUTE: MSAP, MAHE	

STUDENT: MIA MARIAM ALEX (223701058)  
FACULTY: VIDYA RAO, DEEPRATICK BISWAS

Site Visit



# ARC 1110 History Theory & Criticism - II

## INDIAN TEMPLE ARCHITECTURE

### COURSE OBJECTIVES:

To study and analyze the evolution, general settlement pattern, geographic and climatic influence, socio-political background, construction technology, material influence and design principles of the cities and its built form.

### PROJECT BRIEF:

The course intends to introduce and understand the styles of Indian Temple Architecture over time. The different schools of thought to be studied are Buddhist, Nagara, Dravida, etc.

### ASHOKAN CAPITAL: PATALIPUTRA

**EARLY MAURYAN TIME (400BC)**

- DESIGN AND FORM GOVERNMENT
- MAURYAN DOMINANCE ESTABLISHED A SINGLE PARAMOUNT POWER IN NORTHERN INDIA
- NOTABLE TREE FRONDED IN THE ART OF BUILDING, USUALLY STIMULATED BY SPINAL PATRIMONIES.

**DESCRIPTION**

PATALIPUTRA WAS THE CAPITAL CITY OF MAURYAN EMPIRE.

THE CITY RAN ALONG THE BANKS OF RIVER GANGA.

THE PALACE WAS SET WITHIN BROADWAY STREETS WITH LARGELY SQUARE SPACES, CHANGING AND ADJUSTING AS THE COMPLEX WAS PROTECTED BY A THREE LAYERED WALL AND HEADED BY 1.

**CAPITAL OF ASHOKAN EMPIRE FOUND IN PATALIPUTRA**

- THE BEAD AND BEEHIVE LABIAL AND SPIRAL MOTIFS ON THE LATERAL FACE ARE ALL OF WESTERN ASIATIC ORIGIN.
- THE CITY WAS A CLUSTER OF HOUSES WITH VARIOUS PLANS, UNVARIABLY COVERED WITH BARELY SHAPED ROOF, WATERPROOFED WITH TILES OR THATCH.
- IT HAD SIDEWIND SHAPED WINDOWS AND LATTICE SCREENED BALCONIES OVERLOOKING TREES.
- MAURYAN PLANS USED COLUMNS WHICH WERE COPIES OF EXISTING DEFENSE WALLS AND ARCHITECTURE.
- SEAR WAS THE MAIN SOURCE OF TIMBER-NOT A LARGE NUMBER OF JOINTS WERE USED-BAMBOO POLES WERE USED FOR FORMING CONDUCTIONS OF VAULTED ROOF-EXTRUSIVE BUT PROBABLY IMPROVED BY PILLARS, PALISADES AND...

### ESTABLISHMENT OF BUDDHIST SCHOOL

STERS AND ASHOKA POLICY TO CREATE SOMETHING PERMANENT SHAPE OF STUPAS WERE INFLUENCED BY THE MAURYAN COMMUNITARIAN OF BUDDHA. THIS SHAPE LIKE PYRAMID IMPLIES DURABILITY STUPAS FROM NATURE OBSERVED TO SPONTANEOUS THEM. SPONSORED TO THEM IN.

**EARLIEST ARCHITECTURE COPIES**

THREE TYPES OF STRUCTURES:

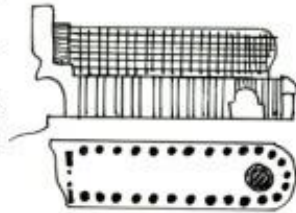
- STUPAS TO VENERATE (UPPER LEVELS)
- STUPAS TO VENERATE (LOWER LEVELS)
- STUPAS TO VENERATE (MIDDLE LEVELS)
- STUPAS TO VENERATE (LOWER LEVELS)

STUDENT: MIA MARIAM ALEX (223701058)  
 FACULTY: AARY PEARL LOBO

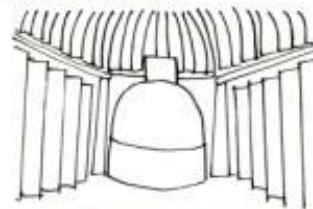
# ROCK CUT ARCHITECTURE

## BHAJA CAVES: CHAITYA HALL

MOST PRIMITIVE HALL 55 FT BY 26 FT, SIDE AISLES 3.5 FT WIDE AND HIGH STULTED VAULT 29 FT HIGH WITH CLOSED RANK WOODRIGS. SIMPLE STUPA WITH CYLINDRICAL BASE AND A WOODEN HARMIKA AND CHATRI.



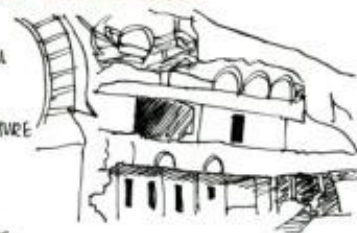
## PRESENT:



THE CHAITYA GRIHA IS CONSIDERED TO BE THE EARLIEST OF ITS KIND AND HAS A CLOSE COPY OF A WOODEN PROTOTYPE. STUPA IS PLACED AT THE BACK FOR WORSHIP AND HAS A HEMISPHERICAL DOME.

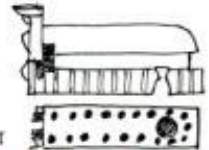
## VIHARAS IN BHAJA COMPLEX

THERE IS ONLY ONE SUCH VIHARA THAT HAS FEW CULTURAL DECORATIONS. THIS CAVE HAS ELABORATE NARRATIVE SCULPTURE IN THE VERANDA PROBABLY DEPICTING A STORY WITH SCULPTURES OF THE GUARDIANS.



## AJANTA: CAVE NO. 9 (1st CENTURY BC)

THE NAIVE IS FLANKED BY AISLES ON EITHER SIDE SEPERATED BY A ROW OF 23 PILLARS WITH THE STUPA AT THE FAR END CEILING OF NAIVE IS VAULTED BUT AISLES IS FLAT.



## AJANTA: CAVE NO. 10 (2nd CENTURY BC)



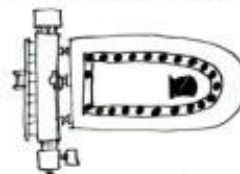
THE NAIVE IS SEPERATED FROM THE AISLES BY 39 OCTAGONAL PILLARS WITH THE STUPA BEING LOCATED AT THE APSIDAL END HAVING BEING REPAINTED IN LATER PHASE.

## CAVE 1: VIHARA

THE SQUARISH PLAN 35.7 X 27.6M IT REPRESENTS A SEATED BUDDHA IN DHARMACHAKRAPRAVARTANA MUDRA IN THE SANCTUM. MOST ELABORATE CARVINGS ON ITS FACADE.



## CAVE NO. 26 CHAITYA HALL



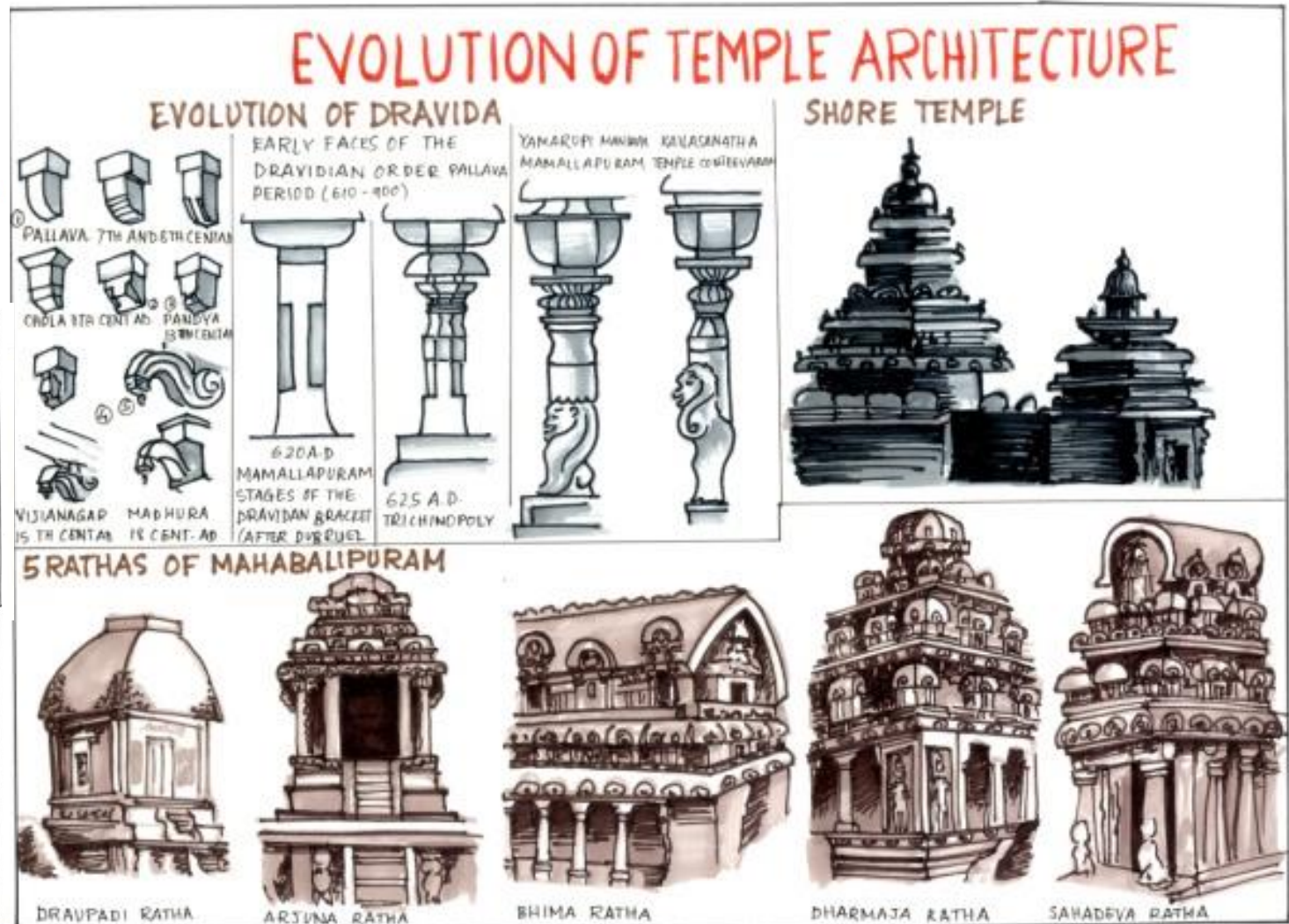
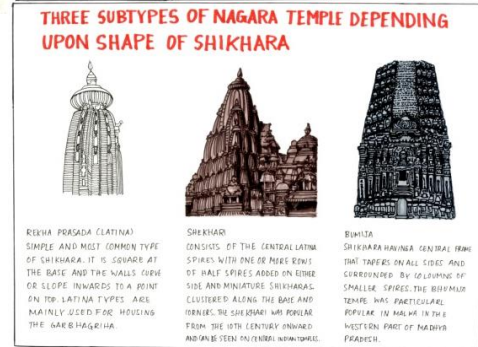
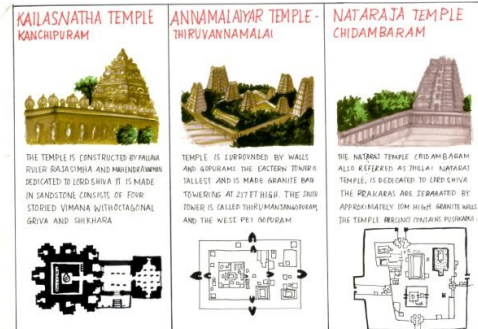
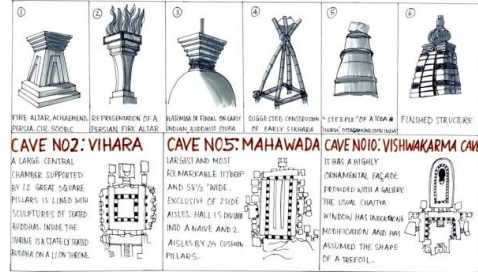
EXTERIOR HEIGHT X WIDTH BEING 36' X 31', 2 COLUMNS AT ENTRANCE. 26 COLUMNS PRESENT IN INTERIOR OF 12' HEIGHT. COLUMNS HAD CAPITAL AND WERE DECORATIVE.



# ARC 1110 History Theory & Criticism - II

## INDIAN TEMPLE ARCHITECTURE

### ROCK CUT ARCHITECTURE & EVOLUTION OF TEMPLES IN GUPTA PERIOD EVOLUTION OF SHIKHARAS



STUDENT: MIA MARIAM ALEX (223701058)  
FACULTY: AARY PEARL LOBO

# ARC 1110 History Theory & Criticism - II

## INDIAN TEMPLE ARCHITECTURE

### ODISHA TEMPLES



**MUKTESHWARA TEMPLE**  
A DEVELOPMENTAL STAGE WHERE TEMPLE HAS FULLY DEVELOPED GANDI/SHIKHARA IN REKHA DEUL, PIDHA DEUL AND JAGAMOHANA CONSIDERED AS "A GEM OF ORISSA ARCHITECTURE". PANCHARATHA REKHADEUL, PIDHA DEUL WITH STEPPED PYRAMIDAL ROOF RICHLY CARVED INTERIOR.



**SUN TEMPLE KONARK**  
KING NARASIMHADEVA I, OF GANGA DYNASTY BUILT THE TEMPLE WITH HELP OF 1200 ARTISANS WITHIN SPAN OF 12 YRS. SINCE THE RULER USED TO WORSHIP THE SUN, THE TEMPLE WAS CONSIDERED AS CHARIOT OF SUN GOD. KONARK TEMPLE WAS DESIGNED IN A DECORATED CHARIOT FORM WITH 24 WHEELS.



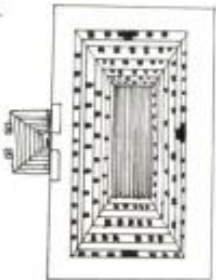
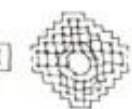
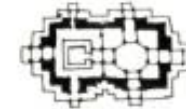
**LINGARAJA TEMPLE**  
SRI MANDIR @ JAGAMOHAN  
NAT MANDIR @ BHOG MANDIR  
THE MAJESTIC LINGARAJA TEMPLE HAS FOUR FRONTAL PROJECTED SECTIONS SUCH AS THE DEULA, JAGAMOHANA, NATAMANDIRA AND BHOGMANDIR.



### NAGARA TEMPLE ARCHITECTURE

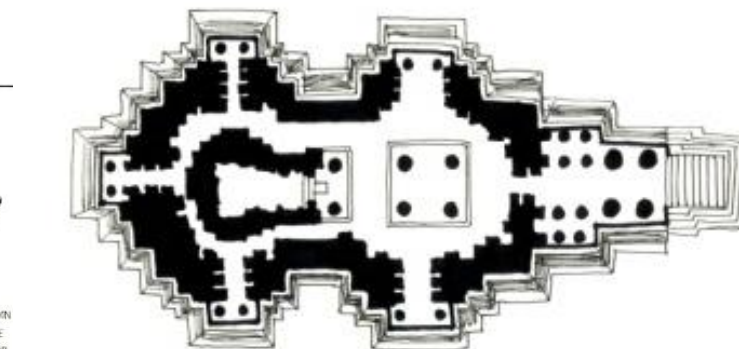
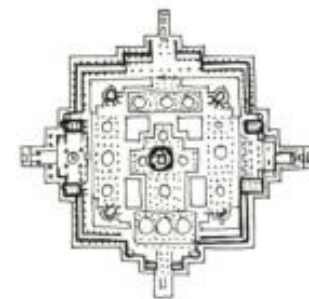
#### SUN TEMPLE MODHERA

FOUR ENTRANCES WITH FLIGHTS OF STEPS ON ALL SIDES & CENTRAL PILLARS SUPPORTING ROOF.



#### ADINATHA TEMPLE, RANAKPUR

THE CENTRAL MAIN SHRINE IS CALLED "MULA-PRASADA", THE INTERIOR OF WHICH IS "GARBAGRHA" AND IS MAIN STATUE IS MULANAYAKA. EACH RANGA-MANDAPA IS CONNECTED WITH A 3 STOREYED "MEGHANANDA-MANDAPA".



#### KANDARIYA MAHADEVA TEMPLE

#### TEMPLE TOWN-MADHURAI MEENAKSHI TEMPLE

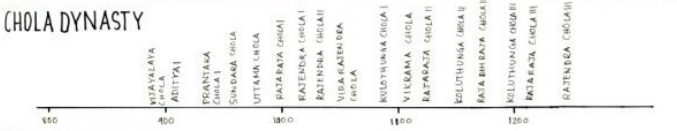


THE PANDYAS STARTED CONSTRUCTION OF SRI MEENAKSHI TEMPLE IN THE EARLY 13TH CENTURY. THE EAST TOWER WAS BUILT FIRST BY JATAVARMAN SUNDARA PANDYAN AND THEN THE WEST TOWER IN AD. 1322 BY THE VARARUKAMA PANDYAN.

#### TEMPLE TOWN-KUMBakonam



IT IS BELIEVED THAT THE FAMOUS LORD SHIVA TEMPLES WERE BUILT DURING THE CHOLAS PERIOD. THOSE WERE REVERED IN TEVARAM. THE TOWN AQUIRED THE STATUS OF "CAMBRIDGE OF SOUTH INDIA" DURING THIS TIME. THE TOWN HAS A NUMBER OF MATHAS.



#### THANJAVUR-BRIHADESHWARA TEMPLE



MATERIAL: GRANITE. BUILT BY INTERLOCKING OF STONES. NO BUILDING VIMANA HEIGHT: 216 FT. NANDI STATUE IN FRONT OF THE MAIN TEMPLE. KUMBE TOP MOST STRUCTURE. CAPSTONE TOP MOST STRUCTURE. CAPSTONE - SINGLE STONE IN THE ENTIRE COMPOUND. 250 LINGAMS.

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# ARC 1110 History Theory & Criticism - II

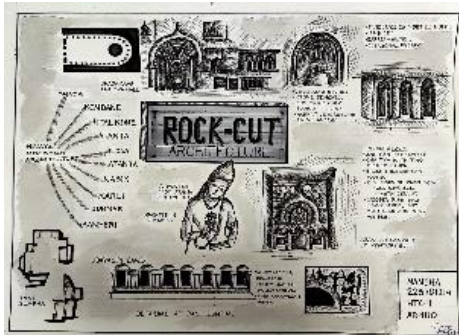
## INDIAN TEMPLE ARCHITECTURE

### COURSE OBJECTIVES:

To study and analyse the evolution in Indian temple architecture, general settlement pattern, geographic and climatic influence, socio-political background, construction technology, material influence and design principles of the cities and its built form.

### PROJECT BRIEF:

To introduce and understand the Styles of Indian Temple Architecture over time. The different schools of thought to be studied are Buddhists, Nagara, Dravida, etc. Examples include 322-185 BC Ashokan capital: Pataliputra; establishment of Buddhist school 2BC-6AD, Shore temple and Rathas at Mammalapuram, Kailasnatha etc. 13AD: Nalanda, Chalukyan Architecture at Badami, 9—13th AD: Nagara & Dravida temples, Kakatiyas of Warangal.



STUDENT: MANSHA SINGH (223701214)  
FACULTY: KUMAR VYOMKESH



# ARC 1110 History Theory & Criticism - II

## INDIAN TEMPLE ARCHITECTURE

### ROCK-CUT ARCHITECTURE

- BHATA CAVE CHAITYA HALL
- BHASA
- KONDANE
- PITAL KONE
- AJANTA
- BEDSA
- AJANTA
- NASIK
- KARLI
- JUNNAR
- KANHERI
- UDAYAGIRI CAVES
- RANI GUMPHA
- DETAILING AT RANI GUMPHA
- ATANTA CAVE NO. 9 (1<sup>st</sup> CENTURY BC)

**EVIDENCE OF MORTICE HOLES.**

- 2ND CEN.
- BARREL VAULTED.
- OCTAGONAL PILLARS

**VIRAHAS:**

- 2 STOREY
- STONE BENCHES.
- DOORS THE ONLY SOURCE OF LIGHT.
- NARRATIVE SCRIPTURES ON VERANDAHS.

**AJANTA CAVES:**

- 2ND CEN. BCE - 650 CE
- CHAITYA WITH TWO TIERED STUPA.
- BRAHMI INSCRIPTION FOUND.
- 2 PERIODS OF PAINTINGS:
  - 2ND CEN. BCE.
  - 4-6TH CEN. AD
- WOODEN RIBS HAVE DISAPPEARED, BUT MORTICES ARE STILL VISIBLE.

A PAINTING FROM AJANTA CHAITYA HALL  
PAINTED IN 2 PHASES.

AT UDAYAGIRI 6  
KHANDAGIRI  
PARTLY NATURAL.  
KING KHARAVELA'S REIGN.

MANSHA 223701214  
HTC-II  
AR-1110

### MAHABALIPURAM

EVOLUTION OF Temple architecture

MAHABALIPURAM RATHAS

SHORE TEMPLE

### MAHABALIPURAM RATHAS

### buddhist ARCHITECTURE

**ASHOKA PILLAR**

ASHOKAN PERIOD ARCHITECTURE INCORPORATED BUDDHIST SYMBOLS IN THEIR STRUCTURES, POPULARISING THE RELIGION.

- CONTRIBUTIONS:
  - SERIES OF ROCK EDICTS
  - TIMULI AND STUPAS
  - MONOLITHIC PILLARS
  - MONOLITHIC ACCESSORIES TO CHARNIES.
  - REMAINS OF VAST PALACES
  - GROUP OF ROCK CUT CHARNIES.

**ASHOKA PILLAR:**

- LOTUS
- THE DHARMA CHAKRA

**ASHOKA PILLAR CORE ELEMENTS (BUDDHIST SCHOOL):**

- STUPA
- SQUARE IMPLIES DURABILITY.
- TO STORE RELICS

**VIRAHA:** MONASTERIES, PLACES TO REST FOR TRAVELLING MONKS.

**ASHOKA PILLAR CORE ELEMENTS (HINDU SCHOOL):**

- HARMIKA
- CHHATRAVALI
- ANDA
- TORANA
- THABHA
- VEDIKA
- MEDHI
- PARIDAKSHINA PATHA

**BARBAR CAVES:**

- ROCK-CUT CHAMBERS.
- INITIALLY USED BY THE ASTIVIKA ASCETICS.

**SUBRAMA CAVE:**

- BARREL VAULTED
- INSIDE IS INSPIRED FROM LOCAL BAMBOO HUTS.

**ELEPHANTA CAVES:**

- TWO GROUPS OF CAVES, CONTAINING HINDU AND BUDDHIST ROCK-CUT ARCHITECTURE

**CHAITYA:**

- SHRINES OR PRAYER HALLS.

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### ROCK-CUT ARCHITECTURE (2) & EVOLUTION OF TEMPLES IN GUPTA PERIOD

EVOLUTION OF SHIKHARA

EVOLUTION OF TEMPLES

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### EARLY TEMPLE ARCHITECTURE

KAILASANATHA TEMPLE KANCHIPURAM.

ANNAMALIYAR TEMPLE THIRUVANNAMALI

NATARAJA TEMPLE CHIDAMBARAM

STUDENT: MANSHA SINGH (223701214)  
FACULTY: KUMAR VYOMKESH




# ARC 1110 History Theory & Criticism - II

## INDIAN TEMPLE ARCHITECTURE

### Mauvryan Empire


**Pataliputra**

- METUPTON WAS THE CAPITAL OF THE MAURYAN EMPIRE.
- CITY BUILT ALONG THE BANKS OF RIVER GANDAKI
- SURROUNDED BY 500 KILOMETER LONG WALLS
- KELESIKONS FOR HEALTH AT REGULAR INTERVALS




**Architectural features**

- CITY WAS CENTER OF HIGHWAYS WITH VARIOUS PURPOSES, PLANS, BAZAAR SHAPED ROADS
- WATER PROVIDED WITH TILES AND TUBS
- HOUSE HAD THREE WINDOWS AND LARGE SCREENS BARRIERS COVERING THE STREETS
- LARGER HOUSES OF RICH WERE BUILT AROUND 4 OR MORE COURTYARDS AND HAD PALATTE GARDENS IN THE SUBURBS
- PUBLIC GOODS WERE OUT OF THE RECREATIONAL PURPOSES




**Ashoka Capital**

- IT WAS A STEPPED INFRAST-BLOCK WITH VARIOUS ANOMALY PARAMETERS OF THE PERIOD, SPHERE
- THE TOP, RAIL, LAMINA AND SPIRAL MOTIFS ON LATERAL FACE, AREA OF ALL WESTERN ASIATIC ORIGIN THE ROSETTE ORNAMENT OF THE PERIOD REGARD THE PHONES OF THE GREAT KINGDOM AT PATALIPUTRA




**Details**

- ORNAIMENTATION AND CARVING IN ARTISTIC FORMS
- TRIPLE TIERED VOTOS
- MAJESTIC BUT SIMPLE WORK WITH MAJID IN THREE CORNERS WHICH OUTLINES A RAZZ CUT ARCHITECTURE
- TRIPLE JAIN SOURCE OF CANONIZATION (CROSS)
- THEY WERE CONSIDERED AS USED THE 4 WERE SIMPLE BUT EFFECTIVE



**Ashoka's Buddhist School**


- NOT HINDU IDEAS OF BUILDING NET
- WHEN ASHOKA TRAVELED TO PUNJ IN 271 BC, HE MET BUDDHISM
- CHRISTIAN BELIEVERS CHANGE IN SUBJECTS OF HIS IDEAS WERE IN NEED OF CONVERSION
- BUDDHISM REVERSED KINGDOMS VARIOUS CIVILIZATION & ARCHITECTURES



### Bhya Caves Chaitya


PRIMITIVE WALL 55x22x16 HIGH 1917

- NORTHE HOLE ON FACADE FOR FINING WOODEN FRONTAGES, P SHOWN NOW FROM PUNJ
- 26 BUDDHIST CAVES ENCLOSED WITHIN 25 M TO 250 M, ONLY ONE CHAITYA
- CHAITYA: GRAHA VERA CLOSE COPY OF WOODEN PROTOTYPE
- LARGE ARCHITECTURE 17M X 5.3M DIVIDED INTO NINE PARTS BY 27 PILLARS



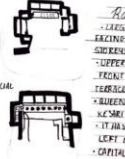
**Ajanta Chaityas**

- 2000S FROM 100 BC TO 600 AD
- THE CAVES WERE RENOVATED ACCORDING TO CURRENT ART STYLE
- ALL CAVES FALL INTO TWO GROUPS OF VANDAS AND GUPTA PERIODS
- LARGEST CHAITYA THESE CAVES IN INDIA
- THREE CAVES WERE SUCCESSION ENLIGHTENED DEME: BHARATI INSPIRED IN PUNJ
- 10 ROOMS: RISE, DISAPPEAR, MORTARS STILL PRESENT



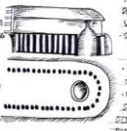
**Wologji Caves**

- ON THE JUDHAPUR AND BHANDARI HILLS, BUILT FOR JAIN MONKS
- THREE CAVES FROM 15 CAVES OF KING PARVATEES: 1000
- ALL CAVES ARE PARTLY NATURAL, PARTLY ARTIFICIAL
- CONCRETE HAS IN CAVES AND MORTAR ARE LIES IN CAVES
- THE CAVES WERE CARVED PURING ALSO OF CHANDRA GUPTA MAURIA 2
- 24 ROCK CUT JAIN IMAGES IN AN OUT COPY OF SANDSTONE



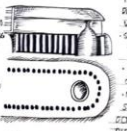
**Ajanta Cave No 9**

- EXTENDED IN 100 M
- BASE PILLARS: NINE CENTRAL PILLARS THREE SIDE SQUARE PILLARS, 4
- PLANNING IS BEING TO DIFFERENT SEAS ONE WHEN WORKING: THREE KITCHENS



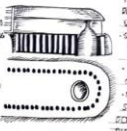
**Ajanta Cave No 10**

- ONE OF THE EARLIEST CHAITYAS: 2ND OR 3RD CENTURY
- MADE WITH SANDSTONE
- SEPARATED BY 33 SQUARE PILLARS
- DIFFERENT PERIODS PERIOD




**Bhya - Viharas**

- APPEARS IN 2 LEVELS
- THERE ARE FEW DOUBLE STORED VIHARAS TOO
- STONE BEAMS, PILLARS, VIBHARAS TOO



**Rani Gumpas**

- LARGEST AND EARLIEST
- BEARING THESE BUILDING SIDES WERE USED & ALTERNATE
- UPPER STOREY: BECE SO IN FRONT TOWARDS IN OPEN TERRACE
- BUILDING OF KING, LATER ON ACHARY OCCUPY THIS CASE
- IT HAS THREE WINDOWS LEFT AND RIGHT
- CAPITALS OF PILLARS HAS JAINISM




### Buddhism & Rock Cut Chambers

BUDDHISM IS A GRAPHIC CREED AND USES SYMBOLS AND MOTIFS TO EXPRESS THEIR TEACHINGS AND VALUES.

BUDDHISM HAS CONTRIBUTED LOT TO ARCHITECTURE, ONE BEING ROCK CUT CHAMBERS.

7 CHAMBERS - 4 ON BARBARHILLS AND 43 ON NAGARJUNJI HILLS.

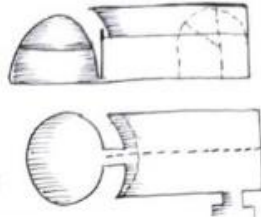
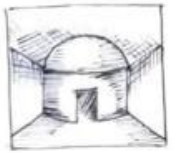
LONA RISHI CAVE AND SUDAMA MOST NOTABLE



LONA RISHI


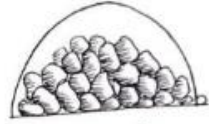

### Sudama Caves

- HAS SHALLOW ENTRANCE PORCH, RECTANGULAR PASSAGE THAT LEAD TO MAIN BARREL VAULTED CHAMBER.
- THE CHAMBER IS SPLIT INTO 2 PARTS, OUTER AND INNER.
- WALLS AND CEILINGS ARE SMOOTH SO IT ECHOES.
- POLISHED GRANITE CAVE MIRROR EFFECT

### Elephanta Caves

- CARVED OUT OF BASALT ROCK COVER 60000 SQ FEET AREA. COLLECTION OF CAVE TEMPLES DEDICATED TO SHIVA - GHARPURI
- ITS HINDU AND BUDDIST ROCK ARCHITECTURE
- 2 GROUPS OF CAVES, LARGER GROUP HAS 5 CAVES WITH NUMEROUS BUDDIST SCULPTURES.
- SMALLER GROUP HAS 2 BUDDHIST CAVES.

### Terminologies

STUPA: MOUND LIKE STRUCTURES CONTAINING BUDDHIST RELICS

CHAITYA: A PRAYER HALL THAT IS RECTANGULAR IN PLAN AND SEMICIRCULAR IN THE END

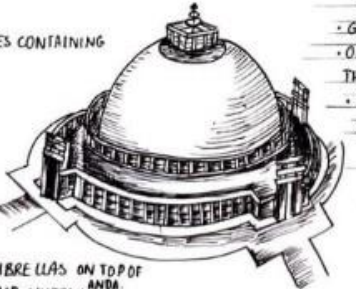
VHARA: A MONASTERY WITH CELLS, DINING HALLS ETC

ANDA: MASSIVE HEMISPHERICAL DOME OF STUPA

CHATRAVALLI: 3 SUPERIMPOSED UMBRELLAS ON TOP OF CHATRAVALLI

RAILING: SURROUNDING CHATRAVALLI


VEDIKA: RAILING SURROUNDING STUPA



SANCHI STUPA HAS DRY MASONRY COMPOSED OF HAMMER.


### Sanchi Stupa

- GREAT STUPA AT SANCHI
- ORIGINALLY COMMISSIONED BY ASHOKA THE GREAT IN 3RD CENT BCE
- SIMPLE HEMISPHERICAL STUPA OVER RELICS OF BUDDHISM, CHAITYA
- SYMBOLIZING RANK AND POWER
- DIAMETER - 32.3M
- HEIGHT - 12.5M



### Thoranas

- IT HAS 2 SQUARES VERTICAL COLUMNS WITH CAPITAL OF LION ELEPHANT 3 SEPARATE HORIZONTAL PANELS BETWEEN EACH OTHER CONNECTED BY BALUSTERS.
- TOTAL HEIGHT: 30 FT AND WIDTH 20 FT



STUDENT: MISHAEL ALEX (223701064)  
FACULTY: AKSHATHA RAO

Bachelor of Architecture  
Undergraduate Program

Year

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2

Architecture



# ARC 2101 Architectural Design & Detailing - III

## PRIMARY HEALTHCARE CENTRE

### COURSE OBJECTIVES:


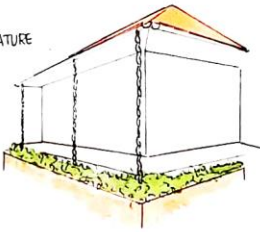
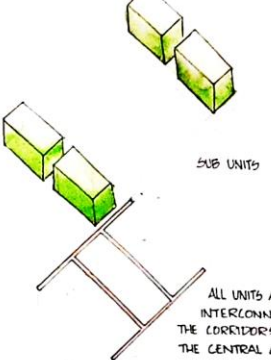
To develop a detailed design integrating timber and masonry as underlying construction systems. To formulate a design Program through the study & analyse various user types & their activities in small-scale institutional facility.

### PROJECT BRIEF:

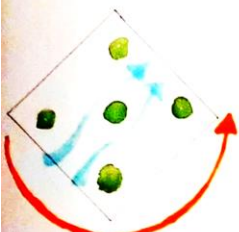
Development of design programmed for a campus building- Primary health care Centre with basic treatment spaces such as outpatient department, wardroom, minor OT, labor room and other facility rooms. Also focusing on timber structures and masonry works for materials.

## CONCEPT - HEALING


THE INHERENT CONNECTION BETWEEN HUMANS AND NATURE IS PALPABLE. NATURE - THE GREATEST STRESS BUSTER AND HEALER HAS POWER TO INSTIL THE RIGHT EMOTIONS. THE PHYSICALLY TIRING EXPERIENCE OF BEING ILL CAN BE TONED DOWN BY ALLOWING PATIENTS TO INTERACT WITH NATURE. THE VISUALS, SOUND, COLOUR OF NATURE INFLUENCES THE MOOD OF HUMANS, THUS ACCELERATING SELF HEALING.

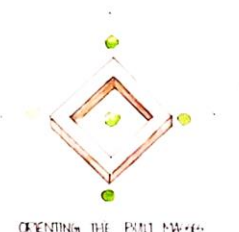
## FORM DEVELOPMENT



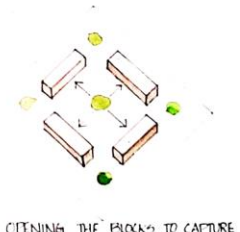
SITE WITH EXISTING VEGETATION




SINGLE BUILT MASS SPLIT INTO 4 MASSES BY CORRIDORS




ORIENTING THE BUILT MASSES AROUND THE CENTRAL AXIS




SITING THE BLOCKS TO CAPTURE MORE VIEWS, VENTILATION, LIGHTING



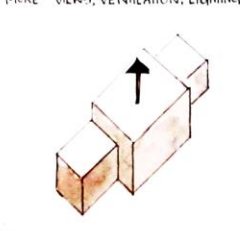
RAISED LOOKING CORRIDORS FOR NATURAL LIGHT, LIGHTING THROUGH THE CENTRAL COURTYARD.



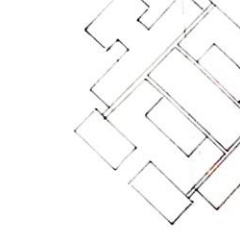
CROSS VENTILATION



ENTRANCE



RAISED ENTRANCE LOBBY



PROGRAMMATIC ZONING

SUB UNITS

ALL UNITS ARE INTERCONNECTED. THE CORRIDORS ALSO THE CENTRAL COURTYARD

MAIN UNITS

STUDENT: SAAI NAGA ABIRAMI J (213701212)

FACULTY: AJITH MADKAIKER

# ARC 2103 Architectural Representation- III

## 3D MODELLING

### COURSE OBJECTIVES:

Development of 3D model using BIM with the help of various commands and creation of walkthroughs. Building models that are developed in the Revit software are single-story buildings, double-story building, and multistorey buildings. The software used for rendering and creation of walkthroughs is Twinmotion. Various Revit parametric families are also developed.



STUDENT: KAUSHANI CHAKRABORTY (213701156)

FACULTY: R N RAMASWAMY, VISHAL CHETRY



# ARC 2105 Building Construction and Materials - III

## RCC

### RCC REINFORCED CEMENT CONCRETE

RCC, ALSO KNOWN AS FERROCONCRETE IS A COMPOSITE MATERIAL WHERE CONCRETE'S LOW TENSILE STRENGTH & DUCTILITY IS COMPENSATED BY INCLUDING A REINFORCEMENT WITH HIGHER STRENGTH & DUCTILITY

RCC → CONCRETE + STEEL + WATER  
CONCRETE → SAND + AGGREGATE

ANCIENT ASSYRIANS & BABYLONIANS USED CLAY

THE EGYPTIANS DEVELOPED BINDERS WITH LIME & GIPSUM

1824, JOSEPH ASPDIN BURNED & GROUND A MIXTURE OF LIMESTONE & CLAY, PORTLAND CEMENT.

### HOW IT DEVELOPED?

LEARNING TOWER OF NEYYANOK, RUSSIA IS THE FIRST KNOWN BUILDING TO USE RCC.

CONCRETE HAS A STRONG COMPRESSION, BUT RELATIVELY WEAK TENSION. SO, AN EXTERNAL MATERIAL LIKE STEEL WITH STRONG TENSION MUST BE USED TO COMPENSATE. IT INCREASES OVERALL STRENGTH AS ANY BEAM WHEN FACED TENSILE FORCES, AND WITHOUT PROPER SUPPORT IT LEADS TO CRACKS WHICH MIGHT LEAD TO THE DOWNFALL OF THE STRUCTURE. THIS CAN BE AVOIDED BY USING REBARS.

USE REBARS (STEEL BARS)?

USE / PREFER RCC AS BUILDING MATERIAL?

MORE DURABLE AND FIRE & WEATHER RESISTANT

HAS HIGH COMPRESSIVE STRENGTH CAN CARRY TENSILE LOADS

CAN BE MOULDED INTO VARIOUS SHAPES AND SIZES

MOST ECONOMICAL BUILDING MATERIAL AS CAN SUPPORT WITHOUT CONTINUOUS SUPPORT

PRE-CAST STRUCTURAL COMPONENTS SO CAN BE BUILT SEPARATELY & JOINED ON SITE

MAINTENANCE COST IS LOW

### ABOUT

CIDADE DAS ARTES IS A THEATRE BUILD IN RIO DE JANEIRO, BRAZIL. THE ARCHITECT CHRISTIAN DE PRTZAMPARC IMPOSED THE BUILDING ON THE LAND, FLOATING LIKE A FALLEN SPACE-SHIP AND STANDING HIGH WITH A LOT OF VISIBILITY.

IT IS A MASSIVELY IMPRESSIVE CONCRETE (RCC) BUILDING. HENCE, USING RCC HELPED TO MAKE THE CONSTRUCTION PROCESS MORE ECONOMICAL.

THIS IS BECAUSE, THIS HUGE STRUCTURE CAN WITHSTAND ITS OWN WEIGHT WITHOUT MANY COLUMNING. ALSO, FURTHER DOWN THE LINE MAINTENANCE COST WILL BE LOW.

### OVERHANG ROOFING

RCC HAS CONCRETE ALONG WITH STEEL, SO THE OVERALL CAPACITY TO BEAR TENSILE LOADS ALONG WITH COMPRESSION IS HIGHER, HENCE BUILDING OVERHANG ROOFS

### DIFFERENT SHAPED WALLS

THE BUILDING HAS NUMEROUS CURVES, LINES AND UNDULATING CURVILINEAR WALLS WHICH COMBINE INTO AN INTERPLAY OF VOLUMES AND VOIDS TO PROVIDE THE AVAILABLE FUNCTIONAL SPACES. THIS COULD ONLY BE POSSIBLE BECAUSE RCC HAS A LIQUID FORM, SO IT CAN BE MOULDED INTO DIFFERENT SHAPES AND FORMS TO FORM ARTISTIC & AESTHETIC SPACES.

THE BUILDING IS ALSO VERY MASSIVE, BUT THE ARCHED HALLS, CEILING AND CURVED WALLS SUPPORT AND PROVIDE AESTHETIC APPEAL.

### BRAZIL RIO DE JANEIRO CIDADE DAS ARTES

STUDENT: RIMJHIM GHOSE (213701242)

FACULTY: JAMBAVATI GOUDA



# ARC 2105 Building Construction and Materials - IV

## STEEL

### COURSE OBJECTIVES:

Building Construction and material focuses on the study and understanding of different building materials and how each material can be used to construct different elements of the building.

### PROJECT BRIEF:

To study and understand steel as a building material & the involved construction techniques With respect to chemical, and physical properties, classification, composition, and its varied uses to enhance the structural strength, usability, and aesthetic qualities of the spaces inside/outside of the building

This shows a brochure for a warehouse construction company, along with the benefits of choosing steel as a building material and why should the customer choose the said company for their needs

**WHY STEEL?**  
STEEL FOR CONSTRUCTING WAREHOUSE

- FASTER LEAD & BUILD TIME
- LOWER RISKS OF PESTS & RODENTS
- LONG TERM COST EFFICIENCY
- LIMITLESS WAREHOUSE SIZES
- ADVANCED WEATHER, RUSTING & FIRE PROOFING
- COMPLETE CUSTOMIZATION
- DURABLE & HIGH STURDINESS
- SMALLER ECOLOGICAL FOOTPRINT

**STARDUST STEEL**  
INTERNATIONAL PVT LTD  
'FINDING SOLUTIONS FOR THE REAL WORLD'

**OUR ADVANTAGE**  
WHY CHOOSE US ?

- WE USE 25% RECYCLED STEEL
- TRUSTABLE FIRE-ENGINEERING
- WE PROVIDE THE STURDIEST MEZZANINE STRUCTURES
- WE ALSO PROVIDE BEST QUALITY FIBER GLASS & PU SANDWICH PANELS

**OUR PRODUCTS**  
THE WALLS ADOPT CORRUGATED SINGLE COLOUR SHEETS & SANDWICH PANELS

**COLUMNS & BEAM**  
PRIMARY LOAD BEARING STRUCTURES, USUALLY PROCESSED FROM STEEL PLATE OR SECTION STEEL TO BEAR THE EXT BUILDING LOADS & SELF LOAD

**ROOF & TRUSSES**  
MADE OF THIN WALLED STEEL SUCH AS PURLINS, WALL GIRTS, BRACING HELPS MAIN STRUCTURE & TRANSFERS MAIN STRUCTURE LOAD TO THE FOUNDATION FOR STABILIZATION

**ABOUT US**  
ADDRESS : 436, JESSORE ROAD, VIVEKANANDA APARTAN, DUMDUM, KOLKATA, WB 700055  
MOBILE / WHATSAPP / TELEGRAM : +91 9800110091  
PHONE : +91 9674891368  
EMAIL : SALE@STARDUSTSTEEL.COM

STUDENT: RIMJHIM GHOSE (213701242)

FACULTY: ARUN NATARAJAN



# ARC 2102 Architectural Design & Detailing - IV

## RESORT DESIGN

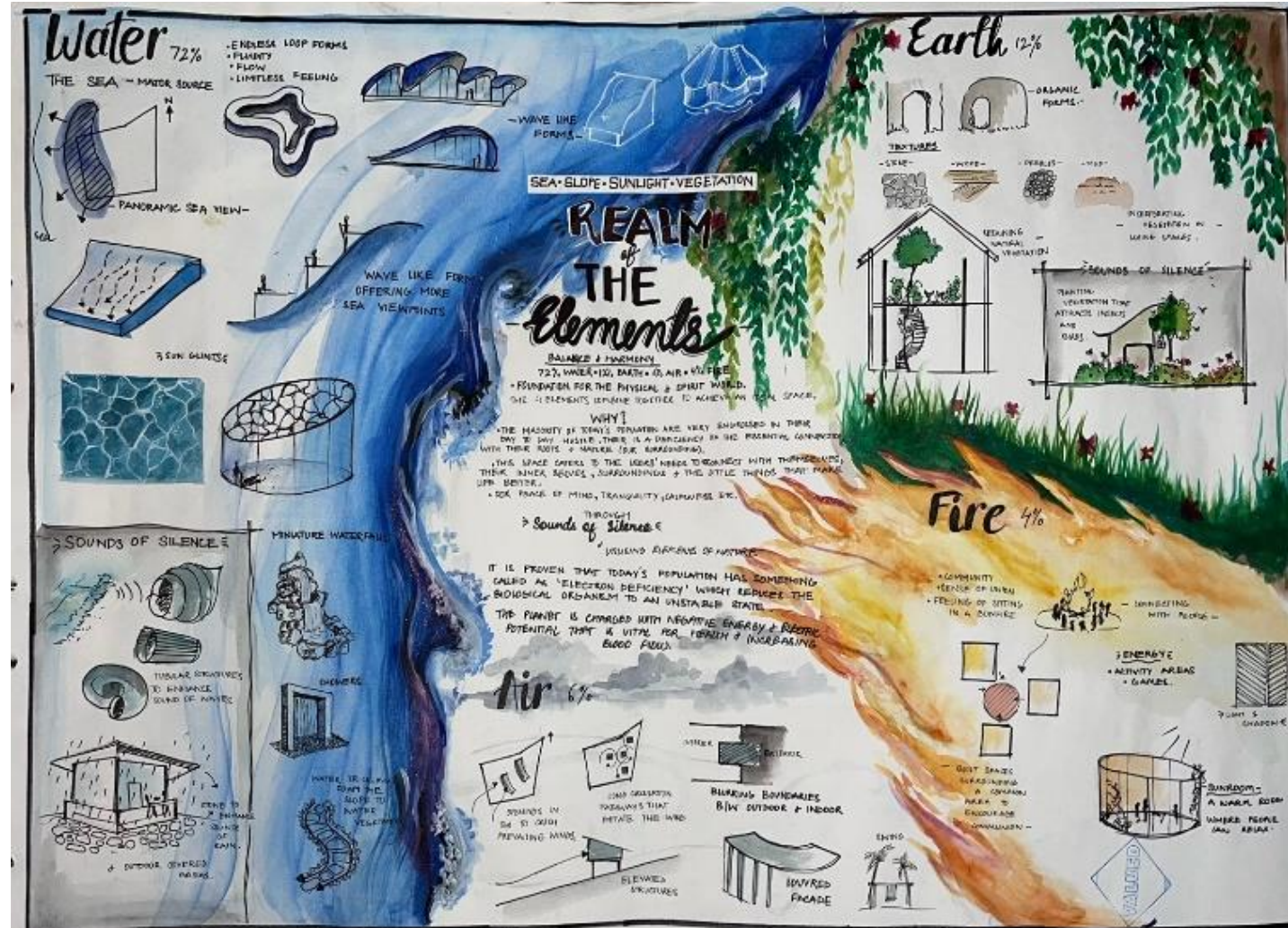
### COURSE OBJECTIVES:

Demonstrating potential of alternative building construction techniques, identifying issues and concerns about context, developing design through analysis, formulate forms and structures of built forms and spaces through exploration of design strategies and materials, site and climate conditions while abiding by the rules, norms and regulations.

### PROJECT BRIEF:

#### THE ELEMENT RETREAT

A climate-responsive resort located near Ullal in Karnataka, it is spread across a sloping site, covering about 2.3 acres, and has a breathtaking view of the Arabian Sea. Designed for up to 30 users, it offers a holistic experience through the use of various elements in the design and gives utmost importance to the climatic conditions of the region. One can experience things like listening to the sounds of sea waves, hearing the trees rustle and the birds' chirps in the morning, and take a walk through avenues surrounded by greenery. It also consists of a spa and a yoga hall to provide a fruitful experience at the retreat.



STUDENT: AASHNA KALRA (213701114)

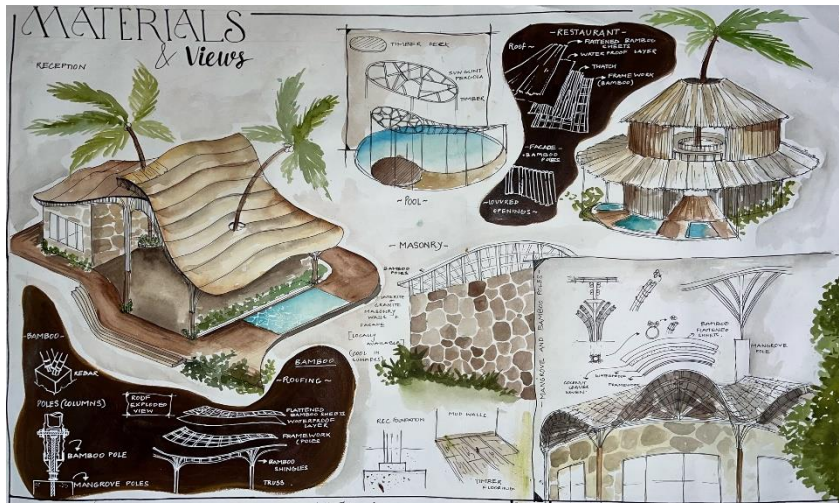
FACULTY: LULWA KHALEEL

Concept

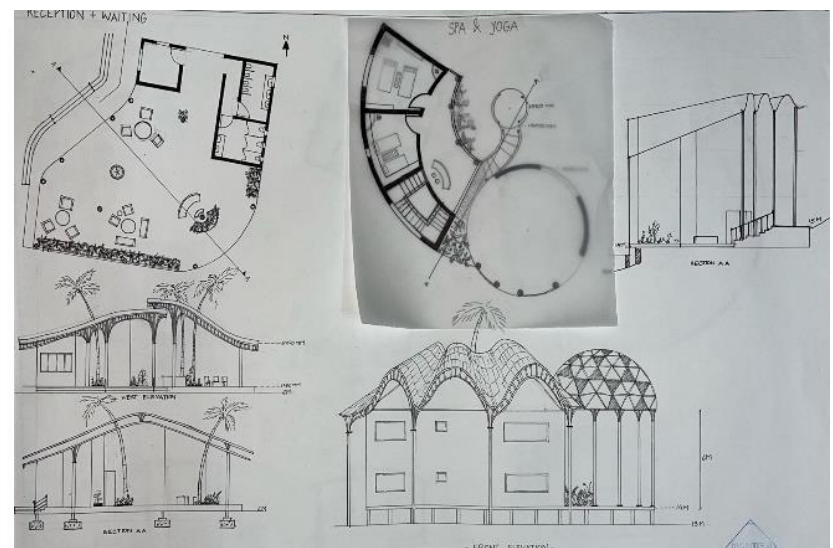
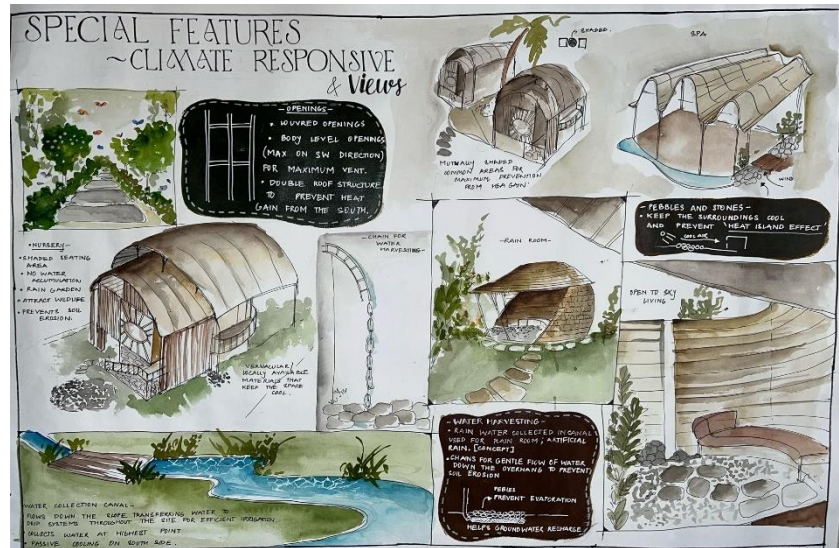


# ARC 2102 Architectural Design & Detailing - IV

## RESORT DESIGN



Master Plan



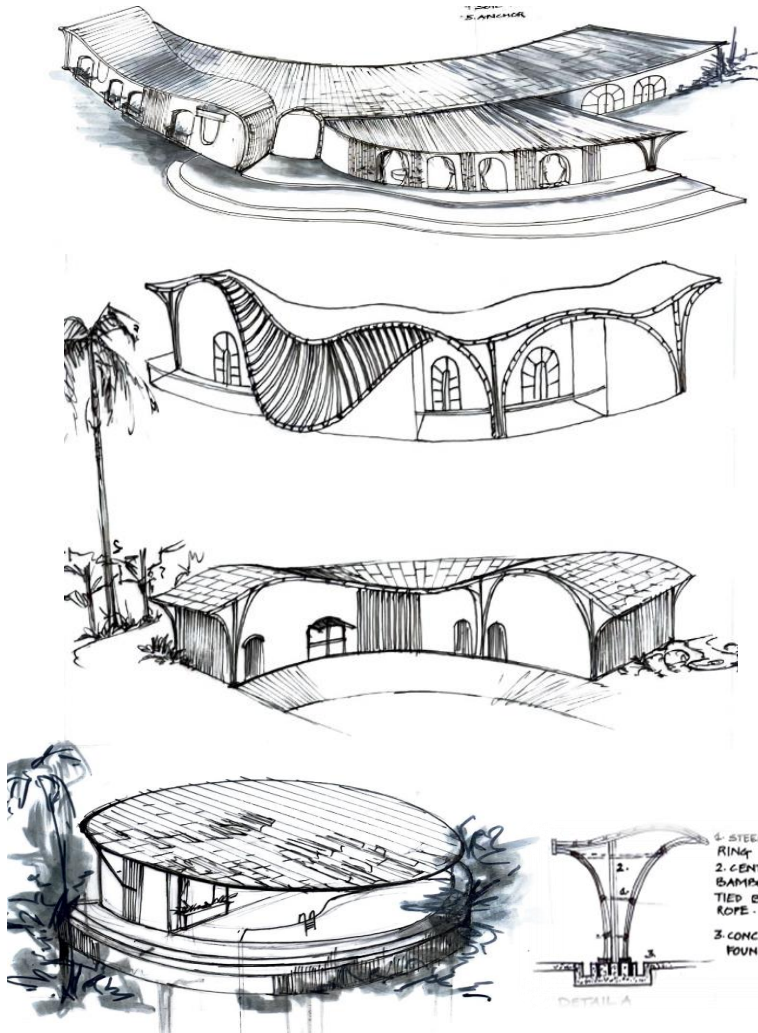
STUDENT: AASHNA KALRA (213701114)  
FACULTY: LULWA KHALEEL

Plans, Sections and Elevations



# ARC 2102 Architectural Design & Detailing - IV

## RESORT DESIGN



STUDENT: PRATYAKSHA TAHILIANI (213701042)

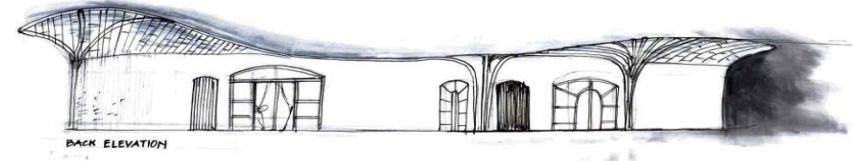
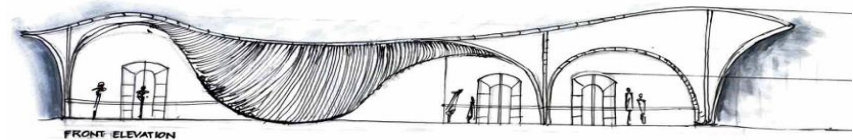
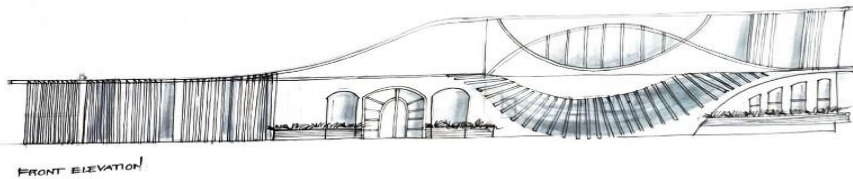
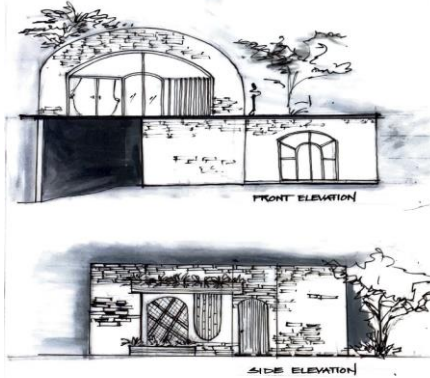
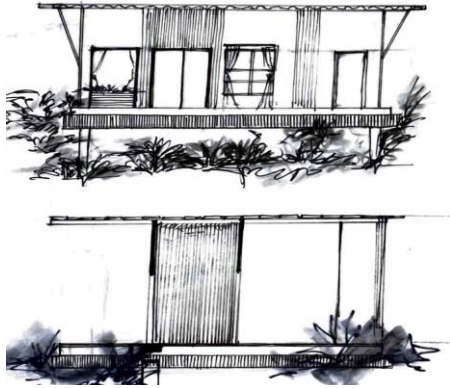
FACULTY: LULWA KHALEEL

Landscaping

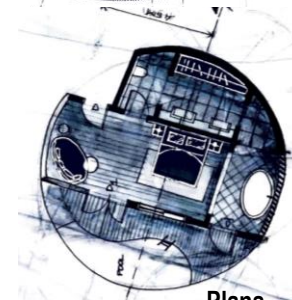
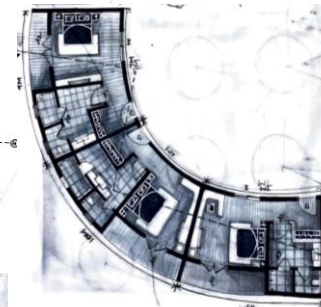
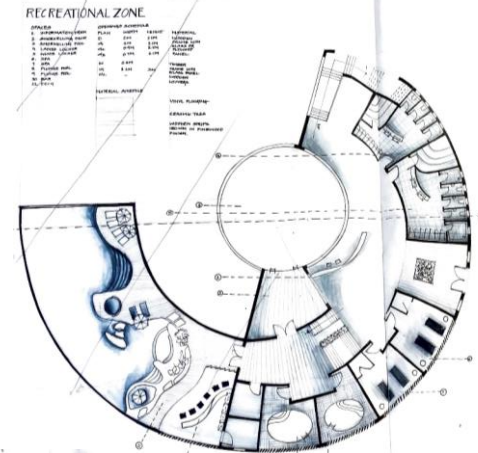
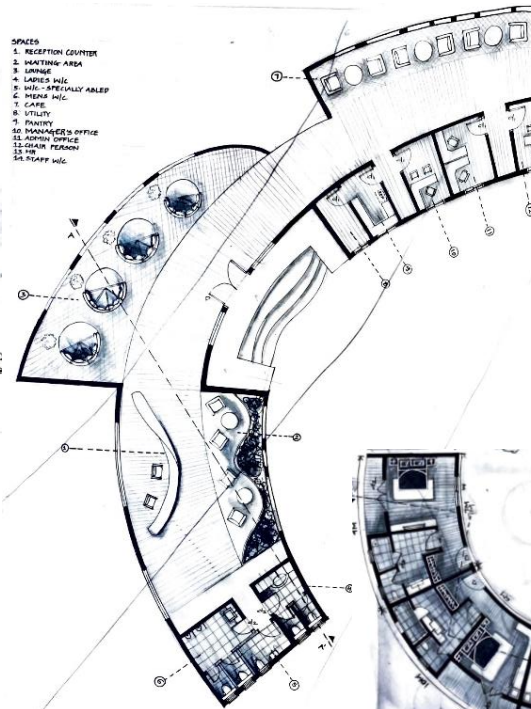


# ARC 2102 Architectural Design & Detailing - IV

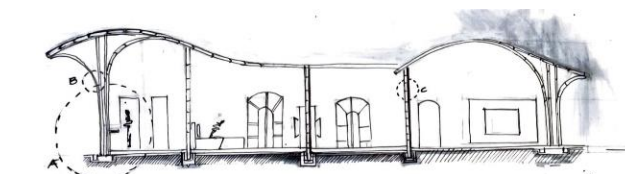
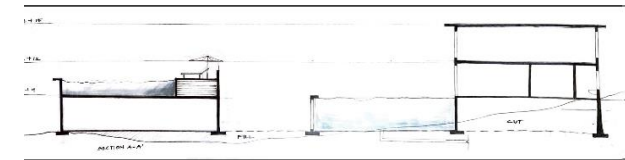
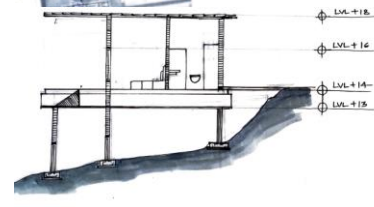
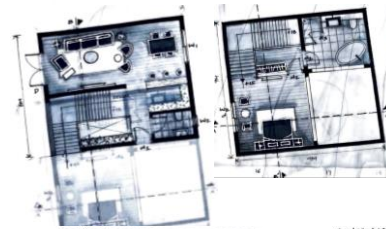
## RESORT DESIGN



- SPACES
1. RECEPTION COUNTER
  2. WAITING AREA
  3. LOUNGE
  4. LADIES M/C
  5. M/C - SPECIALLY ABLED
  6. MEN'S M/C
  7. CAFE
  8. UTILITY
  9. PANTRY
  10. MANAGER'S OFFICE
  11. ADMIN OFFICE
  12. CASHIER / TICKET
  13. M
  14. STAFF M/C



Plans



Sections

STUDENT: PRATYAKSHA TAHILIANI (213701042)  
FACULTY: LULWA KHALEEL

Elevations



# ARC 2102 Architectural Design & Detailing - IV

## RESORT DESIGN



STUDENT: ADITI GANESH SARNIS (213701126)

FACULTY: KIRTI NIKAM

Master Plan Spatial layout of built structures and conceptual landscaping layout with existing site context



# ARC 2102 Architectural Design & Detailing - IV

## RESORT DESIGN

### COURSE OBJECTIVES:

The objective of this course is the development of design program, and developing a concept and detailed design with focus on climate responsive design structures and masonry. This course would also provide an understanding of the use of local materials and the exploration of eco friendly architecture.

### PROJECT BRIEF:

The project was to design a resort while adopting climate-responsive techniques. The use of passive strategies, adopting alternative building technologies, and understanding the use of local materials for foundation and envelope components. The use of building services and renewable energy sources in the project must be exercised.



STUDENT: RIMJHIM GHOSE (213701242)

FACULTY: KIRTI NIKAM

BARCH, YEAR 2, SEMESTER 4 (2022-23)

038

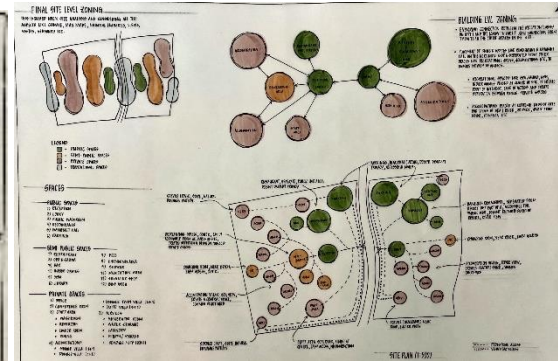
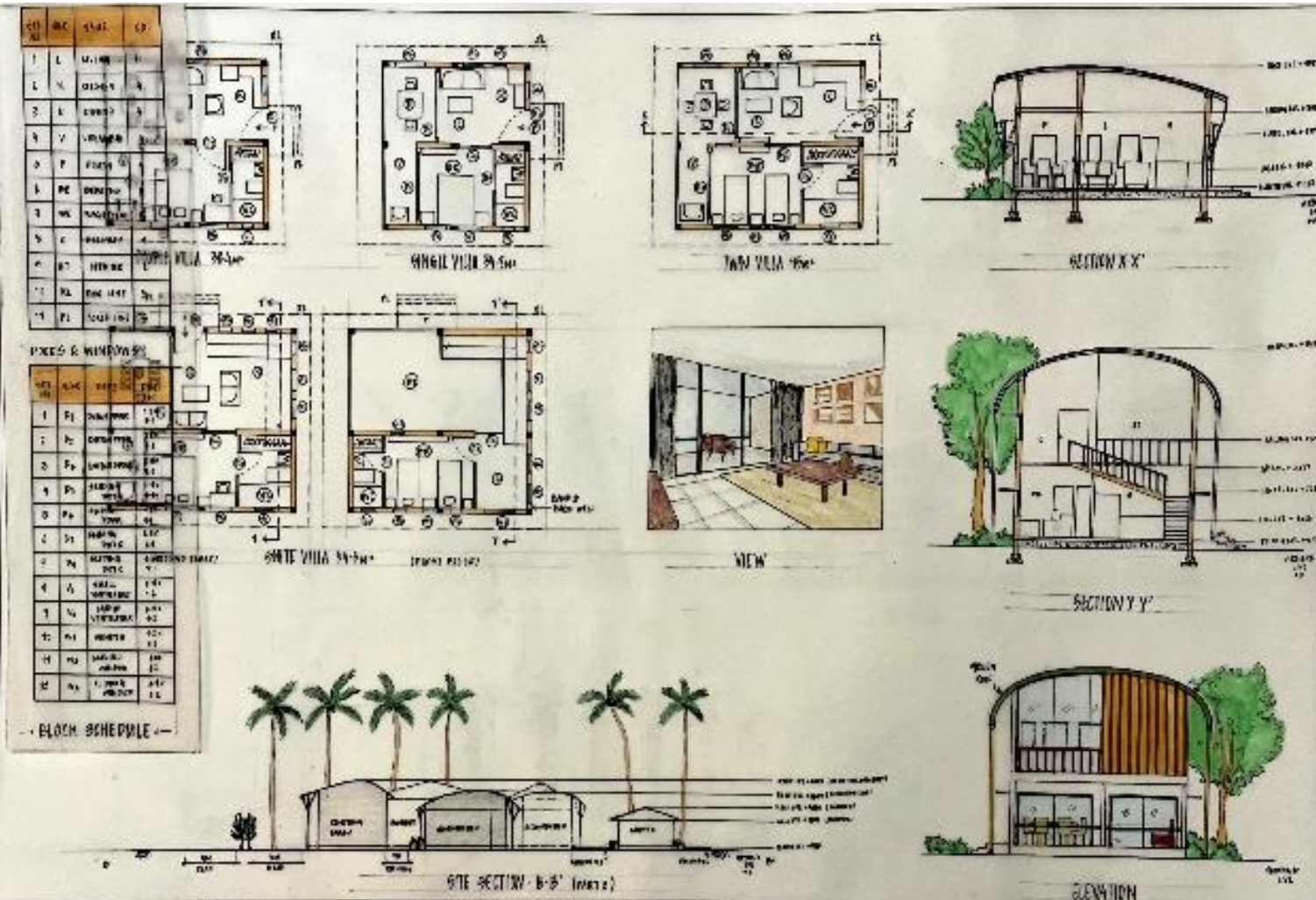
MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

Concept



# ARC 2102 Architectural Design & Detailing - IV

## RESORT DESIGN



**Final Zoning:**  
 this shows the final zoning which was considering the best features of the four zoning options along with the justification of why spaces have been placed at a certain area. Dividing the spaces into public, semi public and private spaces.

STUDENT: RIMJHIM GHOSE (213701242)  
 FACULTY: KIRTI NIKAM

Block Details



# ARC 2102 Architectural Design & Detailing - IV

## RESORT DESIGN



### Master Plan:

The master plan of the proposed resort design. This shows the double line plan of all the blocks with the openings, the pedestrian and vehicular access in the resort, and the proposed landscape design in the resort.

The area statement details, the dimensions of the site, and the level differences are shown in this master plan.

STUDENT: RIMJHIM GHOSE (213701242)

FACULTY: KIRTI NIKAM



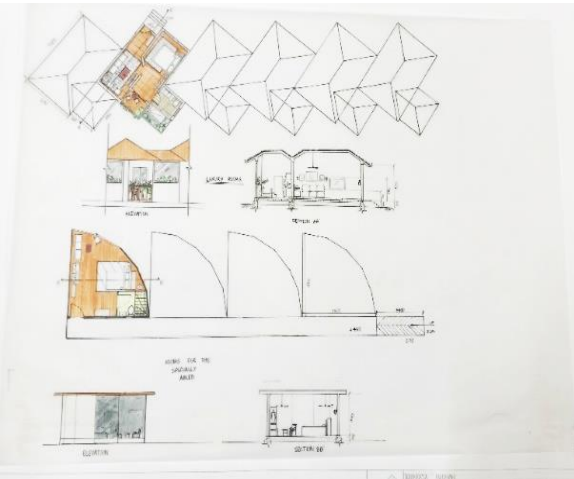
# ARC 2102 Architectural Design & Detailing - IV

## RESORT DESIGN

### THE BIRD'S NEST

#### PROJECT BRIEF:

This resort design aims to be a bird sanctuary resort which provides the customers with a thrilling experience of watching birds very closely while also being provided with a sense of 'freedom' and 'detoxification'. The design aspires to be barrier free, i.e., universal design accessible by all and providing calmness and comfort. The whole site is covered with trees and is thickly wooded. Various trails have been provided for the people to walk or move around in buggies for transportation and bird watching.



STUDENT: NAMRATA BHUYAN (213701056)

FACULTY: SUREKHA K C, TRIVIKRAM T N, JOANNA MARIA MARTIS

Master Plan



# ARC 2102 Architectural Design & Detailing - IV

## RESORT DESIGN

### Concept:

Chakra means wheel and refers to energy points in our body they correspond to bundles of nerves, major organs, and areas of our energy body that affect our emotional and physical wellbeing. The 7 chakras of the body are understood to be spinning discs of energy that should be open and balanced for the vital task of absorbing our vital energy and redistributing it. These 7 chakras of the human body, have distinct specific names, meanings, colors, areas on the spine, meditation, stones, health focus, and yoga postures to balance. The lotus is a beautiful symbol of healing and purity. Bamboo is a unique building material in that it is strong in both rigidity and density. The plant fiber's strength increases as it gets old. Bamboo has a slick waterproof coating that can be painted easily

7 chakras as 7 junctions incorporated in landscaping. Each circle rambles one chakra creating a walking track around it and is motivated by sculptures of yoga poses and are decorated with water bodies and colorful flower plants creating a microclimate.



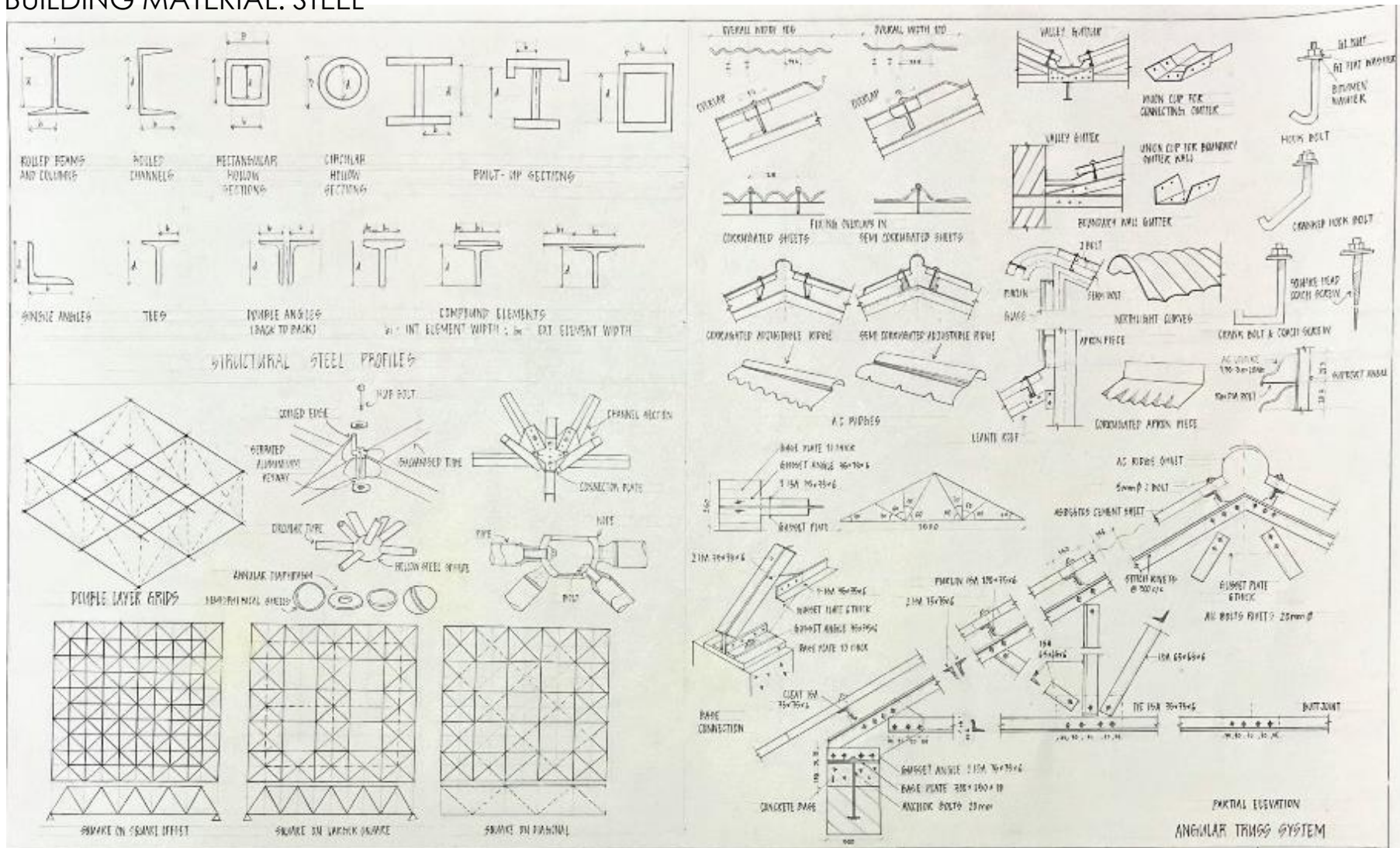
STUDENT: TUMMURU SAI TRISHA (213701276)

FACULTY: SUREKHA K C, TRIVIKRAM T N, JOANNA MARIA MARTIS



# ARC 2106 Building Construction & Materials - IV

## BUILDING MATERIAL: STEEL



STUDENT: RIMJHIM GHOSE (213701242)

FACULTY: ARUN NATARAJAN

Steel trusses and their joinery details

# ARC 2110 History Theory & Criticism - III

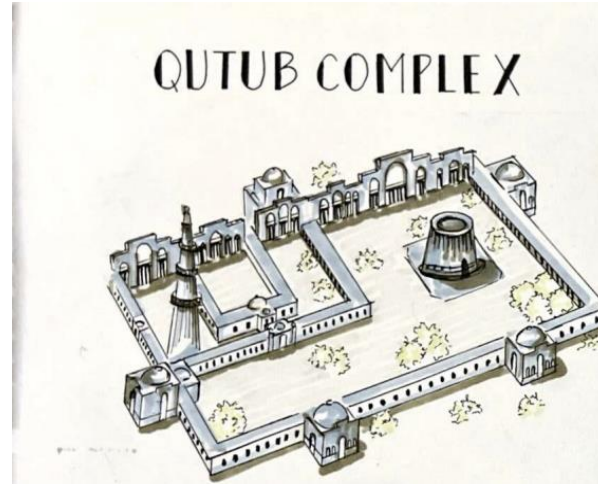
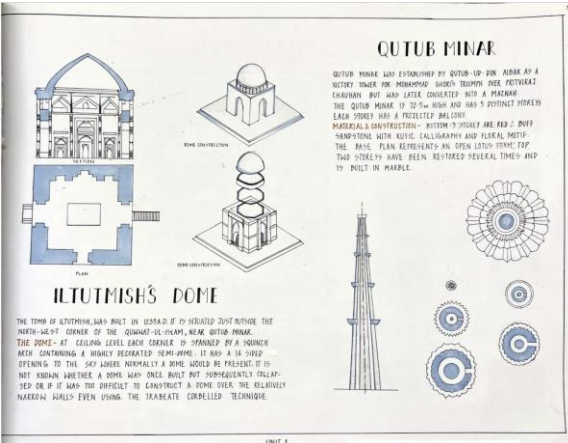
## FORTS AND COMPLEXES

### COURSE OBJECTIVES:

To study and analyze the evolution, general settlement pattern, geographic and climatic influence, socio-political background, construction technology, material influence and design principles of the cities and its built form.

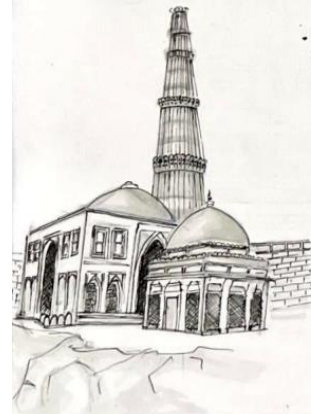
### PROJECT BRIEF:

Assignments based on the different architectural features of Indo-Islamic architecture and the evolution of architecture throughout the different Islamic dynasty rules in India.



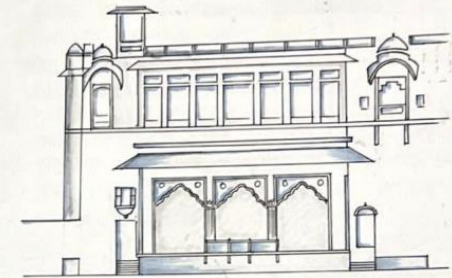
THE QUTUB COMPLEX REFERS TO AN ARRAY OF MONUMENTS AND BUILDINGS AT MEHRAUN, IN DELHI, INDIA, THE QUTUB MINAR STANDING OUT AS THE MOST FAMOUS.

IT IS PROBABLY THE OLDEST CONTINUOUSLY INHABITED REGION IN DELHI.



■ QUTUB-UD-DIN AIBAK  
■ ILLUTMISH  
■ ALA-UD-DIN KHILJI

## JAISALMER FORT



JAISALMER FORT WAS FOUNDED BY KING JAISAL RAWAL IN 1156 AD IN ARID PLAINS OF THAR DESERT. IT IS THE LAST LIVING FORT IN THE WORLD.

CARVED IN JAISALMER STONE, THE GOLDEN GEM.



CANOPY HOLDER ELEVATION & PLAN.



WATER POT HOLDER ELEVATION



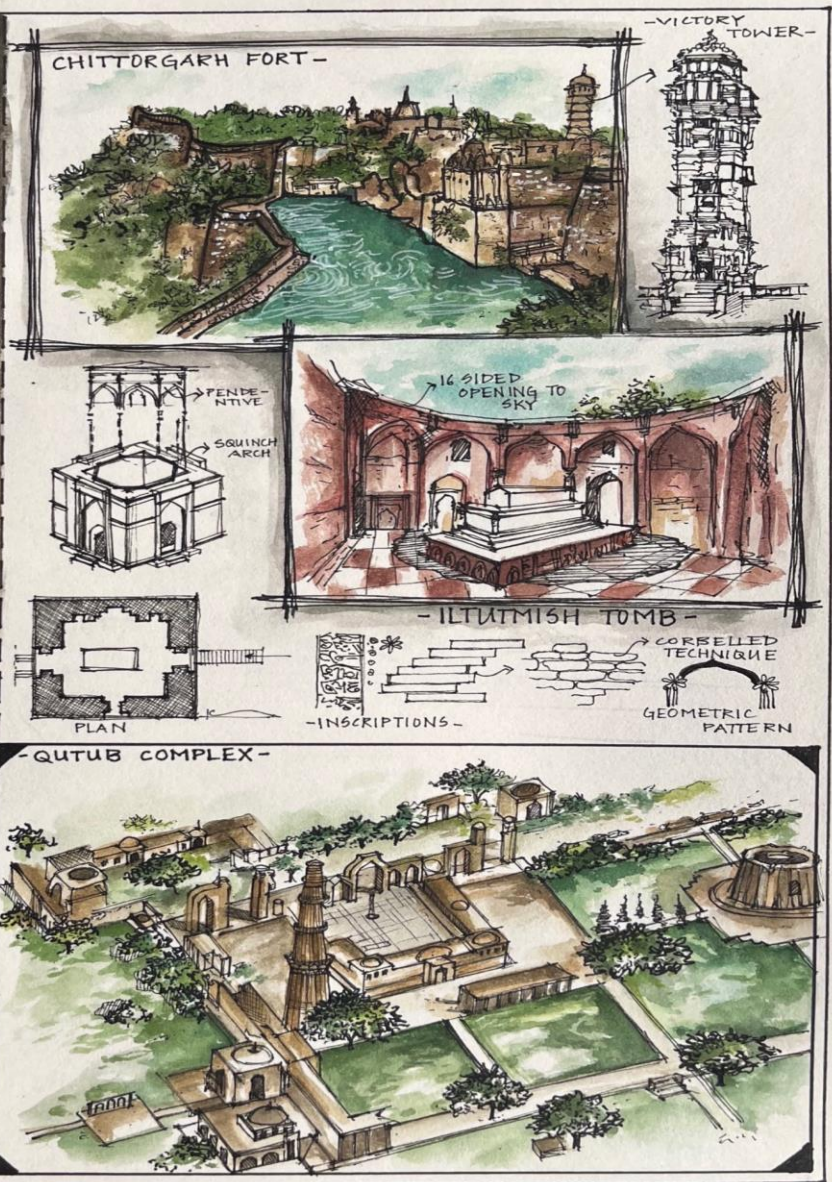
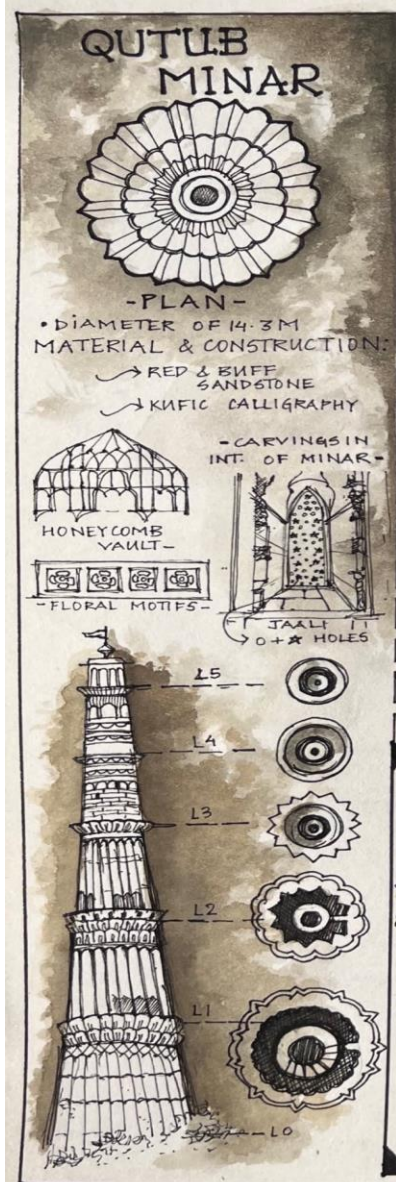
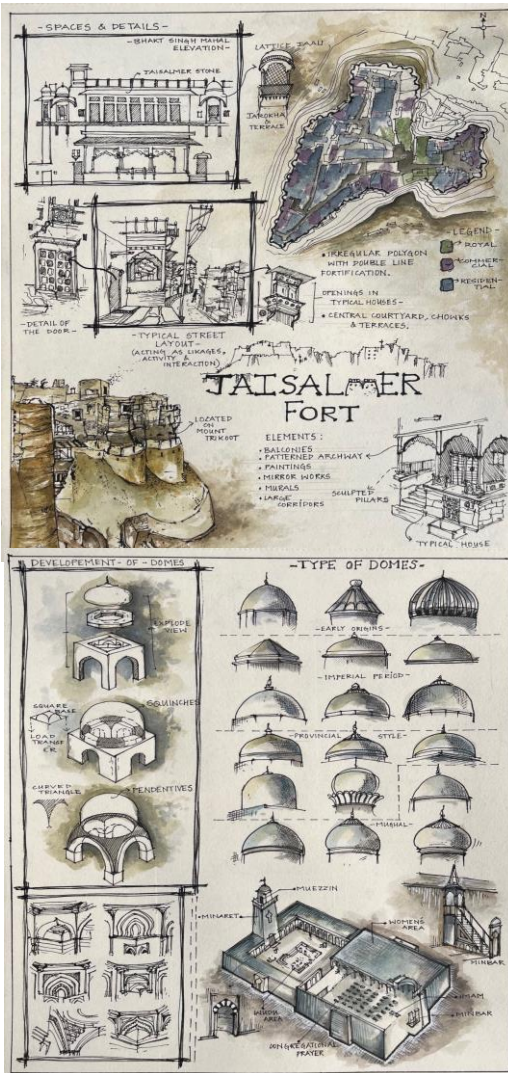
STUDENT: SRUTHINANDANA SAJI (213701060)

FACULTY: VISHAL CHETTRY, JAMBAVATI GOUDA, KAILAS M



# ARC 2110 History Theory & Criticism - III

## FORTS AND COMPLEXES



STUDENT: AYUSHI SINGHAL (213701176)  
 FACULTY: KAILAS M



# ARC 2110 History Theory & Criticism - III

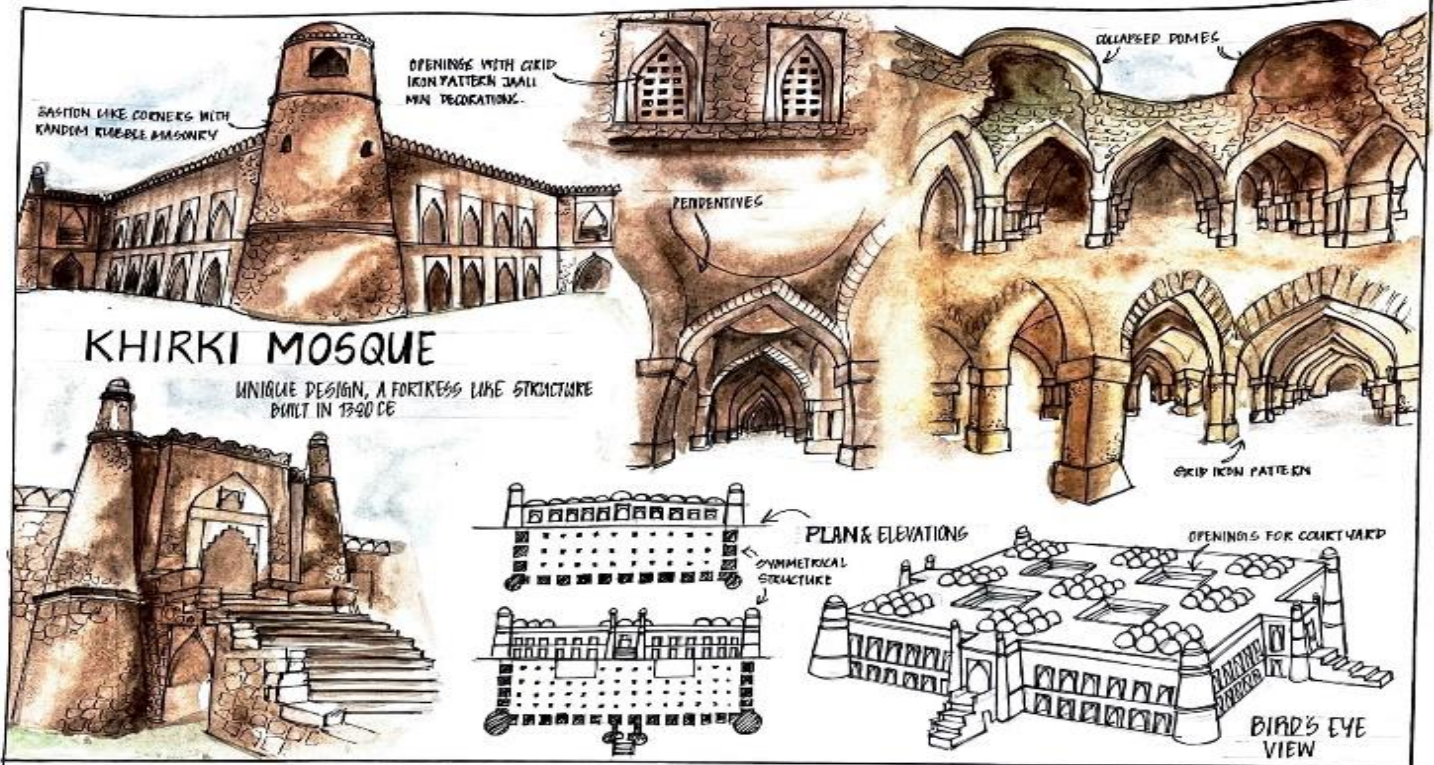
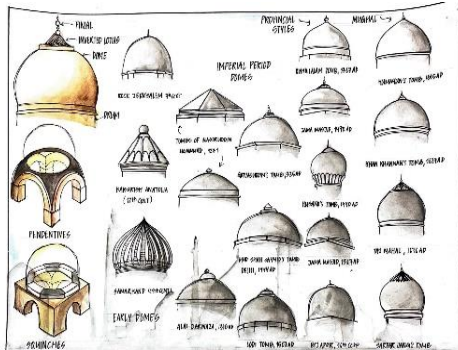
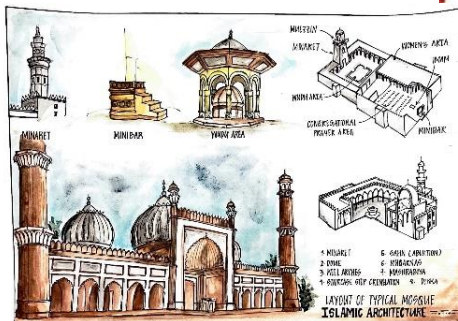
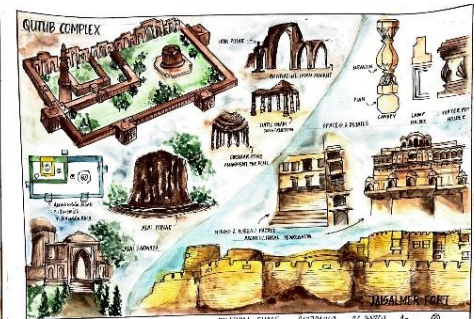
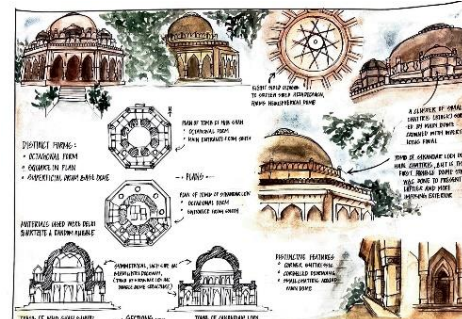
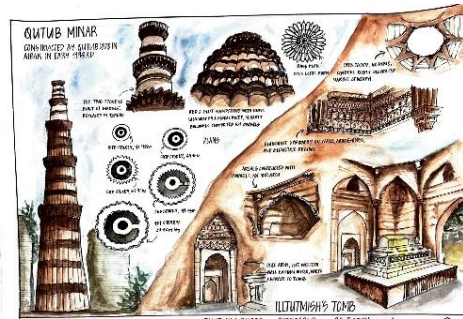
## INDO-ISLAMIC ARCHITECTURE

### COURSE OBJECTIVES:

History, theory and criticism focuses on the study of historical architecture to understand how and why structures were built.

### PROJECT BRIEF:

This semester we focus on Indo-Islamic architecture. How it originated in India, its evolutions throughout the timeline and how it impacted the architecture in India.



STUDENT: RIMJHIM GHOSE (213701242)  
FACULTY: KAILASH M



# ARC 2110 History Theory & Criticism III

## PORTFOLIO

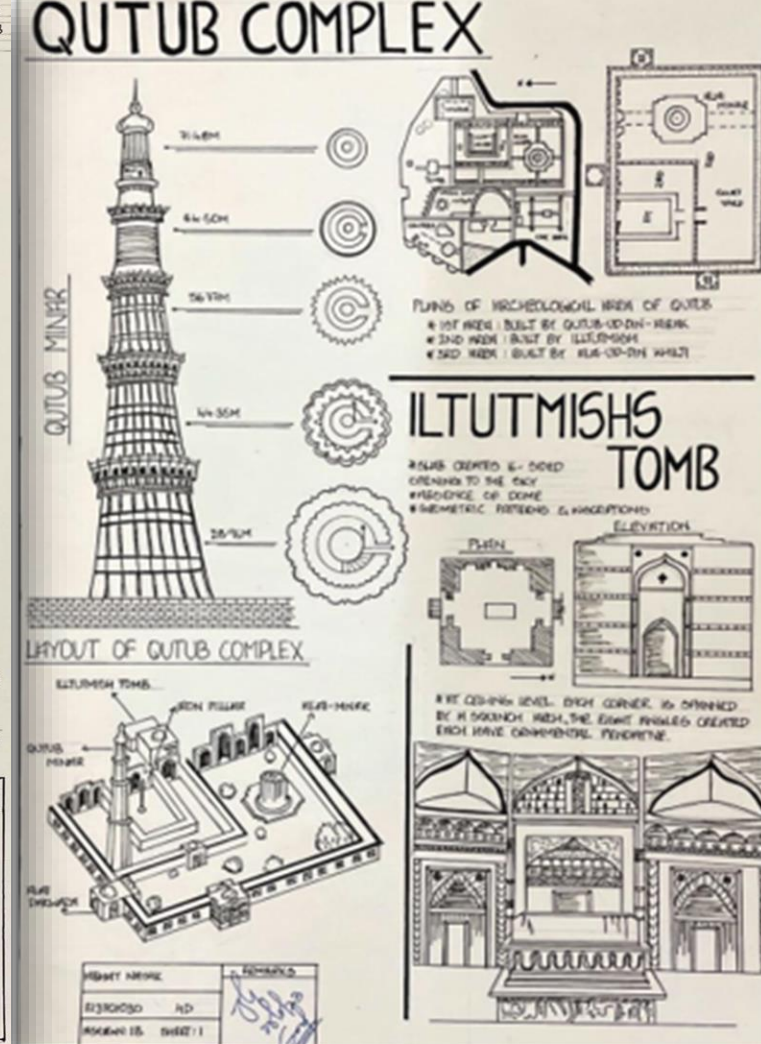
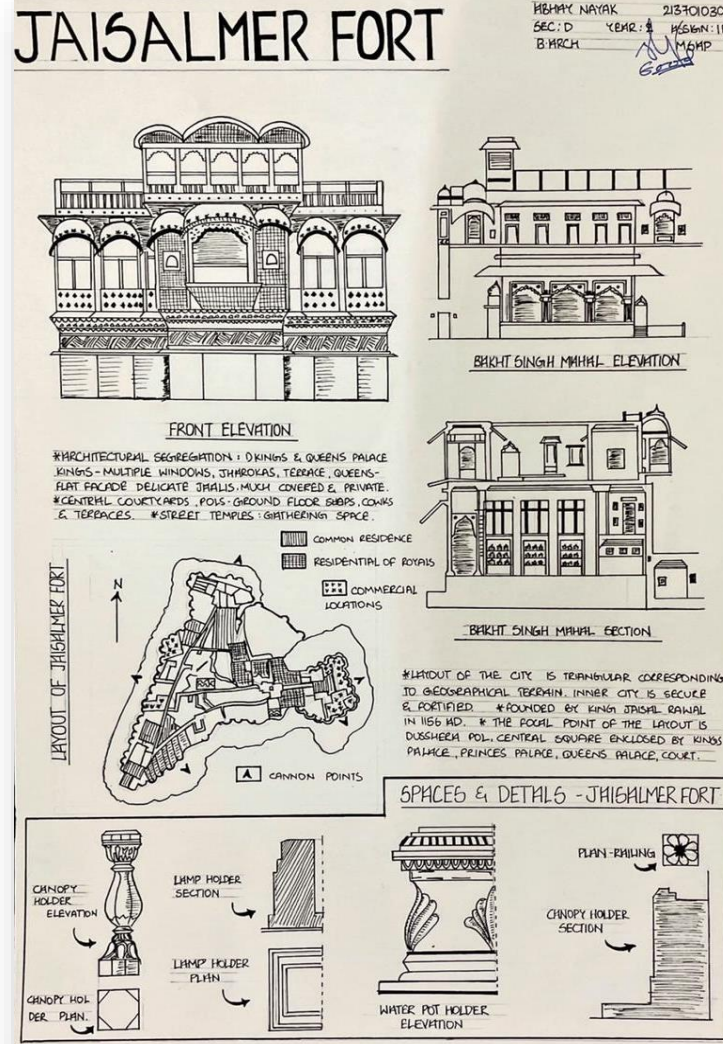
### COURSE OBJECTIVES:

Explain the historical significance and concepts of built form and fort architecture, analyze the evolution of various architectural typologies and its styles. Identifying the various materials used arrangement and orders of built forms. Understanding the Socio-Political-Cultural interrelations.

### PROJECT BRIEF:

Project is about Islamic and fort architecture . It explains through sketches and texts the architecturally significant structures during different timelines. Here we can understand the co relation between all the structures and the evolution of the style and methods of architecture used. This project tries to bring into light the beautiful architectural details and also the socio-political-cultural relationships , which are usually overlooked by the modern people .This project also tries to go into deeper depths about the different methods used in construction ,and the different materials used and the justification for the following.

STUDENT: ABHAY NAYAK (213701030)  
FACULTY: JAMBAVATI GOUDA





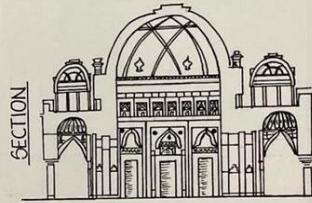
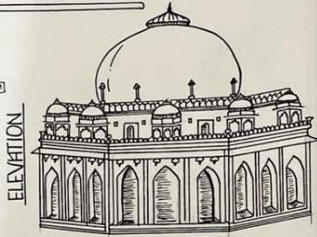
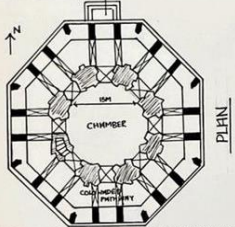
# ARC 2110 History Theory & Criticism III

## PORTFOLIO

### TOMB OF MUHAMMAD SHAH SAYYID

- \* OCTAGONAL PLANNING
- \* HIGH PLATFORM
- \* DOME OF 10M DIAMETER
- \* CLUSTER OF CHATRAIS
- \* FROM 8 SIDED BASE TO 16 SIDED DOME BASE
- \* NO IN-WALLED ENCLOSURE

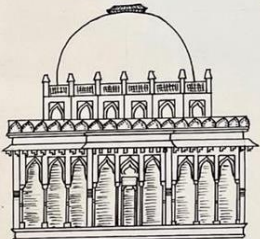
- \* DELHI GURHTAZE
- \* ARCHED VERANDAH [150]
- \* COLONNATED PATHWAY



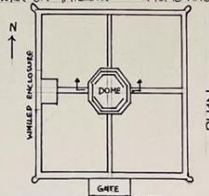
- \* SCOFFIT FINISHED WITH STUCCO PLASTERWORK
- \* PATTERNS & INSCRIPTIONS FROM GURHAN
- \* WEST HHS MIRHAB
- \* CORBELLED DOORWAY, CORNER BUTTRESSES

### TOMB OF SIKANDAR LODI

- \* BUILT WITH IN WALLED ENCLOSURE [264 50 FT.]
- \* WALL HAS SHARPE ARCHES
- \* HIGH PLATFORMS
- \* GREY STONE WITH RUBBLE MASONRY
- \* DOME HAS 16 SIDED DRUM & THICK PLASTER
- \* STUCCO WORK ON INTERIOR
- \* TOMB HAS NO CHATRAIS

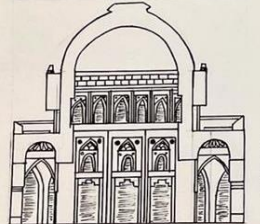


ELEVATION



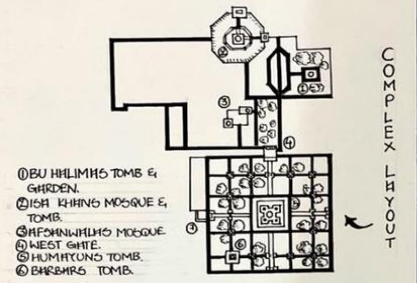
SECTION

- \* FIRST DOUBLE DOME SHELL STRUCTURE
- \* HAD TURRETS
- \* LOFTING & MORE EXPOSING-IMPRESSIVE EXTERIOR
- \* ARCHED VERANDAH HALL

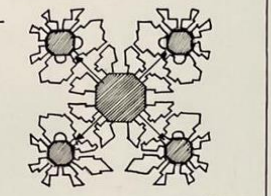
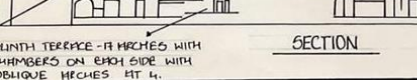
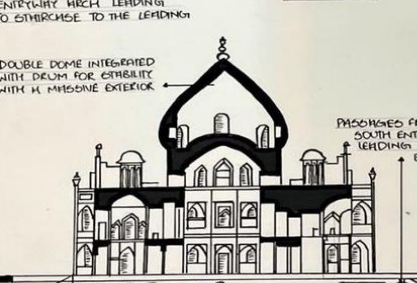
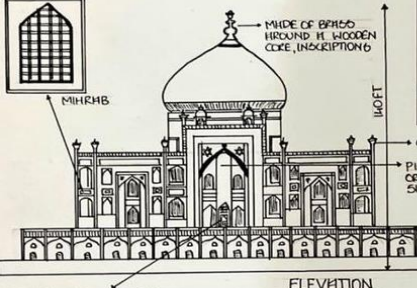


### HUMAYUN'S TOMB

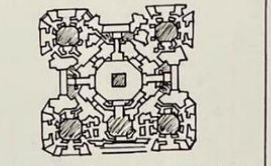
1564 C.E



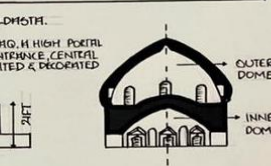
- ① BU HILIMHS TOMB & GARDEN
- ② ISH KHING MOSQUE & TOMB
- ③ AFONNIMHS MOSQUE
- ④ WEST GATE
- ⑤ HUMAYUN'S TOMB
- ⑥ BHRSHMS TOMB



HUMAYUN TOMB PLAN ENCOURAGES MOVEMENT FROM CENTRE, INTERCONNECTED



GALLERY LEVEL PLAN TOMB - IT IS A 9-FOLD SQUARE PLAN, EIGHT TWO STOREYED VAULT



HUMAYUN'S TOMB - WORLD H-5

HUMAYUN'S GARDEN TOMB IS BUILT ON MONUMENTAL SCALE, GRADEUR OF DESIGN & GARDEN GETTING WITH NO PRECEDENCE

HERE FOR THE FIRST TIME, IMPORTANT ARCHITECTURE INNOVATIONS WERE MADE INCLUDING CREATING A CUBE BASHAH INSPIRED BY PRAERIDE IN HOLY GURHAN

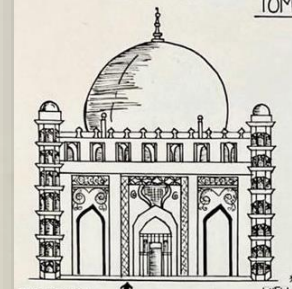
THE MONUMENTAL SCHL, ARCHITE CTURE TREATMENT & GARDEN GETTING WERE OUTSTANDING IN GARDEN TOMB

ABHAY NAYAK	213701030
SEC-D	YEAR: 2
HTC-III	M&HP, 8-MECH

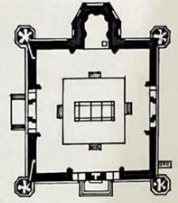
### GOL GUMBAZ

1656 C.E

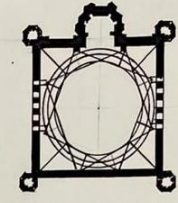
TOMB OF SULTAN MUHAMMED ADIL SHAH



ELEVATION



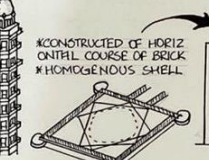
GROUND LEVEL PLAN



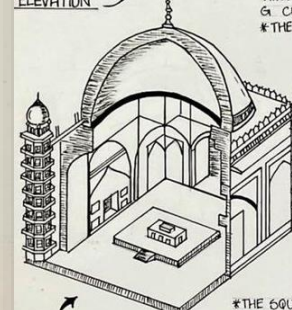
GALLERY LEVEL PLAN

- \* 11 CUBE SURMOUNTED BY A HUGE HEMI SPHERICAL DOME WITH OCTAGONAL TOWER AT EACH OF ITS FOUR CORNERS BEING CROWNED BY SMALLER DOMES
- \* THE DOME IS 51M HIGH, DIAMETER: 51M, WALL THICKNESS: 3M

THE DOME STRUCTURE:



- \* CONSTRUCTED OF HORIZ ONTAL COURSE OF BRICK
- \* HOMOGENOUS SHELL



SECTION IN PERSPECTIVE

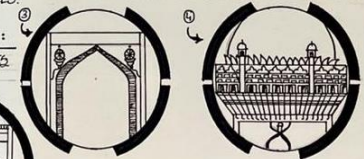
THE SQUARE IS DIVIDED INTO THREE EQUAL PARTS, IT GIVES TWO POINT ON EACH SIDE, SUCH DIVISIONS ON FOUR SIDES OF THE SQUARE GIVES TOTAL EIGHT POINTS, A SQUARE IS FORMED

\* ARCHES RAISE ABOVE FROM EACH SIDE OF THESE SQUARE MAKING TOTAL EIGHT ARCHES

\* THE DOORWAYS, SMALL LANCET WINDOWS, SURFACE DECORATION ARE HARDLY NOTICEABLE ON WHOLE

ARCHITECTURAL DESIGN DETAILS:

\* THE WIDE PROSPECTED CORNICES, BEACONS PETAL RING SURROUNDING THE NECK



REMARKS	ABHAY NAYAK
	213701030 SEC-D
	HTC-III MODION: 3
	M&HP B-ARCH

STUDENT: ABHAY NAYAK (213701030)  
FACULTY: JAMBAVATI GOUDA

B.Arch, YEAR 2, SEMESTER 4 (2022-23)



Bachelor of Architecture  
Undergraduate Program

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Year

3

Architecture

# ARC 3101 Architectural Design & Detailing - V

## MIXED USE GREEN BUILDING

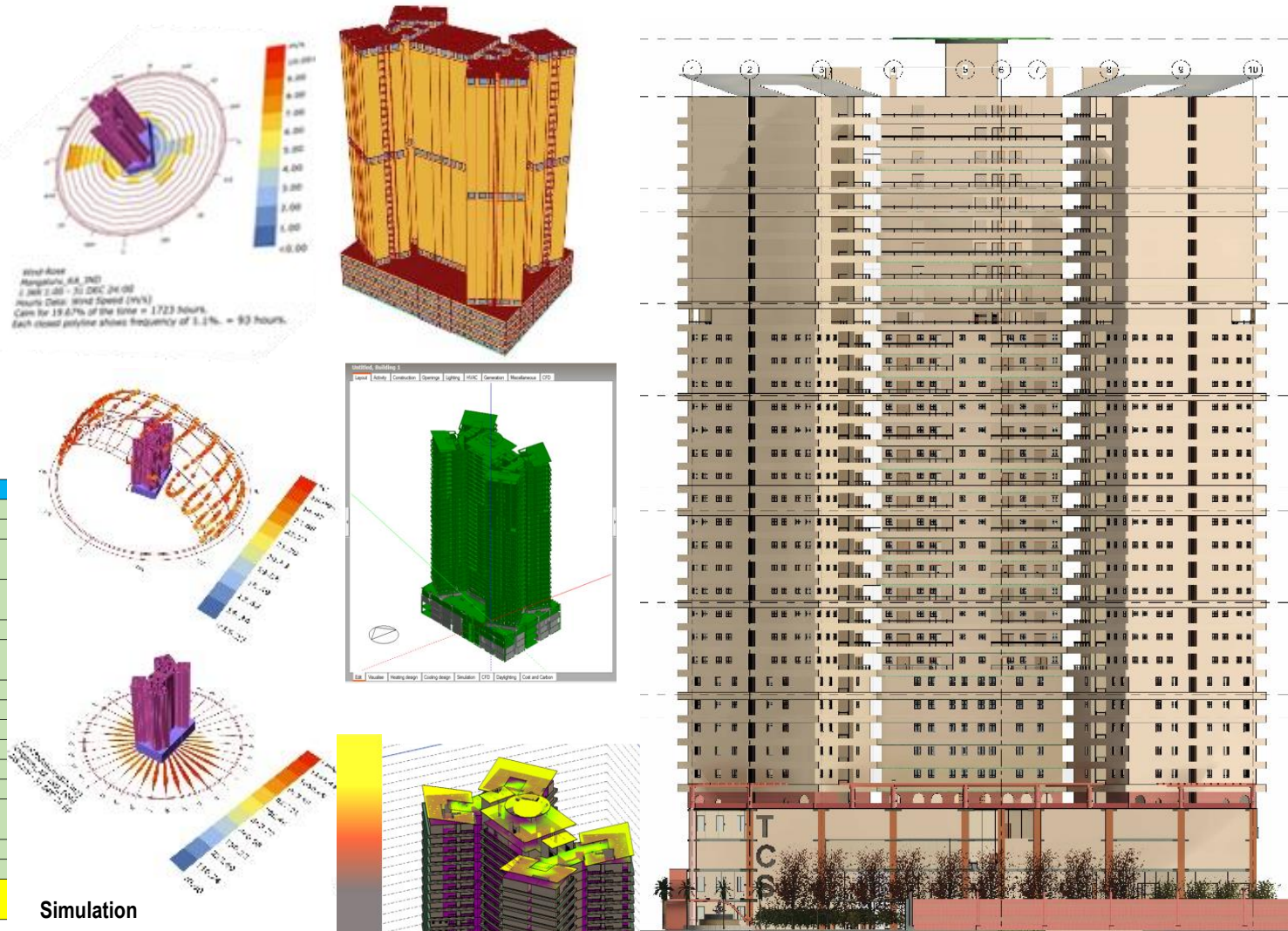
### COURSE OBJECTIVES:

To understand the concept of green building assessment systems. To understand and analyze the best practices in sustainable and green buildings through case studies suggesting a sustainable design..

### PROJECT BRIEF:

The project aims at designing a mixed use development comprising of residential, commercial and office spaces, at Mangalore accommodating approx. 1000 users. However they want to develop a facility with 5 star green rating consisting of passive strategies, adopting alternative building technologies.

S.No	Parameters	Unit	BaseCase	ProposedCase
1	Aspect Ratio	NA	As per given plan	As per given plan
2	Orientation	NA	As per given plan	As per given plan
3	Construction material - wall	W/m <sup>2</sup> K	brick wall with plaster	Concrete walls
4	Construction material - roof	W/m <sup>2</sup> K	Concrete slab	Waffle slab
5	Windows	%	40	20
6	External Glazing u value	W/m <sup>2</sup> K	5.87	2.7
	SHGC non-North	NA	0.87	0.76
	SHGC North	NA	0.87	0.76
7	VT	NA	0.89	0.8
	Shading Device	NA	NO	NO
8	Area	m <sup>2</sup>	As per given plan	As per given plan
9	No. of users	people	As per given plan	As per given plan
10	Occupant Density	people/m <sup>2</sup>	As per given plan	As per given plan
12	LPD	W/m <sup>2</sup>	AS PER ZONE	AS PER ZONE
13	EPD	W/m <sup>2</sup>	AS PER ZONE	AS PER ZONE
	EPI	kWhr/m <sup>2</sup> /year	160	56



Simulation

STUDENT: CHIRANTH (203701142)

FACULTY: NANDINI RAMA DEVI, AKSHATHA RAO, RUTUJA ULHE, SUMITHRA RAJESH

Elevation



# ARC 3103 Measured Drawing

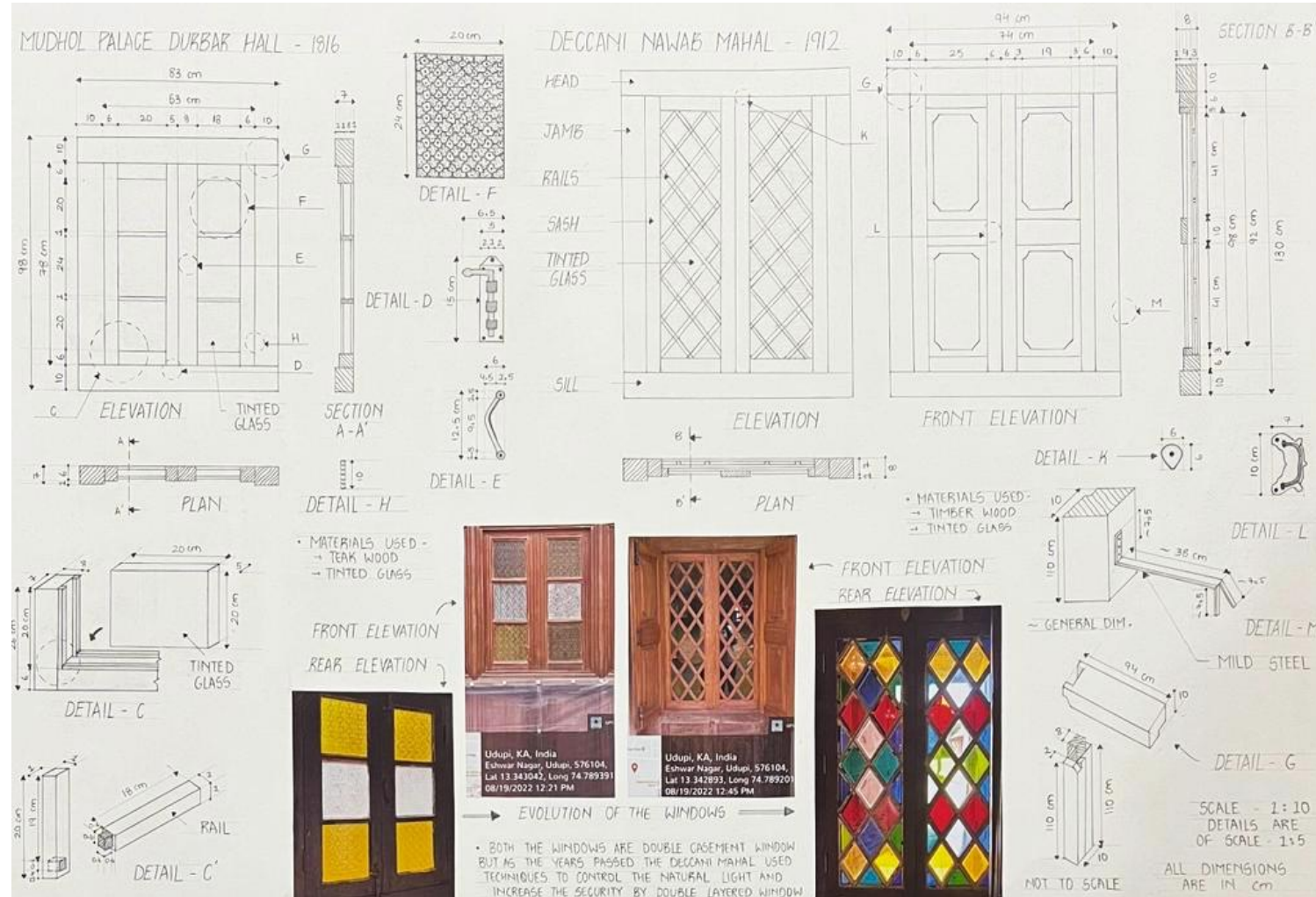
## RESIDENCE DESIGN

### COURSE OBJECTIVES:

To learn various measurement techniques. To understand a selected building/ Structure/ interior space/ Landscape etc. through literature study. To measure the selected existing building/ Structure/ Interior space/ Landscape etc. as near to the actual. To organize the collected field data.

### PROJECT BRIEF:

Identification of Tools & Methodology for measurement and the site for the study. Collection of Secondary Information, Reconnaissance Survey. Site measurements, Mapping of Structural details, Materials, Building Elements, Activities, Supporting Sketches. Preparation of drawings through collected field data. Analysis and inferences from measured drawing.



STUDENT: DEVANSH AGGARWAL (203701008)

FACULTY: SHANTA PRAGYAN DASH, SHRISHTI SHUBH

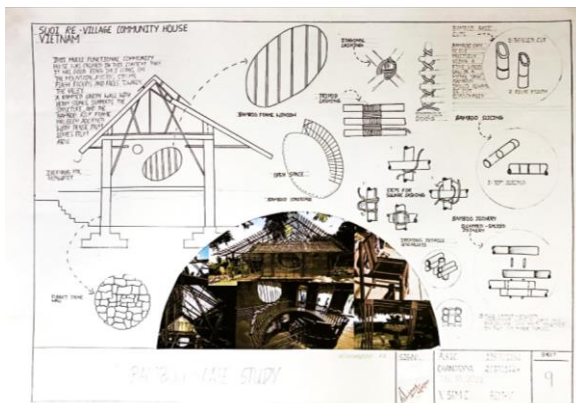
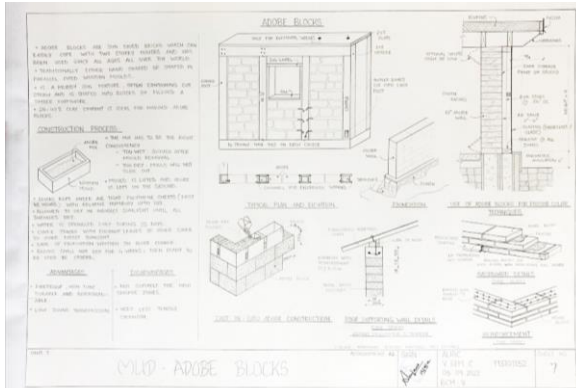
Window Details at Hasta Shilpa Village

# ARC 3105 Building Construction and Materials - V

## ALTERNATIVE MATERIALS

### COURSE OBJECTIVES:

To identify, categorize and list various alternative building materials as applied in construction. To develop an understanding of alternative materials construction techniques. To choose an appropriate construction method using alternative materials.



**TYPES OF LASHING USED**

- SQUARE LASHING
- T-LASHING
- CONTINUOUS LASHING

**1.FURNITURE: BAMBOO CHAIR**  
FROM THE CASE STUDY : SUOI RE VILLAGE VIETNAM A COMMUNITY HOUSE

**LEGEND**

- Diagonal lashing
- Square lashing
- Round lashing

**TYPES OF LASHING USED**

- DTAGONAL LASHING
- ROUND LASHING
- SQUARE LASHING

**2.COMPONENT : TRUSS**  
FROM THE CASE STUDY : SUOI RE VILLAGE VIETNAM A COMMUNITY HOUSE

ASSIGNMENT #4

## BAMBOO MODEL

SIGN	NAME : ALRIC LAREN FERRAO- 193701152 CHANASYA K – 203701224	SHEET NO.
	SEM: 5 SEC : C	10
	DATE : 3/10/2022	

**STUDENT: ALRIC LAREN FERRAO (193701152)**  
**FACULTY: CHARLINE STELLA SAMUEL**



# ARC 3102 Architectural Design & Detailing - VI

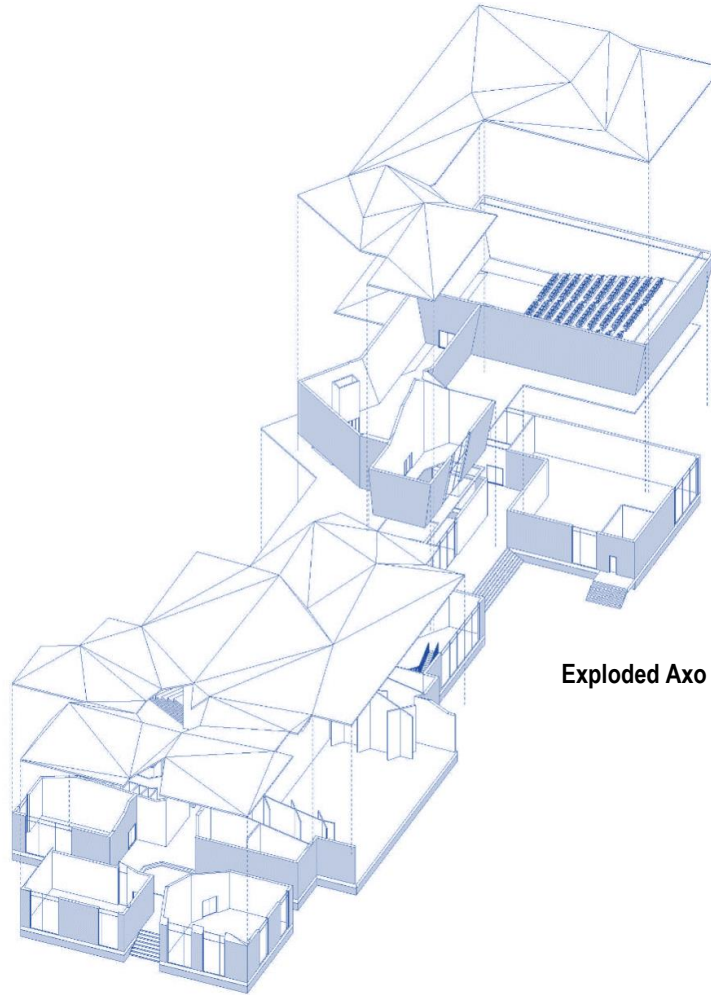
## ACTIVITY CENTRE

### COURSE OBJECTIVES:

The primary act of public architecture is to create spaces that are socially edifying and socially liberating. This coursework will help the students to understand various attributes that constitute the design of public buildings of diversified activities. This design theme will encourage students to think critically, generate designs that are climate-responsive.

### PROJECT BRIEF:

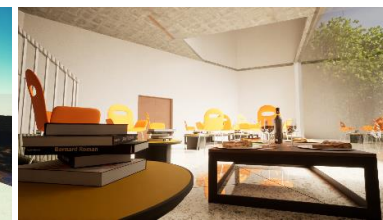
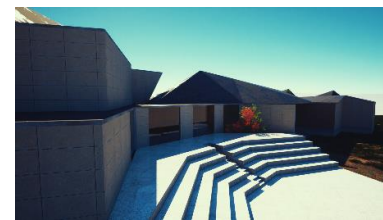
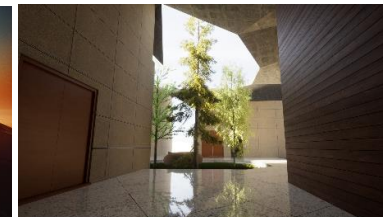
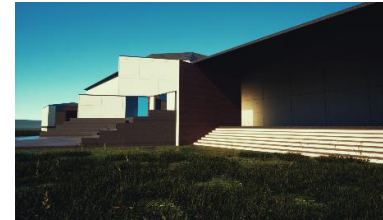
This semester was themed around public buildings. Activity centre is a type of public building that is focused around providing a space to relax and students to interact with each other, this being the focus we are expected to design an activity centre in the MIT grounds. The main objective is to retain the current usage of the site while adding the functionality of an activity centre with major focus on a stage area for future convocations. The design was focused on providing further usage other than just a stage. Survey of people in and around the site was taken, and a list of spaces were provided that needed to be incorporated was generated.



Exploded Axo



Site Plan



Views

STUDENT: AADITYA KRISHNA (203701094)

FACULTY: SONALI WALIMBE, NIKHIL S KOHALE, AKSHATHA RAO, DHANPRAKASH



# ARC 3102 Architectural Design & Detailing - VI

## PUBLIC LIBRARY, MYSORE

### COURSE OBJECTIVES:

To understand the planning and design of large public buildings of diversified activities.

### PROJECT BRIEF:

To design a Public City level library in the city of Mysore, for 1000 users. The library should also have public gathering spaces like auditorium and exhibition hall. Making sure the library is accessible to all type of users.



Competitive and Reference Block



Ground Floor Plan

STUDENT: MOHAMMAD SAMAR IQEBAL (203701328)

FACULTY: SHANTANU CHITGOPKAR, AMIT KINJAWADEKAR, CHARLINE STELLA SAMUEL, YOGISH PRABHU



# ARC 3102 Architectural Design & Detailing - VI

## CONVENTION CENTRE

### COURSE OBJECTIVES:

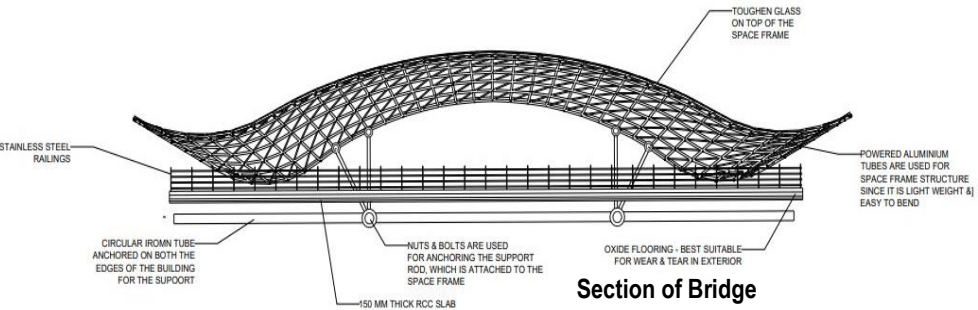
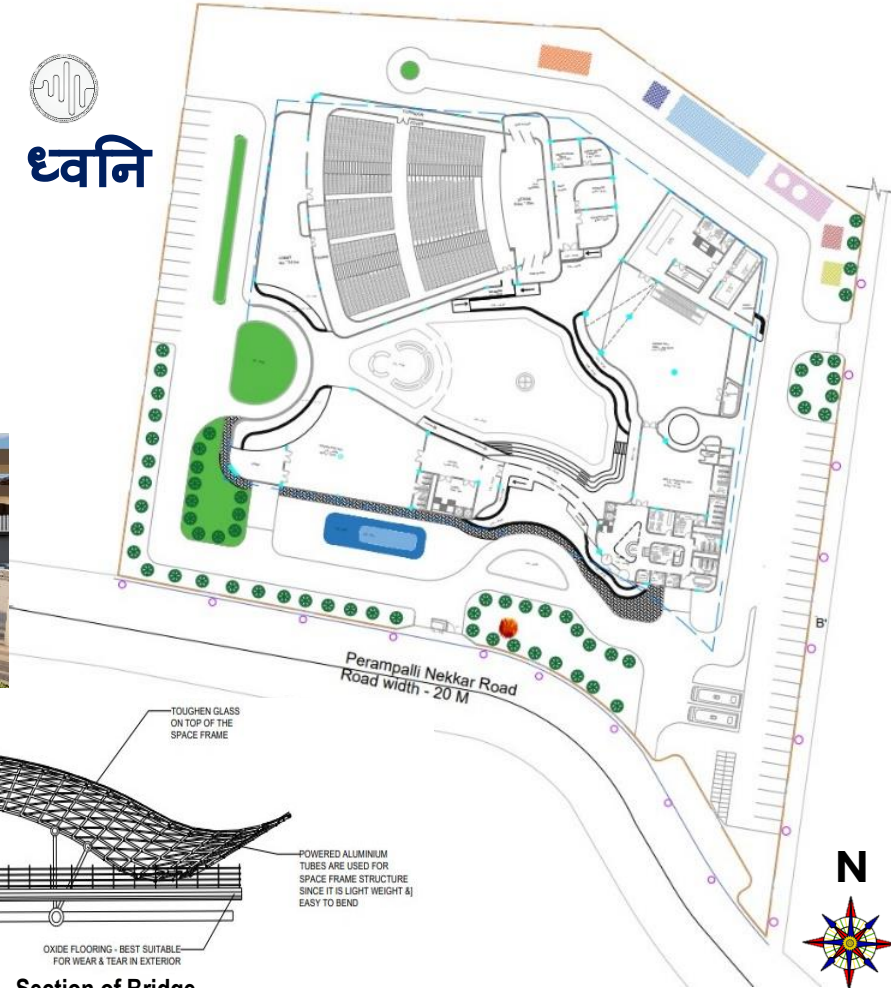
To understand the planning and design of large public buildings of diversified activities.

### PROJECT BRIEF:

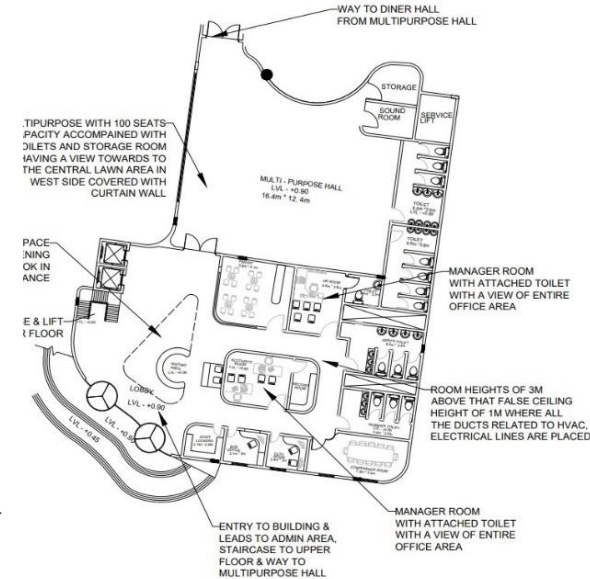
To design a Convention Centre in Udipi, for 1500 users. The Centre should also have public gathering spaces like Auditorium, Conference Halls, Exhibition Hall, Reception Area, Foyer and Circulation Dining Hall and Kitchen Administration Area Rest Rooms Parking Area Basement Parking / On-Ground Parking Open and Landscaped Area.



ध्वनि



Section of Bridge



Admin Area Plan

STUDENT: K.SHARVESH (203701032)

FACULTY: SHANTA PRAGYAN DASH, SUMITHRA RAJESH, KALA CMK, AJIT C MADKAIKER

Ground Floor Plan

# ARC 3104 Working Drawing

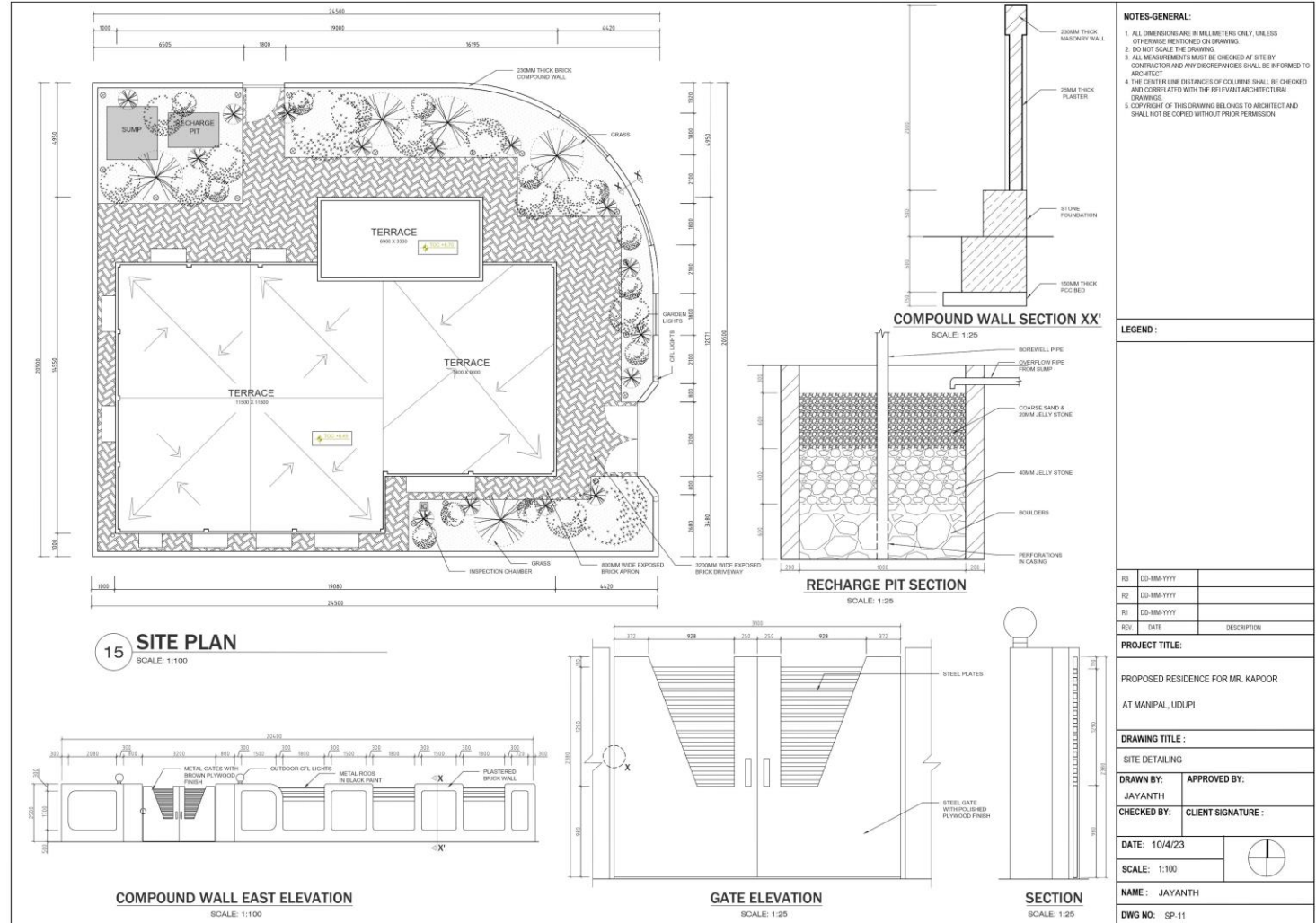
## PROPOSED RESIDENCE AT MANIPAL, KARNATAKA

### COURSE OBJECTIVES:

To explore various details required for the preparation of production drawings. To produce Good for Construction drawings and prepare Centre Line Plans, Floor Plans, Elevations, Sections, etc. To understand the importance of building engineering services (Electrical, plumbing, etc.) and prepare related detailed drawings. To understand the importance of Site and Site services and develop Site Marking Layout.

### PROJECT BRIEF:

1. Column layout and site marking
2. Footing layout
3. Plinth beam layout
4. Floor plans
5. Sections
6. Elevations
7. Electrical drawings
8. Plumbing details
9. Window and door details
10. Site development.

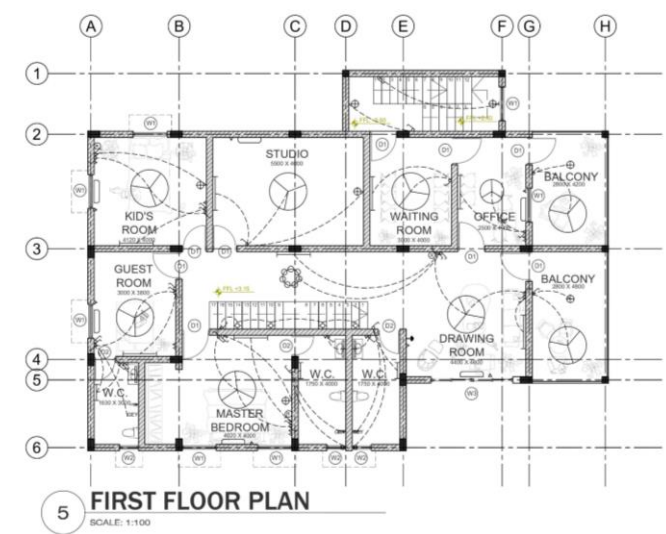
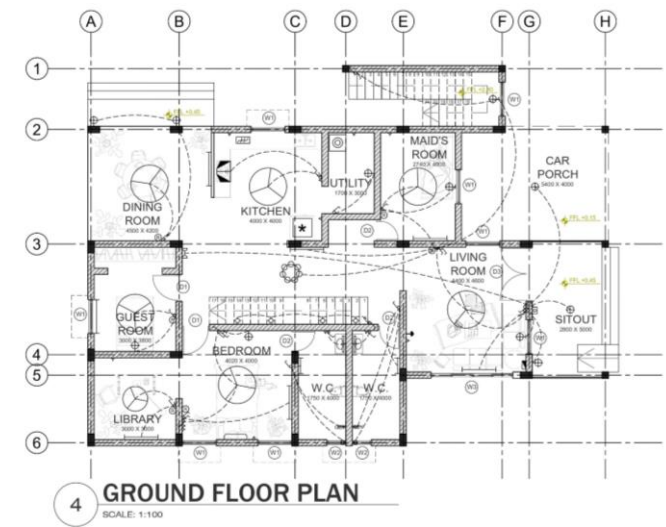
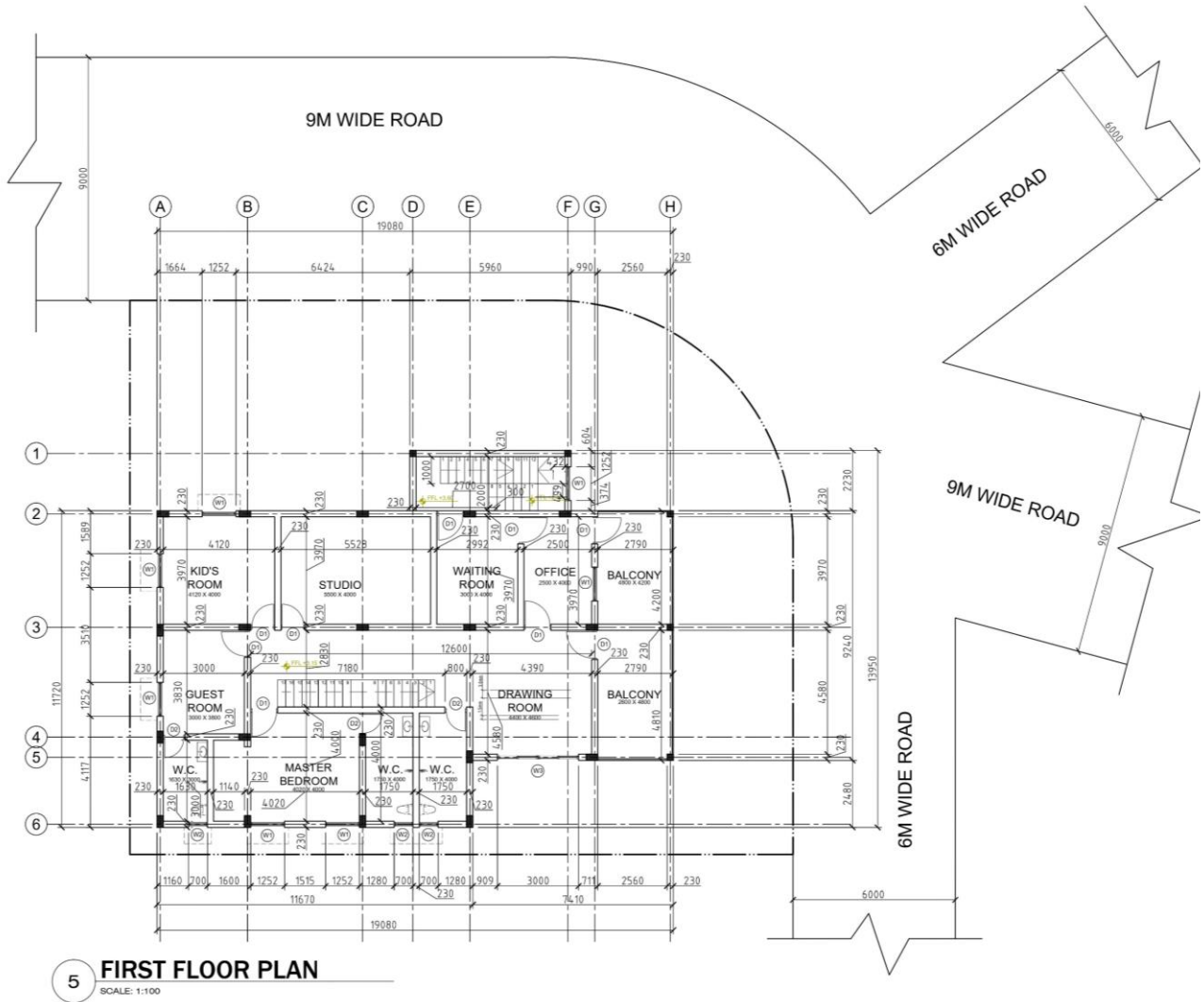


**STUDENT:** JAYANTH G PRABHU (203701040)  
**FACULTY:** LULWA KHALEEL, SUREKHA K C



# ARC 3104 Working Drawing

## PROPOSED RESIDENCE AT MANIPAL, KARNATAKA



STUDENT: JAYANTH G PRABHU (203701040)  
FACULTY: LULWA KHALEEL, SUREKHA K C

# ARC 3104 Working Drawing

## PROPOSED RESIDENCE AT MANIPAL, KARNATAKA

**16 MAIN ENTRANCE DOOR 2000MM**  
SCALE: 1:20

**17 1000MM DOOR**  
SCALE: 1:20

**18 BATHROOM DOOR**  
SCALE: 1:20

**19 WINDOW DETAILS**  
SCALE: 1:20

**NOTES-GENERAL:**

1. ALL DIMENSIONS ARE IN MILLIMETERS ONLY, UNLESS OTHERWISE MENTIONED ON DRAWING.
2. DO NOT SCALE THE DRAWING.
3. ALL MEASUREMENTS MUST BE CHECKED AT SITE BY CONTRACTOR AND ANY DISCREPANCIES SHALL BE INFORMED TO ARCHITECT.
4. THE CENTER LINE DISTANCES OF COLUMN SHALL BE CHECKED AND CORRELATED WITH THE RELEVANT ARCHITECTURE DRAWINGS.
5. COPYRIGHT OF THIS DRAWING BELONGS TO ARCHITECT AND SHALL NOT BE COPIED WITHOUT PRIOR PERMISSION.

**LEGEND:**

DOOR SCHEDULE			
NO.	WIDTH	HEIGHT	SPECIFICATION
D1	1000	2100	1000x750mm TEAK WOOD DOOR FRAME 35MM FLUSH DOOR
D2	2000	2100	1000x750mm TEAK WOOD DOOR FRAME 35MM FLUSH DOOR

WINDOW SCHEDULE			
NO.	WIDTH	HEIGHT	SPECIFICATION
W1	1200	1500	ALUMINIUM PROFILE SERIES 25 GLASS 6MM
W2	1800	1500	ALUMINIUM PROFILE SERIES 25 GLASS 6MM

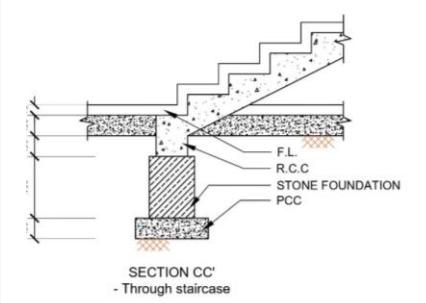
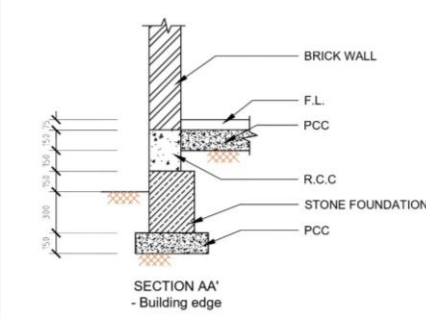
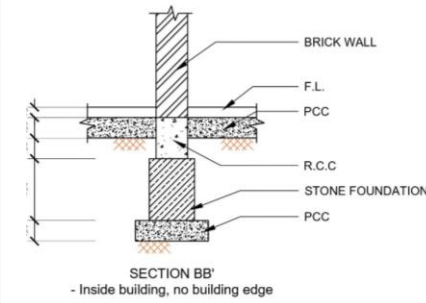
**PROJECT TITLE:** PROPOSED RESIDENCE FOR MR. KAPOOR  
AT MANIPAL, UDUPI

**DRAWING TITLE:** <

**DRAWN BY:** JAYANTH  
**APPROVED BY:**

**CHECKED BY:** CLIENT SIGNATURE

**DATE:** 10/4/23  
**SCALE:** 1:100  
**NAME:** JAYANTH  
**DWG NO.:** DWD-13

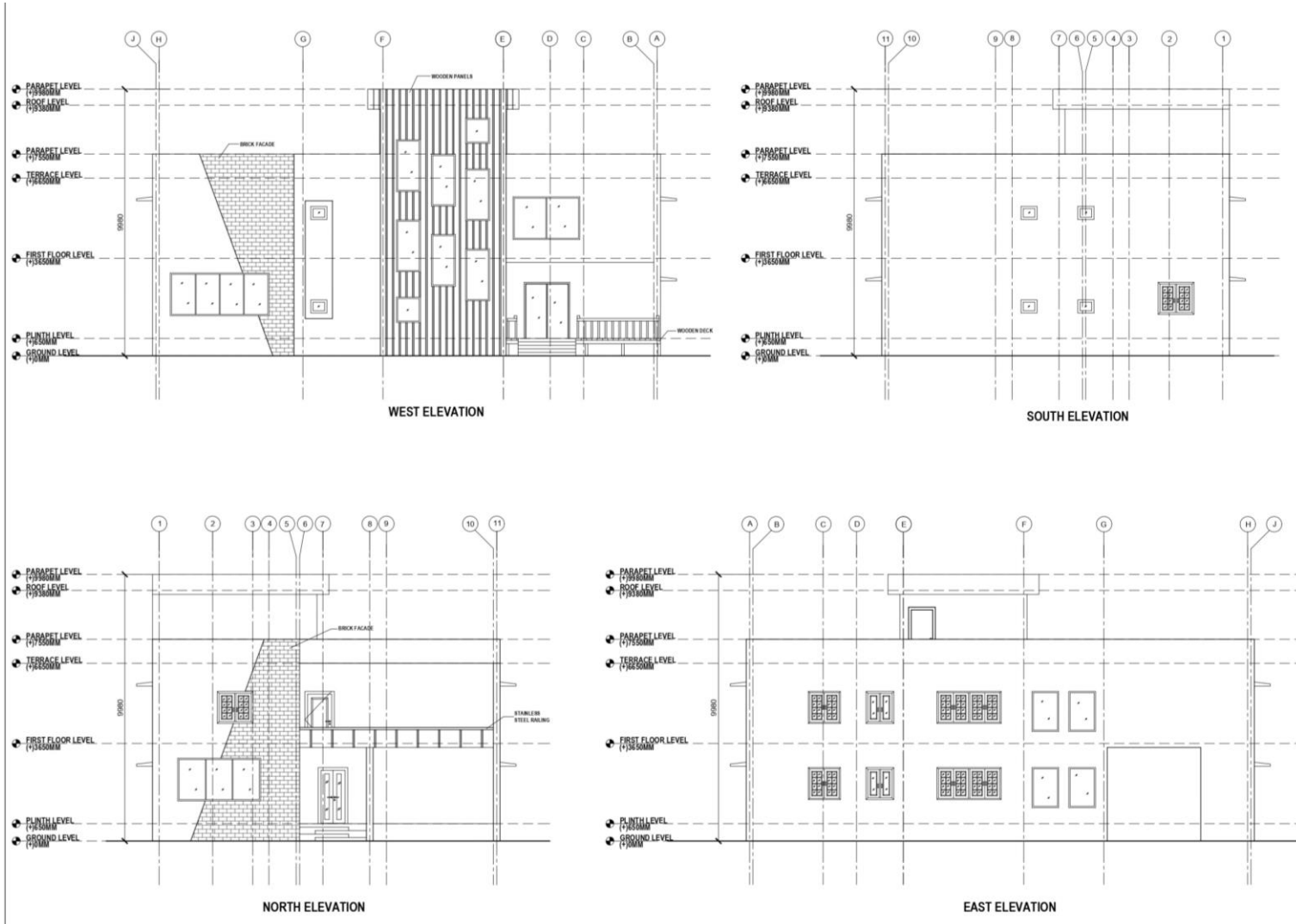


**STUDENT: JAYANTH G PRABHU (203701040)**  
**FACULTY: LULWA KHALEEL, SUREKHA K C**



# ARC 3104 Working Drawing

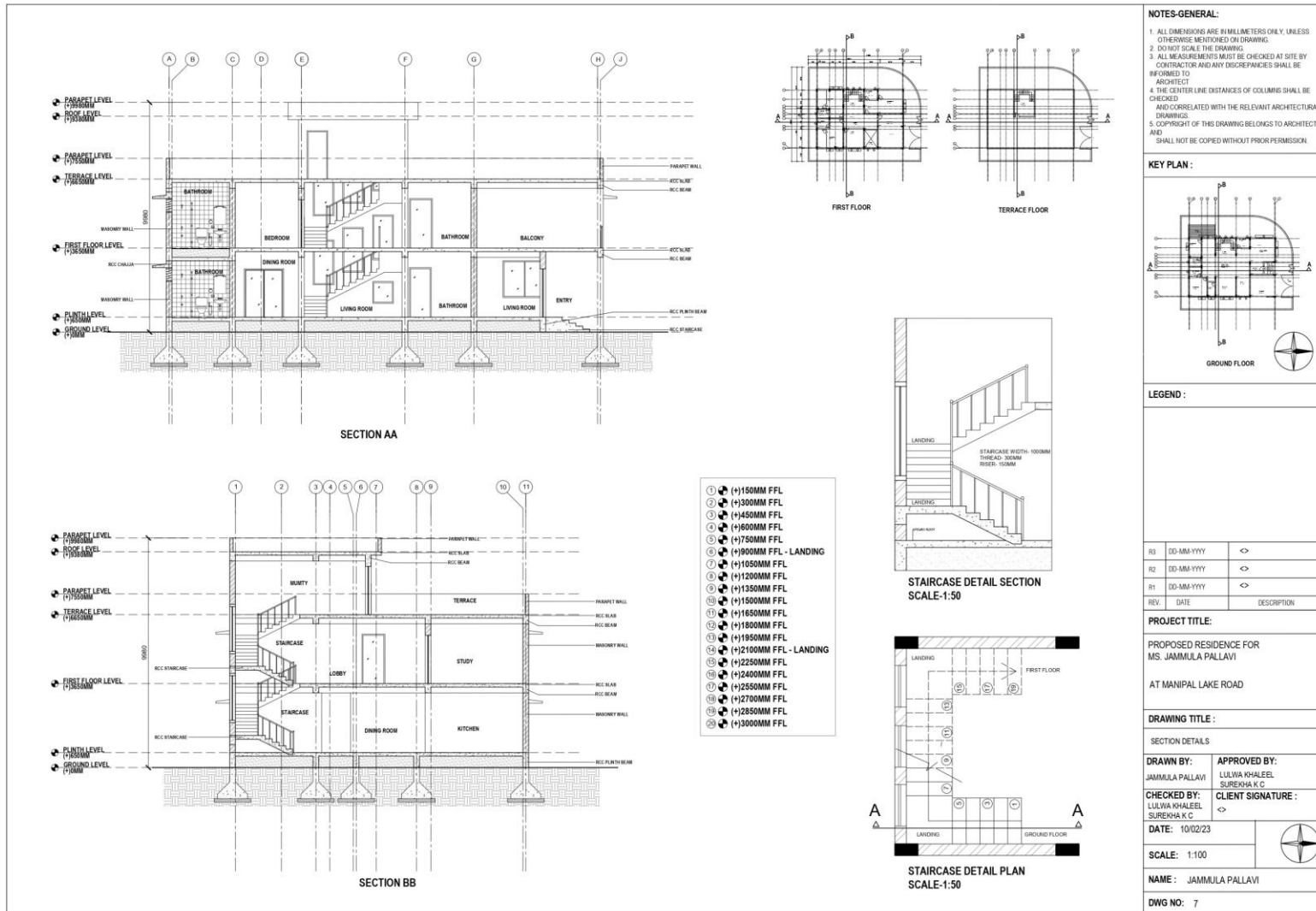
## PROPOSED RESIDENCE AT MANIPAL, KARNATAKA



STUDENT: JAMMULA PALLAVI (203701256)  
 FACULTY: LULWA KHALEEL, SUREKHA K C

# ARC 3104 Working Drawing

## PROPOSED RESIDENCE AT MANIPAL, KARNATAKA



STUDENT: JAMMULA PALLAVI (203701256)  
FACULTY: LULWA KHALEEL, SUREKHA K C



# ARC 3106 Building Construction and Materials - VI

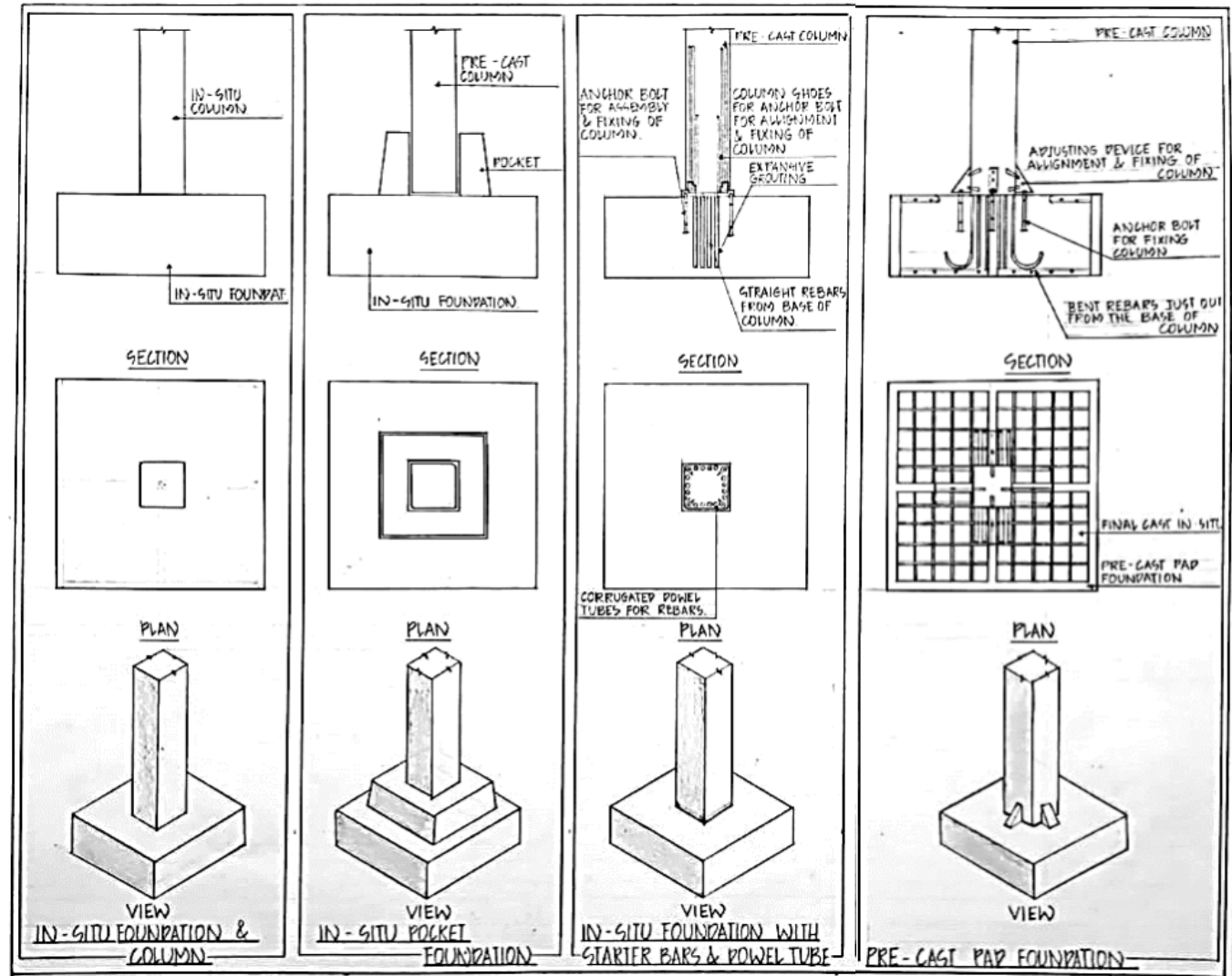
## PRE-CAST COMPONENTS

### COURSE OBJECTIVES:

To explain the fundamentals of prefabricated construction and make use of structural and architectural concepts of modular systems in planning. To develop drawings to explain different building components. To explain and relate different stages and equipment involved in prefabricated or precast construction. To compare and make use of appropriate innovative materials like glass, ceramic, paints, and varnish.

### PROJECT BRIEF:

A poster showing the history of prefabricated construction technology and advancement of prefabricated construction with examples and sketches of the details of construction. Drawing Sheets on Precast components of Substructure. Report and Drawing Sheets - detailing roof and joinery details. Report and Drawing Sheets - detailing wall components and joinery details. To compare structural concepts and identify suitable construction systems. To identify and recommend joinery details for roofing, paneling. To develop an understanding about advanced materials and the latest technologies. To recommend construction equipment for various stages in the process of building construction (pre and during the construction process). And recommend transportation & erection methods.



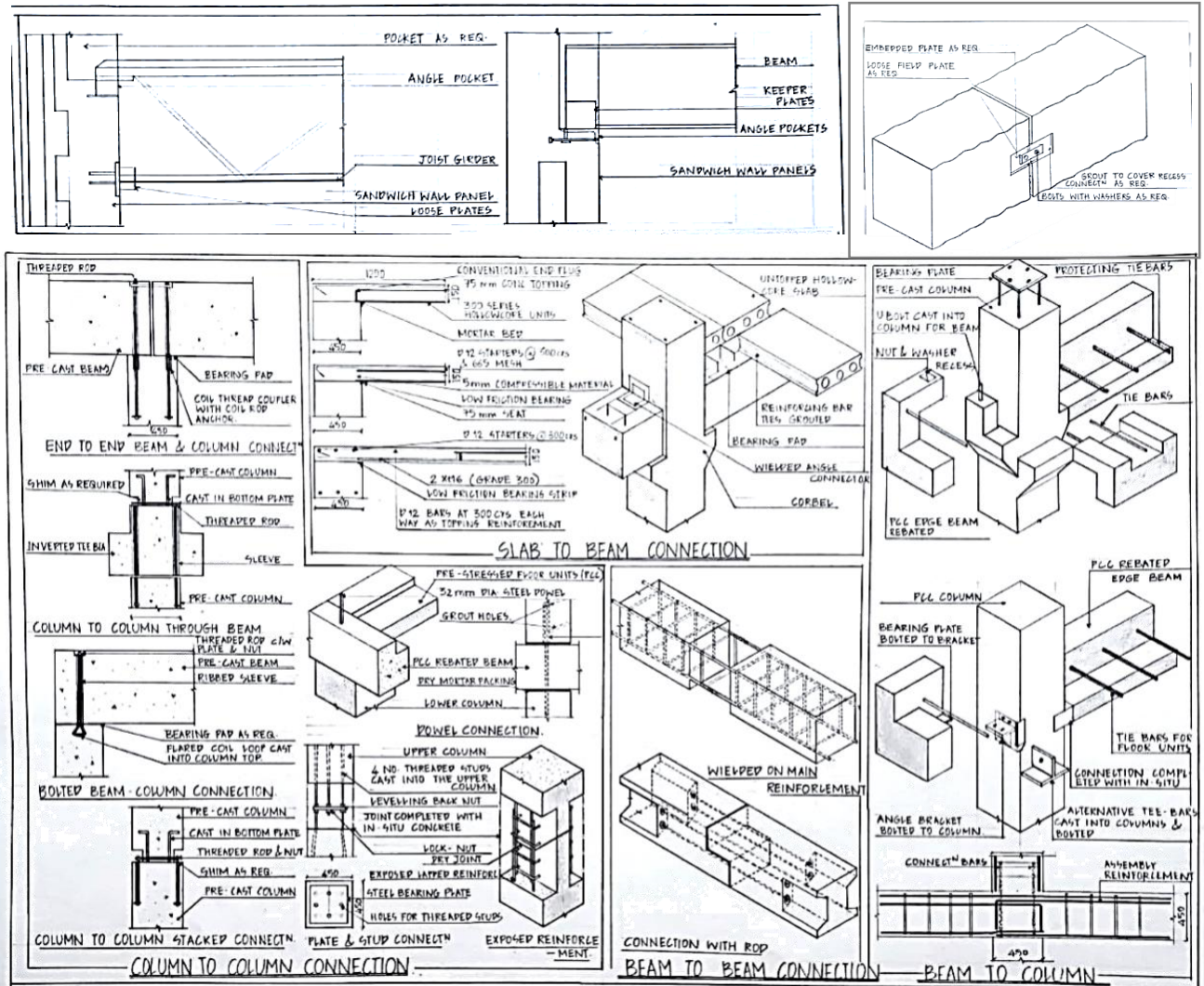
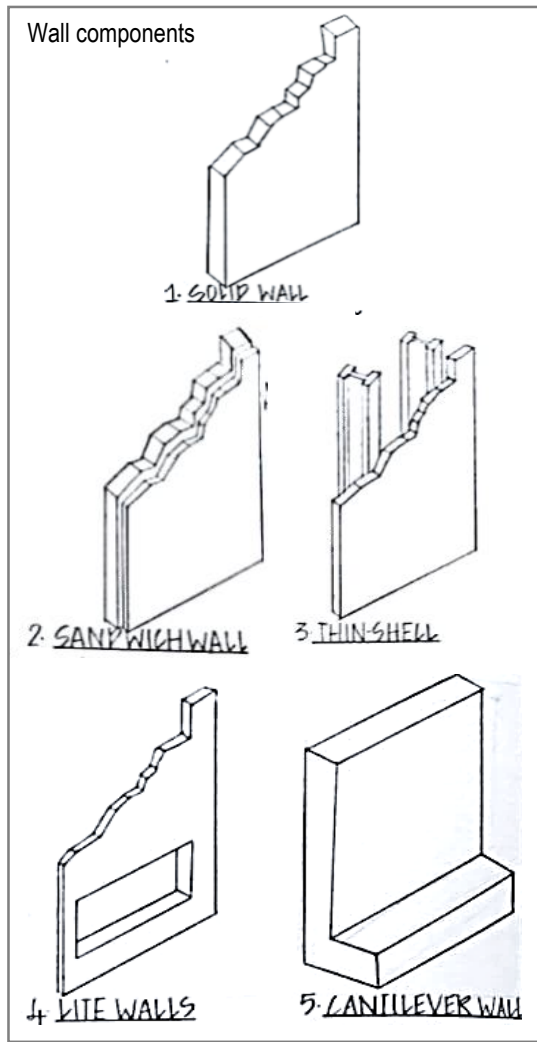
STUDENT: POOJA SHENOY H (203701066)

FACULTY: SANJANA S SHETTY, DEVIPRASAD BHARATH KATEEL

Pre-Cast Components : Substructures

# ARC 3106 Building Construction and Materials - VI

## PRE-CAST COMPONENTS



STUDENT: POOJA SHENOY H (203701066)

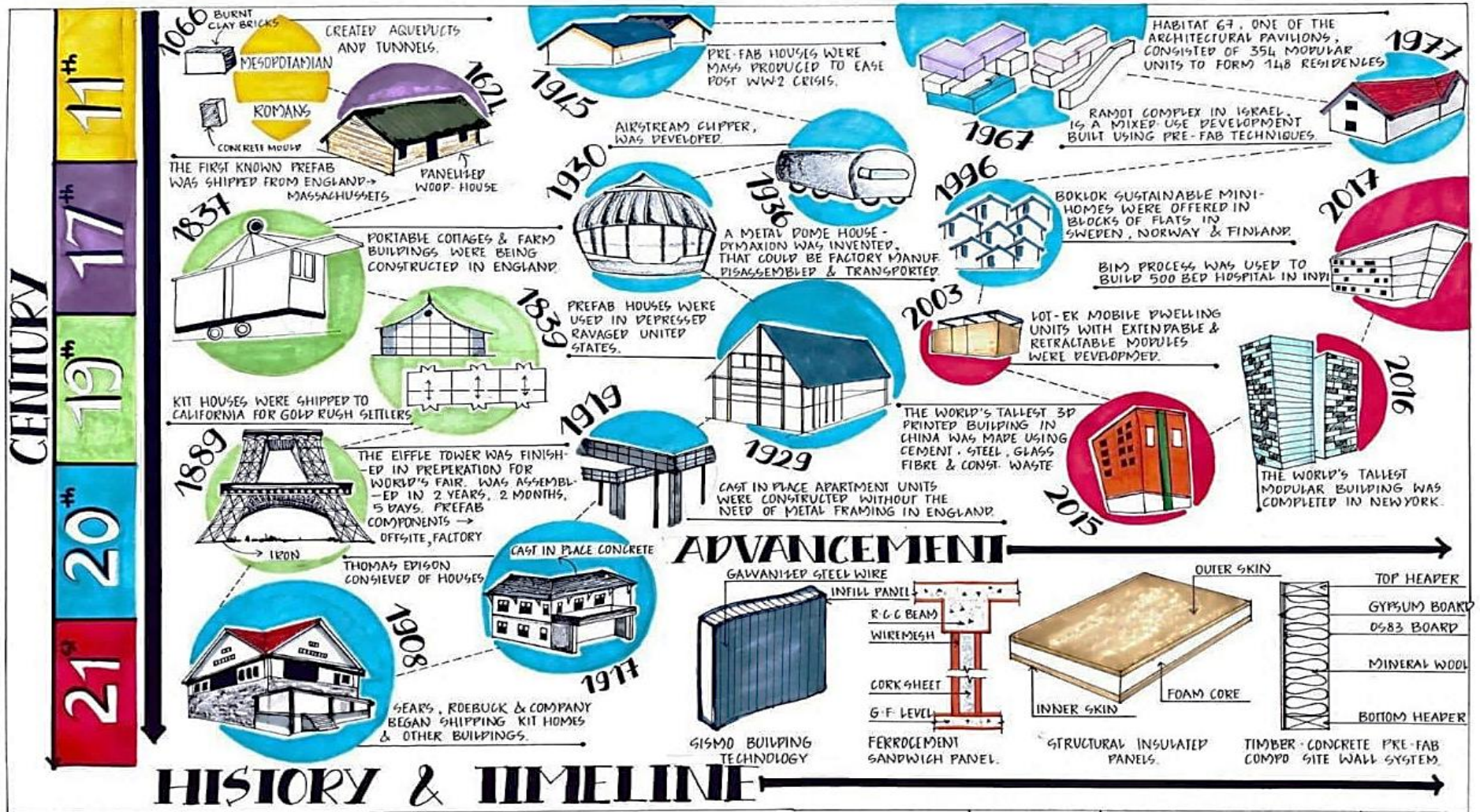
FACULTY: SANJANA S SHETTY, DEVIPRASAD BHARATH KATEEL

Components connections and joineries



# ARC 3106 Building Construction and Materials - VI

## PRE-CAST COMPONENTS



STUDENT: POOJA SHENOY H (203701066)

FACULTY: SANJANA S SHETTY, DEVIPRASAD BHARATH KATEEL

Poster on the history of Pre-cast components



# ARC 3110 History Theory and Criticism- IV

## CHURCH ARCHITECTURE

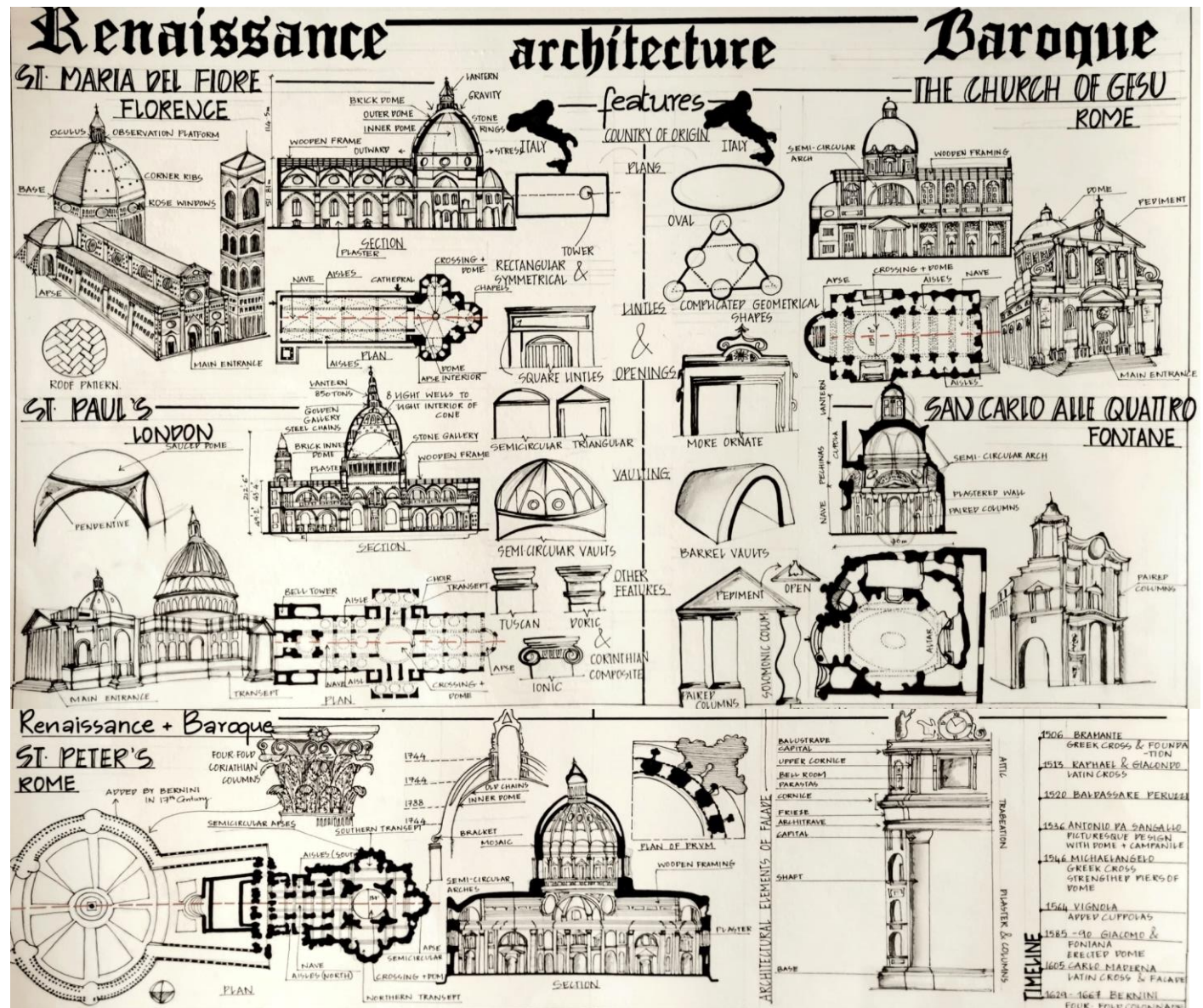
### COURSE OBJECTIVES:

This course will enable students to study and analyse the evolution, general settlement pattern, geographic and climatic influence, socio-political background, construction technology, material influence, and design principles of the cities and their built form in Early Christian, Gothic, Renaissance, Baroque and Neo-Classical styles.

### PROJECT BRIEF:

The intent of the course is to understand and analyze the styles and make infographic posters for better understanding of the components and features in Church architecture. It aims to understand the styles of architecture that emerged from the early Christian to Neoclassical era. This course look into the details of Early Christian 4th to 13th Century AD: Evolution of church Gothic 12th - 15th AD: Early & late Gothic churches & regional variations Renaissance 15th-17th AD Ideologies & Works. Baroque 17th to Mid-19th AD, Ideologies & Works Neo-Classicism mid 18th to mid 20th Century AD.

STUDENT: POOJA SHENOY H (203701066)  
FACULTY: RUTUJA SUNIL ULHE





# ARC 3110 History Theory and Criticism- IV

## CHURCH ARCHITECTURE

### Early Christian architecture

#### CHURCH OF SEPULCHURE JERUSALEM

#### ST. PETER'S BASILICA ROME

### Byzantine architecture

#### HAGIA SOPHIA ISTANBUL

features

COUNTRY OF ORIGIN

ROME 4<sup>th</sup> - 6<sup>th</sup> Century

CONSTANTINOPE 5<sup>th</sup> to 15<sup>th</sup> Century

PLANS

ROMAN / LATIN CROSS

HELENIC CROSS

OPENINGS

SEMI-CIRCULAR ARCHES

SEMI-CIRCULAR ARCHES MORE ORNATE

ROOFING

OTHERS

ABSENCE OF NARTHES / COURTYARD & COLONNADES

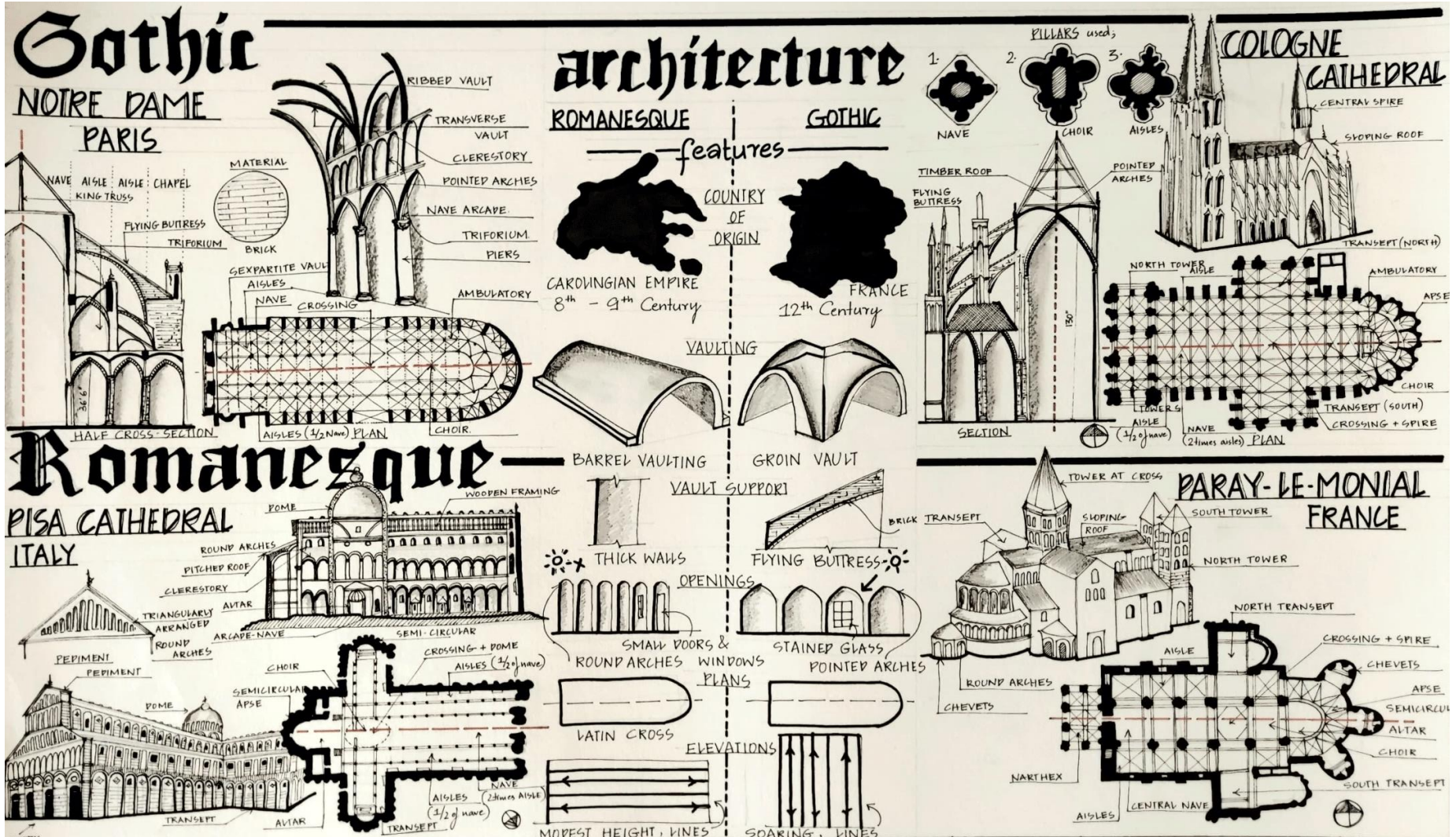
STUDENT: POOJA SHENOY H (203701066)

FACULTY: RUTUJA SUNIL ULHE



# ARC 3110 History Theory and Criticism- IV

## CHURCH ARCHITECTURE



STUDENT: POOJA SHENOY H (203701066)

FACULTY: RUTUJA SUNIL ULHE



# ARC 3110 History Theory and Criticism- IV

## PORTFOLIO

### COURSE OBJECTIVES:

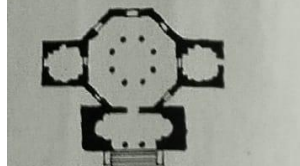
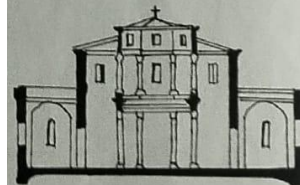
The intent of the course is to understand and analyze the styles in Church architecture. It aims to understand the styles of architecture that emerged from the early Christian to Neoclassical era. The course may look into the details of Early Christian 4th to 13th Century AD: Evolution of church Gothic 12th - 15th AD: Early & late Gothic churches & regional variations Renaissance 15th- 17th AD Ideologies & Works. Baroque 17th to Mid19th AD, Ideologies & Works Neo-Classicism mid18th to mid20th Century AD

### PROJECT BRIEF:

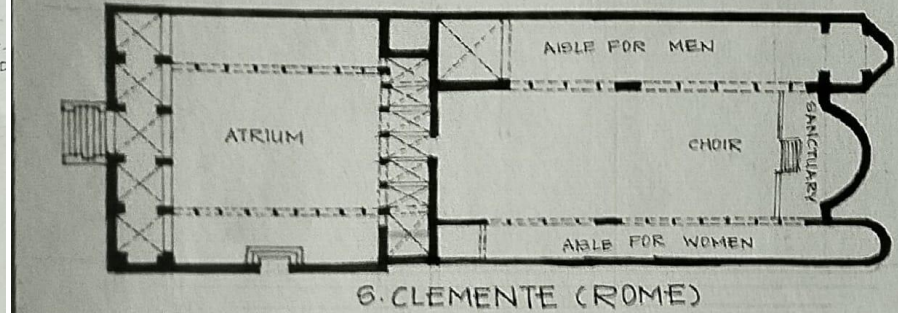
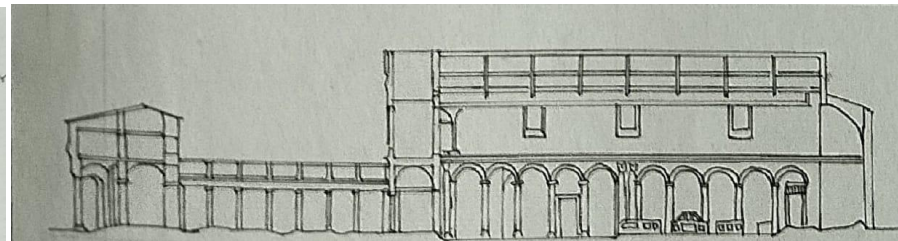
Infographics/ Poster on Early Christian, Romanesque, Gothic, Renaissance and Baroque Architecture

**BAPTISTRIES:**

- ONE OF THE IMPORTANT PART OF EARLY CHRISTIAN ARCHITECTURE.
- THEY WERE ORIGINALLY USED ONLY FOR SACRAMENT OF BAPTISM, HENCE THE NAME BAPTISTRY.
- THE FORM WAS DERIVED FROM THE ROMAN CIRCULAR TEMPLES AND TOMBS HERE WAS GENERALLY ONE BAPTISTRY IN EACH CITY, AS AT RAVENNA & FLORENCE, AND IT WAS AS A RULE A DETACHED BUILDING, USUALLY ADJOINING THE ATRIUM OR FORE-COURT.
- THE BAPTISTRY IS A SEPARATE CENTRALLY PLANNED STRUCTURE.
- BAPTISTRY MAY BE INCORPORATED WITHIN THE BODY OF A CHURCH OR CATHEDRAL.



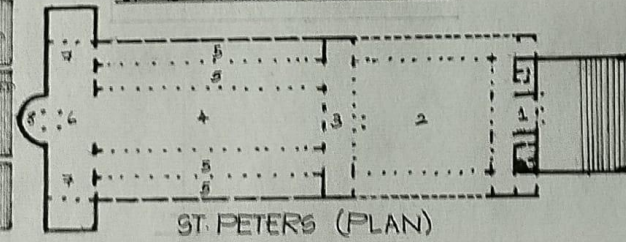
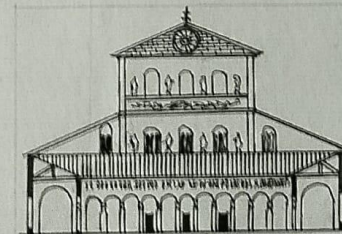
BAPTISTRY (CONSTANTINE)



S. CLEMENTE (ROME)

### ARCHITECTURAL FEATURES

1. PLAN: ADOPTED BASILICAN MODEL FOR THEIR CHURCHES BUT ADDED -HALLS, BATHS, BAPT, DWELLINGS-
2. WALLS: THESE WERE STILL CONSTRUCTED ACCORDING TO ROMAN METHODS-
3. OPENINGS: DOOR, WINDOWS & NICHS. WERE USUALLY SPANNED BY SEMICIRCULAR ARCH.
4. ROOFS: WOODEN ROOFS COVERED CENTRAL NAVE, SIMPLE FORMS SUCH AS QUEEN & KING TRUSSES WERE EMPLOYED.
5. COLUMNS: DIFFERENT DESIGN, STYLE USUALLY FROM EARLIER ROMAN BUILDINGS.



ST. PETERS (PLAN)

### CATACOMBS

- CATACOMBS ARE BURIAL SPACES
- NO PROVISION OF
- USUALLY LOCATED
- OPEN AIR CEMETERY

Early Christian

STUDENT: ADITHI NIRANJAN POOJARY (203701022)

FACULTY: LAKSHMY MENON M



# ARC 3110 History Theory and Criticism- IV

## PORTFOLIO

### BYZANTINE ARCHITECTURE

PLANS: BYZANTINE CHURCHES ARE ALL DISTINGUISHED BY A GREAT CENTRAL SQUARE SPACE COVERED WITH THE DOME, SUPPORTED BY A PERISTYLE OF IONIC OR CORINTHIAN COLUMNS. THE DOME IS SUPPORTED BY A PERISTYLE OF IONIC OR CORINTHIAN COLUMNS. THE DOME IS SUPPORTED BY A PERISTYLE OF IONIC OR CORINTHIAN COLUMNS.

**SAINT VITALE, RAVENNA**

**THE MINERVA MEDICA, ROME**

### HAGIA SOPHIA

**NORTH-EAST ELEVATION**

**GROUND PLAN**

### Byzantine

### SALISBURY CATEDRAL, BRITAIN

**VAULT HIGHEST IN BRITAIN**

**LARGEST CATHEDRAL CLOISTER IN BRITAIN.**

ALTAR SACRISTY CHANCEL HOUSE CLOISTER GARTH

### NOTRE DAME, PARIS

PLAN:

- A WIDE CENTRAL NAVE, DOUBLE AISLE
- TRANCHEPTS OF SMALL PROJECTION
- CHEVET ARRANGEMENT WITH ITS DOUBLE AISLE AND CHAPELS.

FAÇADE:

- WEST FRONT IS GRANDEST
- TWO WESTERN TOWER
- THESE DEEPLY RECESSED WESTERN PORTAL
- RANGE OF STATUES IN NICHES

3 PORTALS OF FAÇADE:

- LAST DEPARTMENT
- PORTAL OF THE VIRGIN
- PORTAL OF ST. ANNE
- THE GALLERY OF KING: 28 STATUES

### COLOBNE CATHEDRAL

EUROPE

- LARGEST CATHEDRAL OF NORTH EUROPE
- LENGTH - 448 FT
- WIDTH - 275 FT
- AREA - 91644 SQ. FT.
- TOWER HEIGHT - 512 FT.
- HEIGHT OF TOWER - 357 FT.

MAIN ENTRANCE SHOWS THE 19TH CENTURY DECORATION.

- FLYING BUTRESS & PINNACLES AT EAST END.
- POINTED ARCHES
- GPIRE
- LARGE FAÇADE

**ARCHITECTURE**

### Gothic

### SAINT MARK, VENICE

**PLAN**

### INFLUENCE

GEOGRAPHICAL

- CONSTITUTIVE STOOD ON 3 HILLS, WHICH MADE IMPORTANT POSITION FOR SOUV. TO EXPAND
- STANDING AT INTERSECT-ION OF TWO GREAT HIGHWAYS

GEOLOGICAL

- THE SOFT STONE OR BUILDING MATERIAL
- MARBLE, GLAZED BRICK IMPORTED FROM OTHER PARTS OF EMPIRE

PLINE DOME - EACH ARM OF THE DOME

- CENTRAL & WESTERN DOME GREATER
- BUT THE EAST RICH DECAN-TRATION USING MOSAIC

### DURHAM CATHEDRAL

**PLAN**

### SAINTE-FOY CATHEDRAL

- DESIGNED TO ACCOMMODATE VISITING PILGRIMS
- SAINTE-FOY, TO WHOM THE CHURCH IS DEDICATED WAS MARTYRED AS A CHILD.
- THE CHURCH WAS BUILT ABOVE THE SITE OF HER TOMB.

### SAINT-MADELEINE VEZELAY

- TYMPANUM
- THE MISSION OF APOSTLES: JESUS CHRIST SENDING HIS DISCIPLES.

### CLUNY III, FRANCE

- DOUBLE-AIGLED CHURCH ALMOST 137m LONG, WITH 15 SMALL CHAPELS IN TRANSEPT & AMBULATORY

### PIAZZA DEL CAMPIDO GILO

THE LAFFLOT AT ROME

COMPLETED BY MICHAEL ANGELO

### SPETERS ROME

- LATIN CROSS PLAN
- NAVE 20 FEET WIDE
- CENTRAL CROSSING COVERED BY DOME.
- SHORT TRANSEPTS TERMINATED BY SEMI-CIRCULAR APSE.

### ST. PAULS, LONDON

MEDIVAN PLAN FOR RITUAL PURPOSES

- GREAT CENTRAL SPACE CROWNED BY DOME
- WALL SURFACES HAVE GLASS MOSAIC.

### ROMANESQUE

### QUATTROCENTO (1400-1600)

### FORENCE CATHEDRAL

### HIGH RENISSAN CE (1500-1625)

### MANNERISM (1520-1600)

### BRUNELLESCHI

FLORENCE BY BIRTH

STUDIED FEATURES & CON-TRIBUTION OF PAUSANIAS & OTHER SCULPTORS OF ROMAN ARCHITECTURE

MADE THE FIRST STUDY OF PERSPECTIVE

### BEREN (1532-1590)

AS SCULPTOR & ARCHITECT HIS WORKS SHOWED MORE OF ROMAN INFLUENCE

HIS DESIGN INDICATING CAREFUL STUDY OF PROPORTIONS

WORKS: ST. PAULS, LONDON

### LEON BATTISTA ALBERTI

THE PRINCIPLES OF ARCHITECTURE

HE WRITING IN THREE FUNDAMENTAL VOLUMES: THE TEN BOOKS OF ARCHITECTURE, THE DE PICTURA, THE DE RE EDIFICATORIA

HE WAS THE FIRST TO BRING THE THEORY OF ARCHITECTURE FROM AN ART TO A SCIENCE

### Renaissance

STUDENT: ADITHI NIRANJAN POJARY (203701022)

FACULTY: LAKSHMY MENON M



# ARC 3110 History Theory and Criticism- IV

## PORTFOLIO


Baroque

### EMERGENCE OF BAROQUE ARCHITECTURE

- BAROQUE ARCHITECTURE ORIGINATED IN ITALY IN THE 16<sup>th</sup> CENTURY.
- BAROQUE ARCHITECTURE EMERGED AT THE END OF RENAISSANCE ARCHITECTURE PERIOD & LEFT ITS PALACE TO ROCCO-STYLE ARCHITECTURE TOWARDS THE END OF THE 18<sup>th</sup> CENTURY.
- EARLY BAROQUE:** BEGINS AT THE START OF THE 17<sup>th</sup> CENTURY IN ROME.
- HIGH BAROQUE:** SPREADS RAPIDLY TO FRANCE, NORTHERN ITALY, SPAIN AND PORTUGAL.
- LATE BAROQUE:** LATER THAN TO AUSTRIA, SOUTHERN GERMANY, AND RUSSIA.


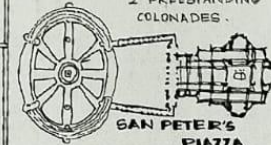
### CARLO MADERNO

- CARLO MADERNO WAS A ROMAN ARCHITECT WHOSE CAREER BRIDGED THE GAP B/W LATE RENAISSANCE AND EARLY BAROQUE.
- HE IS MOST FAMOUS FOR WORKING ON FACADE DESIGN OF SAINT PETER'S BASILICA.
- MADERNO DREW INSPIRATION FOR HIS FACADE FROM CHURCH OF GESSU.
- HIS FIRST MAJOR PROJECT WAS CHURCH OF SANTA SUSANA.
- LATER HE BUILT SANTA MARIA DELLA VICTORIA & SANTA ANDREA DELLA VALLE.




### GIAN LORENZO BERNINI

- EXPANDING UPON MICHELANGELO'S FASCINATION WITH THE HUMAN BODY, BERNINI ADDED TORSION TO CREATE A DYNAMIC FIGURE.
- IN ST PETER'S HE LINKED THE OVAL SPACE DEFINED BY 2 PREEXISTING COLONADES.

### ITALIAN BAROQUE


- CHURCHES WERE COMMISSIONED WITH ENORMOUS DOMES, SWIRLING FORMS, HUGE SPIRITUAL COLUMNS.



THE TREVI FOUNTAIN

### FRENCH BAROQUE


- BAROQUE STYLE BECAME MORE RESTRAINED IN FRANCE.
- LAVISH DETAILS WERE USED.
- BUILDINGS WERE SYMMETRIC.
- CAL & ORDERLY.
- UNRESTRAINED IN ITS EXTRAVAGANT DESIGN.



PALACE OF VERSAILLES



### CHIESA DEL GESU, ROME

- THE FIRST EXAMPLE OF BAROQUE ARCHITECTURE IS THE GESSU CHURCH, THE CONSTRUCTION OF WHICH WAS STARTED IN ROME IN 1568 BY THE FAMOUS ARCHITECT GIACOMO BAROZZI DA VIGNOLA (1507-1579).
- WITH ITS CURVED CORNER SUPPORTS CONNECTING THE FLOORS, CURVILINEAR LINES, PROTRUDING DOUBLE LEG STRUCTURE AND LIGHT AND SHADOWS PLAYS, THIS CHURCH HAS INSPIRED MANY CHURCHES.



### FRANCESCO BORROMINI

- HE BEGAN HIS CAREER AS SCULPTOR.
- BORROMINI'S ARCHITECTURE ADAPTED CLASSICAL ELEMENTS TO A MORE INNOVATIVE ARCHITECTURE THAT WAS DEFINED BY ORIGINALLY CURVING LINES AND A COMPLICATED INTERPLAY OF GEOMETRY.

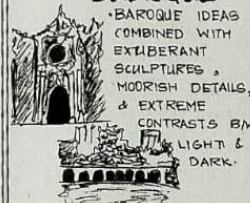



SAN CARLO ALLE QUATTRO FONTANE (1634-48).

- THIS CHURCH WAS BORROMINI'S FIRST INDEPENDENT COMMISSION.

### SPAIN AND LATIN AMERICAN BAROQUE

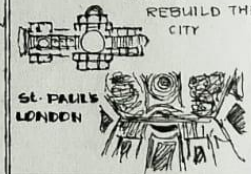
- BAROQUE IDEAS COMBINED WITH EXUBERANT SCULPTURES, MOORISH DETAILS, & EXTREME CONTRASTS B/W LIGHT & DARK.



CASA DEL PRADO IN CALIFORNIA

### ENGLISH BAROQUE


- BAROQUE EMERGED IN ENGLAND AFTER THE GREAT FIRE OF LONDON IN 1666.
- ARCHITECT CHRISTOPHER WREN USED RESTRAINED BAROQUE STYLING WHEN HE HELPED REBUILD THE CITY.



ST. PAUL'S LONDON


### BAROQUE ARCHITECTURE CHARACTERISTIC

- HIGHLY ORNAMENTED:
  - DOMES
  - COLONNADES
  - QUADRATURA
  - SCULPTURES OF ANGELS
  - TWISTED COLUMNING
  - GRAND STAIRCASES
  - LIGHT
- COMPLICATED SHAPES
- EXTREME ORNAMENTATION, OFTEN GILDED WITH GOLD.
- LARGE ELLIPTICAL FORMS, WITH CURVED LINES REPLACING CLASSICALLY STRAIGHT
- TWISTED COLUMNS
- GRAND STAIRWAYS.




### DAVID MICHELANGELO

- SCALE: HUMAN SCALE
- INERTIA: RELAXED POSTURE
- PROPORTIONS: IDEALIZED
- SYMBOLISM: DEPICTS FUTURE.
- STAGING: MEANT TO BE VIEWED FROM FRONT.



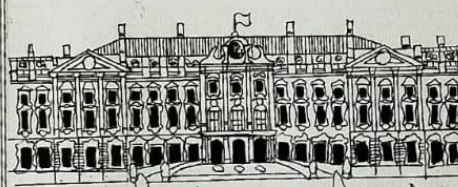
### DAVID BERNINI

- SCALE: HUMAN SCALE (6')
- INERTIA: DYNAMIC
- PROPORTIONS: NATURALISTIC
- SYMBOLISM: PRESENT
- STAGING: FORCES THE VIEWER TO MOVE FROM THE FRONT



### ROCOCO ARCHITECTURE

- ORIGINATED IN FRANCE MAINLY FOR INTERIOR DECORATION.
- SOFTER VERSION OF BAROQUE STYLE
- DELICATE CURVES & FORM, LESS DRAMATIC
- ELEGANT & ORNATE FURNITURE
- SMALL SCULPTURES, RELIEFS
- SILK VELVET & DAMASK WALL COVERINGS.
- PAINTED & GLIDED PLASTER ORNAMENT.

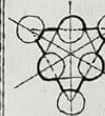


CATHERINE PALACE

- COMPLICATED SUCCO FACADE WAS CLAD IN OVER 1000<sup>kg</sup> OF GOLD.
- ATLANTES & CARYATIDS ARE STRUCTURAL SUPPORTS IN SHAPE OF HUMAN BODIES

### SANT'LO ALLA SAPIENZA (1642-70)

- BUILDING CREATED WITH SMALL PLOT OF LAND.
- CENTRAL PLAN CHURCH TAKES SHAPE OF 2 INTERSECTING TRIANGLES THAT CREATE A "STAR OF DAVID" PATTERN.
- TOP OF DOME, THERE IS LANTERN ADORNED WITH A SPIRAL.



Rococo

STUDENT: ADITHI NIRANJAN POJARY (203701022)

FACULTY: LAKSHMY MENON M

B.ARCH, YEAR 3, SEMESTER 6 (2022-23)

069

MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

Bachelor of Architecture  
Undergraduate Program

Year

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4

Architecture



# ARC 4101 Architectural Design & Detailing - VII

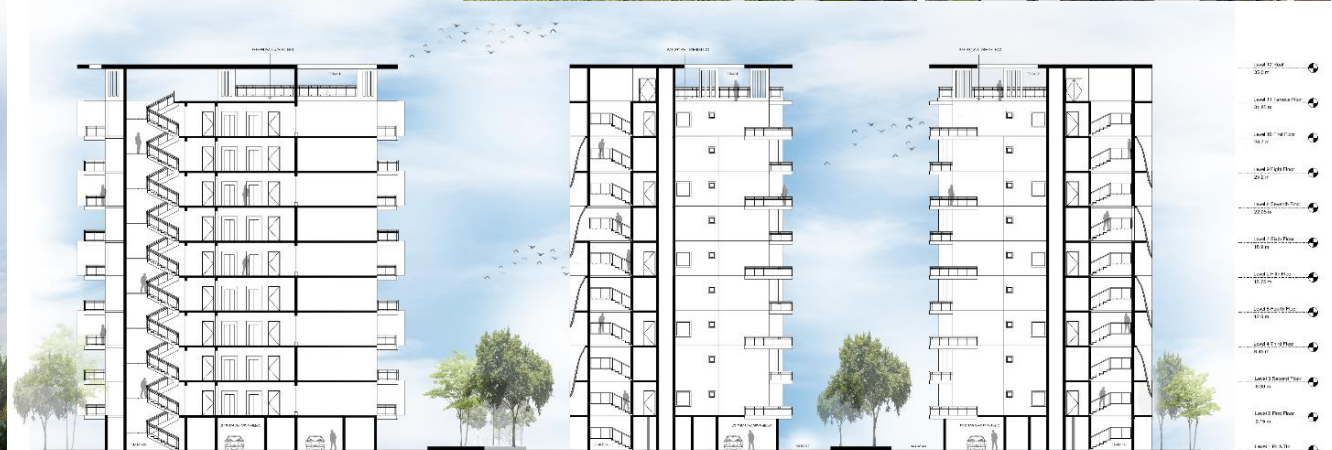
## HOUSING

### COURSE OBJECTIVES:

To understand context, user perception, multiple stakeholders needs in community specific mass housing. To understand master planning tools and techniques in large-scale sites and to explore the feasibility of the project. To design community specific mass housing scheme for a given context.

### PROJECT BRIEF:

To design institutional housing located in Manipal MIT campus for MIT's teaching faculty, elevating the current individual housing scenario to mid-rise apartments with 180 dwelling units, by the means of environmental, spatial and aesthetic values.



STUDENT: SHARMISTA DEBNATH (193701238)

FACULTY: PURUSHOTTAM KESAR, SRISHTI SHUBH, VAIBAHV JAIN, SUNIL KUMAR

# ARC 4101 Architectural Design & Detailing - VII

## HOUSING

### COURSE OBJECTIVES:

To understand context, user perception, multiple stakeholders needs in community specific mass housing. To understand master planning tools and techniques in large-scale sites and to explore the feasibility of the project. To design community specific mass housing scheme for a given context.

### PROJECT BRIEF:

To design affordable housing for the local fishermen community in Padukere, Malpe that responds to people's needs.



STUDENT: T.SUDARSANA SREERAM (193701262)  
FACULTY: IPSITA P DAS



# ARC 4101 Architectural Design & Detailing - VII

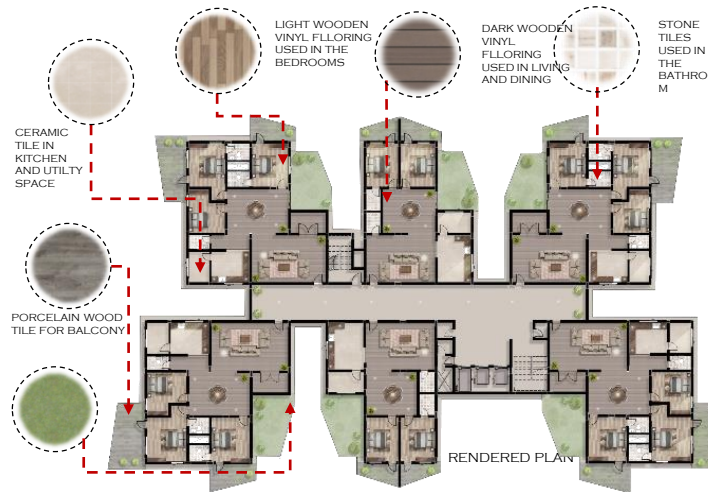
## HOUSING

### COURSE OBJECTIVES:

To understand context, user perception, multiple stakeholders needs in community specific mass housing. To understand master planning tools and techniques in large-scale sites and to explore the feasibility of the project. To design community specific mass housing scheme for a given context.

### PROJECT BRIEF:

To design HIG – High rise apartments in Udupi, with necessary services and amenities needed to support the residential development. The site is near Korangrapady, Udyavara, Udupi, having an area of 11 acres approximately. The site is well connected from the main city by the (Udupi-Mangalore) national highway NH-66.



Typical Floor Plan



Site Plan



STUDENT: SWARA RAMESH NAYAK (193701264)

FACULTY: PRADEEP G KINI, SATYAPRAKASH DAS, KRUTIKA AJIT MADKAIKER, DHANPRAKASH



# ARC 4101 Architectural Design & Detailing - VII

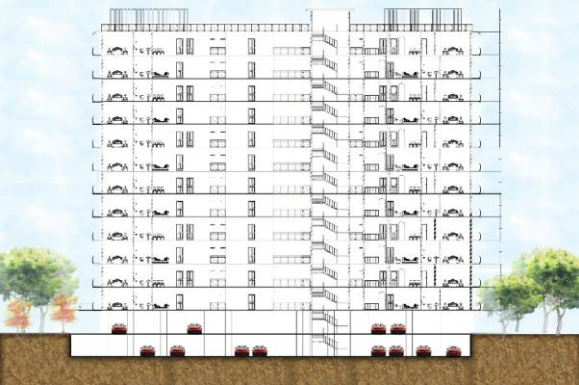
## HOUSING

### COURSE OBJECTIVES:

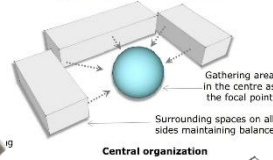
To understand context, user perception, multiple stakeholders needs in community specific mass housing. To understand master planning tools and techniques in large-scale sites and to explore the feasibility of the project. To design community specific mass housing scheme for a given context.

### PROJECT BRIEF:

To design a high rise residential community for the middle income group, the site being situated near Baba's Point, Coin Circle, Manipal, Karnataka. Major focus is given on human centric design. The goal of the proposed design is to create a space which brings peace and tranquility to human mind.

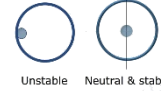


Social integration- active community spaces as the focal point



IDEA OF NEUTRALITY AND BALANCE

Sense of balance and neutrality plays a huge role in human psychology

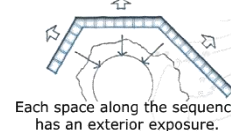


CENTRAL ORGANISATION

Concentrated composition consists of major spaces grouped around a dominant, central space



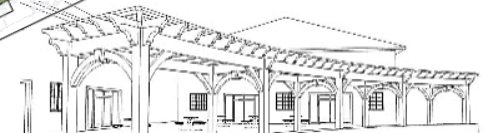
Central organization



Concept



Site Plan



STUDENT: AASTHA PRASAD (193701292)

FACULTY: KUMAR VYOMKESH, JOICY K J, VENKATARAMANA BOORLA, YOGISH CHANDRA DHARA



# ARC 4109 History Theory & Criticism - V

## CONTEMPORARY ARCHITECTURE

### COURSE OBJECTIVES:

To explore the contributions of Master Architects in contemporary architectural practice. to understand the importance of evolution of contemporary architecture as a result of various influences like socio/ political/ cultural aspects.

### PROJECT BRIEF:

To create a portfolio illustrating the importance of the evolution of architectural styles from the industrial revolution to Contemporary architecture, mentioning the key contributions.



*"We imagined the library building to be a formal extension of the ground using brick as a material for its tactility, availability, as well as its utility as insulation against the strong sun."*

tables and stools for collaborative study.

a floor stool system towards the edges for a more intimate study area and towards the centre

**Maya Somaiya Library, Sharda School / Sameep Padora & Associate**  
A form finding software plug-in made in Switzerland  
Catalan Tile Vaulting system  
Compression ring detail

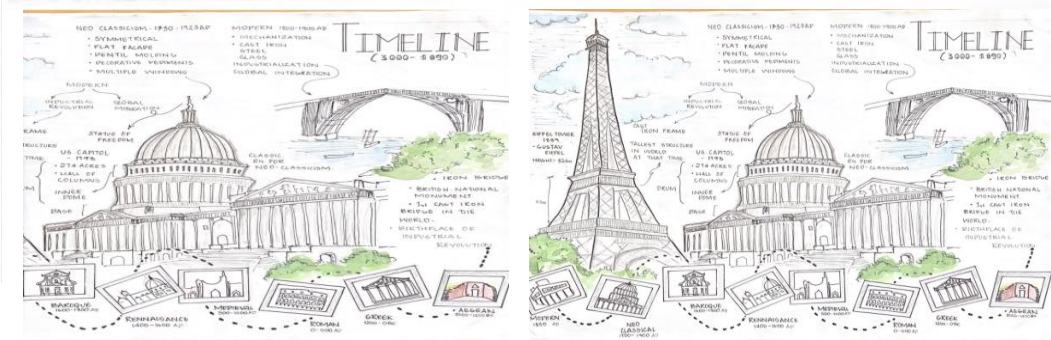
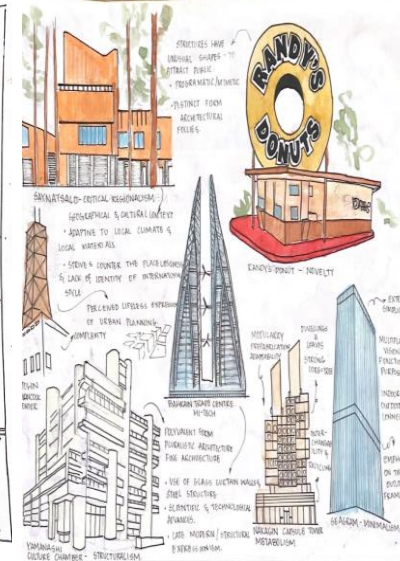
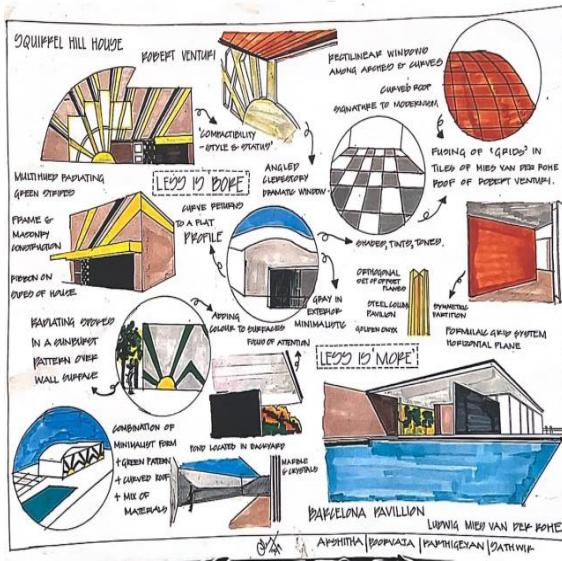
brick tile

Held in compression, these form lightweight vaults proving how adventurous contemporary design can be realized in simple and locally sourced materials.

The complex form of the roof is made and shaped by three layers of shallow - 32 millimeter - brick tiles. was a sliver between existing buildings and the school boundary

Geodesic structures

inspiring spatial experience to be a magnet to attract students



STUDENT: VADLAKUNTA AKSHITHA (193701060)  
FACULTY: UJJWALA CHOURASIA

B.ARCH, YEAR 4, SEMESTER 7 (2022-23)







MASTERS IN ARCHITECTURE  
(URBAN DESIGN & DEVELOPMENT)

Postgraduate program

Master's in Architecture (Urban Design & Development)  
Postgraduate Program

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Year

1

Architecture



# ARC 6201 Urban Design Studio - I

## UDUPI – EVALUATION CRITERIA

### COURSE OBJECTIVES:

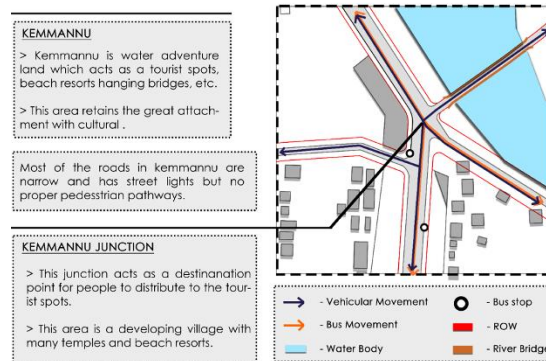
The studio intends to expose the student to the complexities of urban design process. The student will be able to read, understand, organise and synthesis the tangible and intangible networks in an urban setting. The studio outcome should lead to understanding of urban (housing, transport, environment) etc.) and infrastructure dynamics by reading them with the critical debates in urban design and city planning

### PROJECT BRIEF:

The studio aimed to understand, analyze, and evaluate the Udupi City. The city of Udupi has been taken as a study area. The existing scenario of Udupi City was established by analyzing data from primary and secondary sources. This work is the culmination of processes & analyses done at various stages. This study has been done to understand and evaluate Udupi City through Accessibility criteria. Inaccessible, the evaluation criteria were done based on the infrastructure and transportation. It is further discussed in terms of road network, accessibility to public transport modes, coverage of public transport, infrastructure facilities, etc.

**STUDENT: NANDHINI A (22371001), HARSHITH ACHARYA (22371009)**

**FACULTY: TRIVIKRAM, KUMAR GAURAV, KOMAL JAISWAL**



### KEMMANNU

Hotspot : Kemmannu

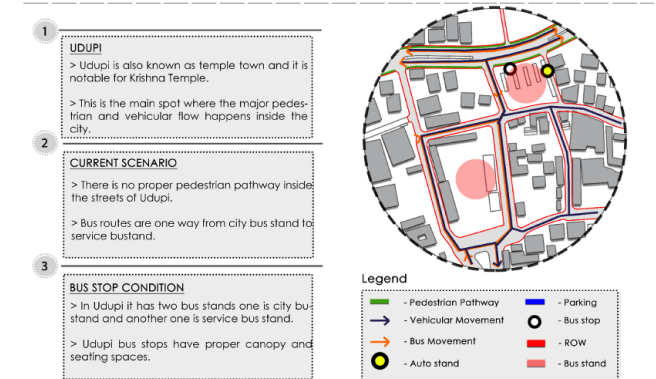
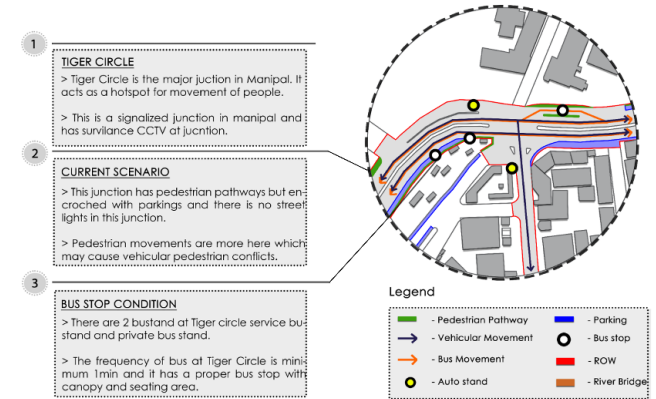
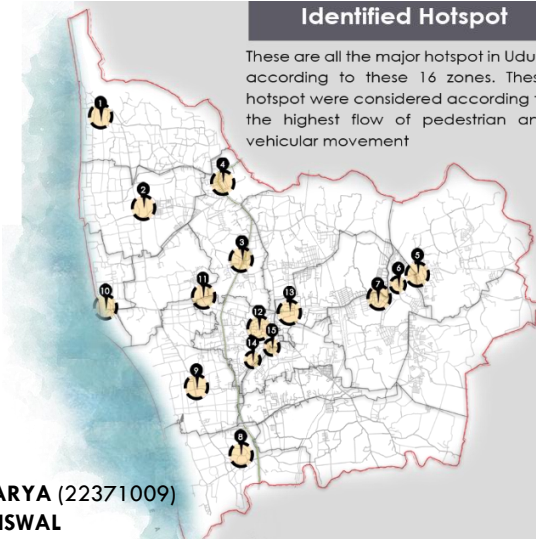
Road Name : 345 m<sup>2</sup>

- 1 Street elements
- 2 Parking Availability
- 3 Presence of signalized junction
- 4 Presence of pedestrian
- 5 Traffic calming measures



### Identified Hotspot

These are all the major hotspot in Udupi according to these 16 zones. These hotspot were considered according to the highest flow of pedestrian and vehicular movement

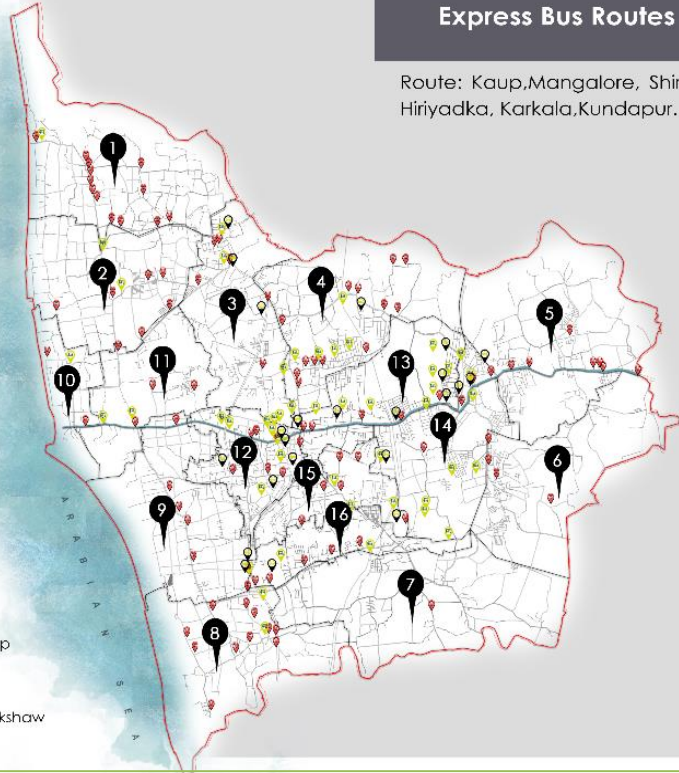


# ARC 6201 Urban Design Studio - I

## UDUPI – EVALUATION CRITERA

### Express Bus Routes

Route: Kaup, Mangalore, Shirva, Hiriyadka, Karkala, Kundapur.

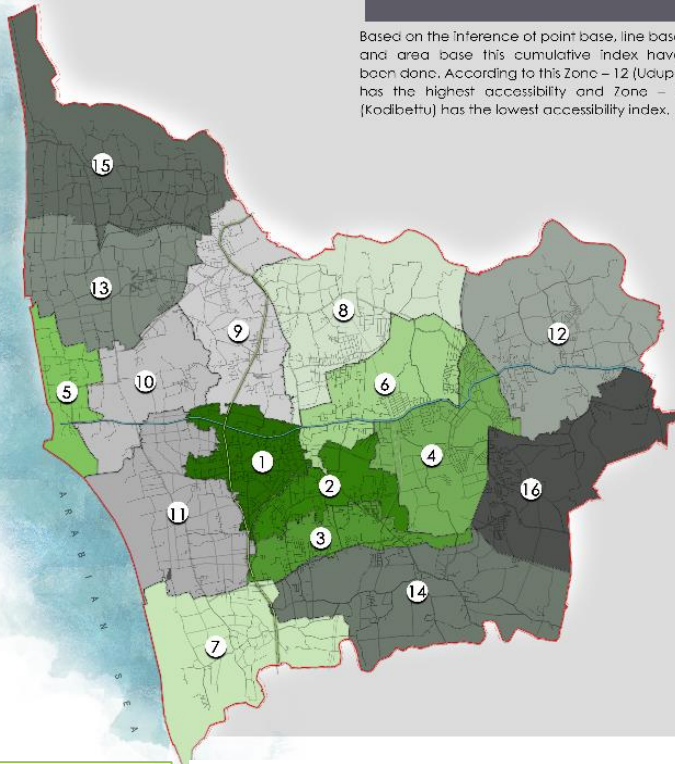


- Legend
- Bus stop
  - Taxi
  - Auto rickshaw

In this, accessibility evaluation criteria was done based on the infrastructure and transportation which is further discussed in terms of road network, accessibility to public transport mode, coverage of public bus stop, infrastructure facility, etc. By considering all the parameter and the inference of point base, line base & area base this cumulative index have been done. According to this, Zone - 12 (Udupi) has the highest accessibility and Zone 6 (Kodibettu) has the lowest accessibility index.

### RANKING

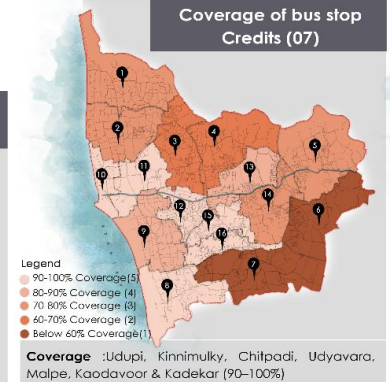
Based on the inference of point base, line base and area base this cumulative index have been done. According to this Zone - 12 (Udupi) has the highest accessibility and Zone - 6 (Kodibettu) has the lowest accessibility index.



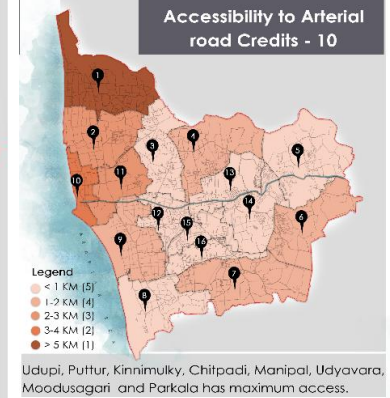
### Accessibility

Assessing accessibility - Area based map  
Cumulative Index and ranking

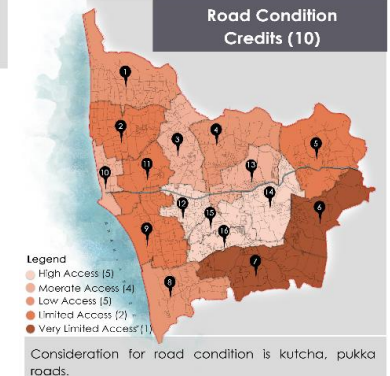
### Coverage of bus stop Credits (07)



### Accessibility to Arterial road Credits - 10



### Road Condition Credits (10)



STUDENT: NANDHINI A (22371001), HARSHITH ACHARYA (22371009)

FACULTY: TRIVIKRAM, KUMAR GAURAV, KOMAL JAISWAL



# ARC 6207 Urban Design History and Theory

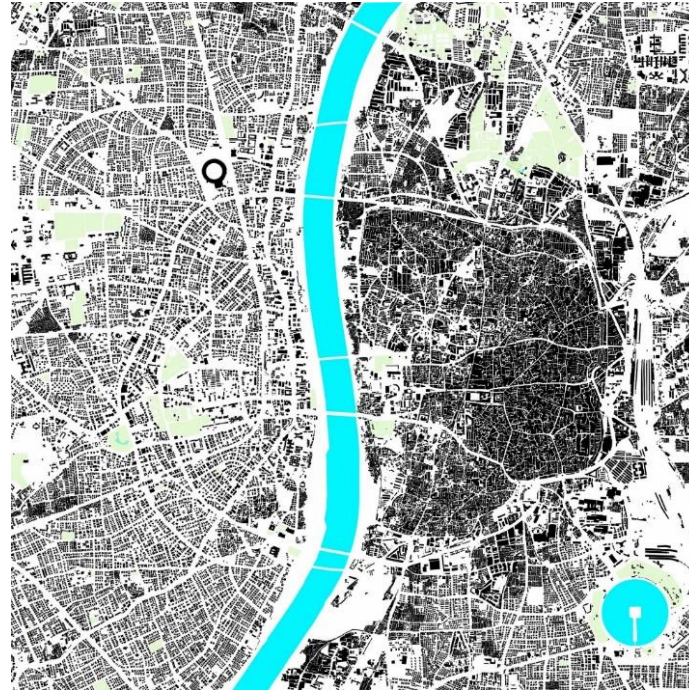
## EVOLUTION OF CITY: AHMEDABAD, GUJRAT

### COURSE OBJECTIVES:

To expose students to the historical evolution of Urban Settlements and related development theories while understanding the morphological dimension of Urban Spaces and patterns and increase their awareness about the influence of sociocultural, socio-political and socio-economic processes within which urban realm exists.

### PROJECT BRIEF:

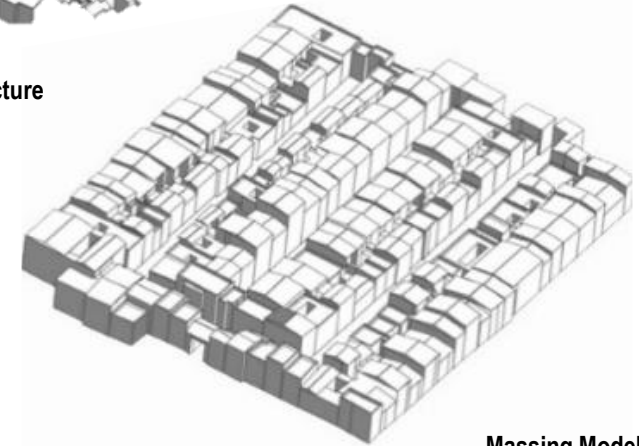
A city is an organic entity that keeps on changing and transforming with time. This growth is concerned with the city's earlier scattered settlements to gradually emerging growth centers to the large or mega cities. This gradual evolution can be interpreted through the studies of city and their communities, culture, occupation, built fabric, historical development, and urbanization factors. The study focuses on understanding the city through its historical developments and traditional urban design theories. By inferring the various forces that crucially affected the evaluation process of the city, One can understand the present scenario and urban context of the city



Source : <https://www.urbedtrust.com/wp-content/uploads>



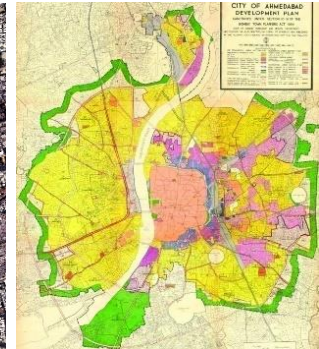
Pol Structure



Massing Model



Source : <https://earth.google.com/web>



D.P. Plan 2012

STUDENT: ANSHITA V GUPTA (223710004)

FACULTY: KOMAL JAISWAL







# ARC 7011 Infrastructure & Transport Management

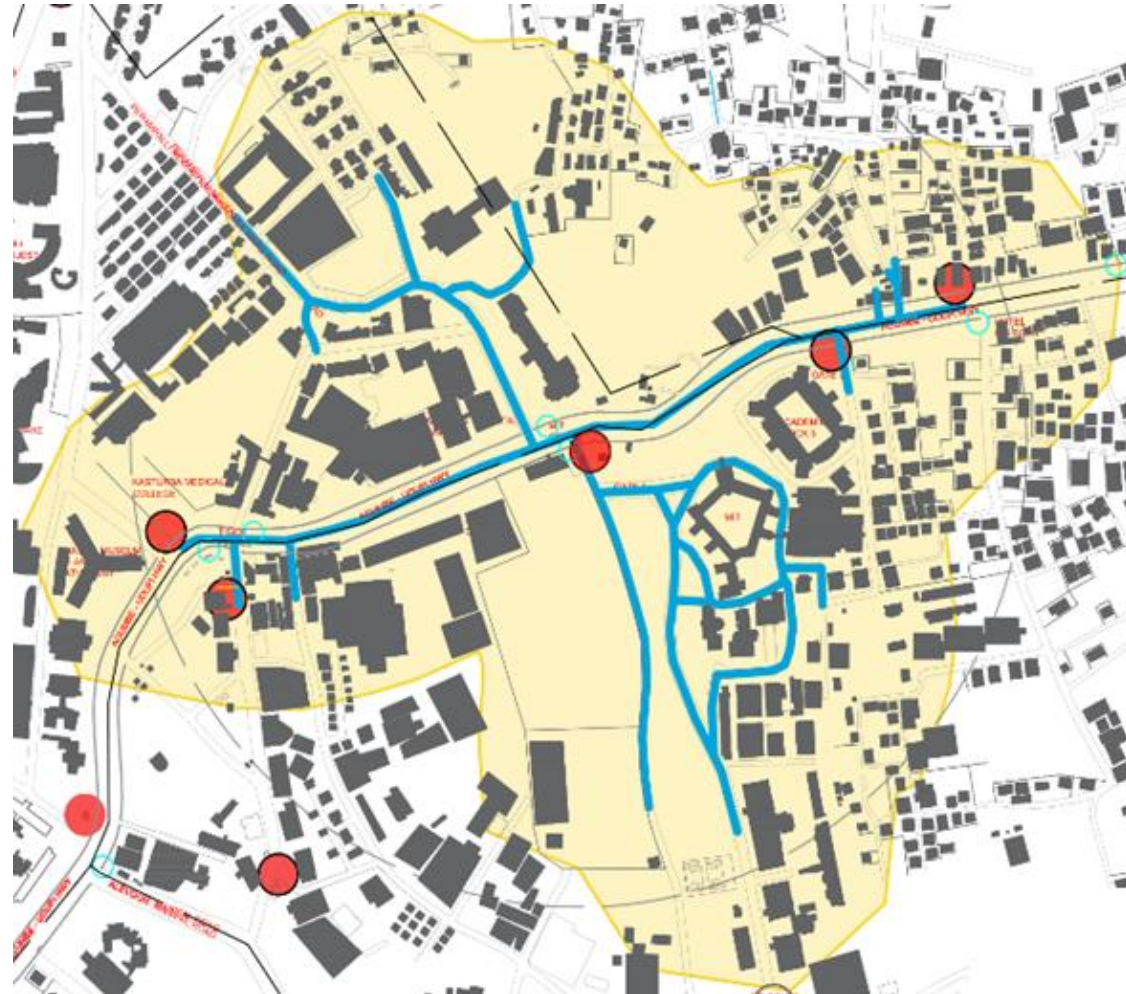
## ACCESSIBILITY TO AUTO STANDS IN MANIPAL

### COURSE OBJECTIVES:

The objective of the course is to expose students to various urban level infrastructure and transport related considerations for sustainable urban development.

### PROJECT BRIEF:

Mobility is a very important component in terms of providing last-mile connectivity. Paratransit (PTS) or intermediate public transport (IPT) is a significant component. The service pattern, functional structure, and flexibility make it a vital transport system. In the Indian context number of modes are available for PTS such as Auto rickshaws, taxis, vans, mini-bus, tempos, cycle rikshaw, Tonga, etc. Paratransit has also availed the service in an area where is limited public transport. Manipal is in Udupi, Karnataka consisting of 29.71 Km2. Manipal has a well-connected transit network having multi-model systems. Having the characteristic of a small town and decentralized distribution of activities with the hierarchy of narrow road networks act as major attributes that support the efficient auto network. The study is focused on analyzing the accessibility, level of service, and connectivity of autos in Manipal as a key paratransit element.



STUDENT: ANSHITA GUPTA (223710004), VATCHALYA JONNA (223710004)

FACULTY: KUMAR GAURAV

MIT ( GREEN PARK)

# ARC 7011 Infrastructure & Transport Management

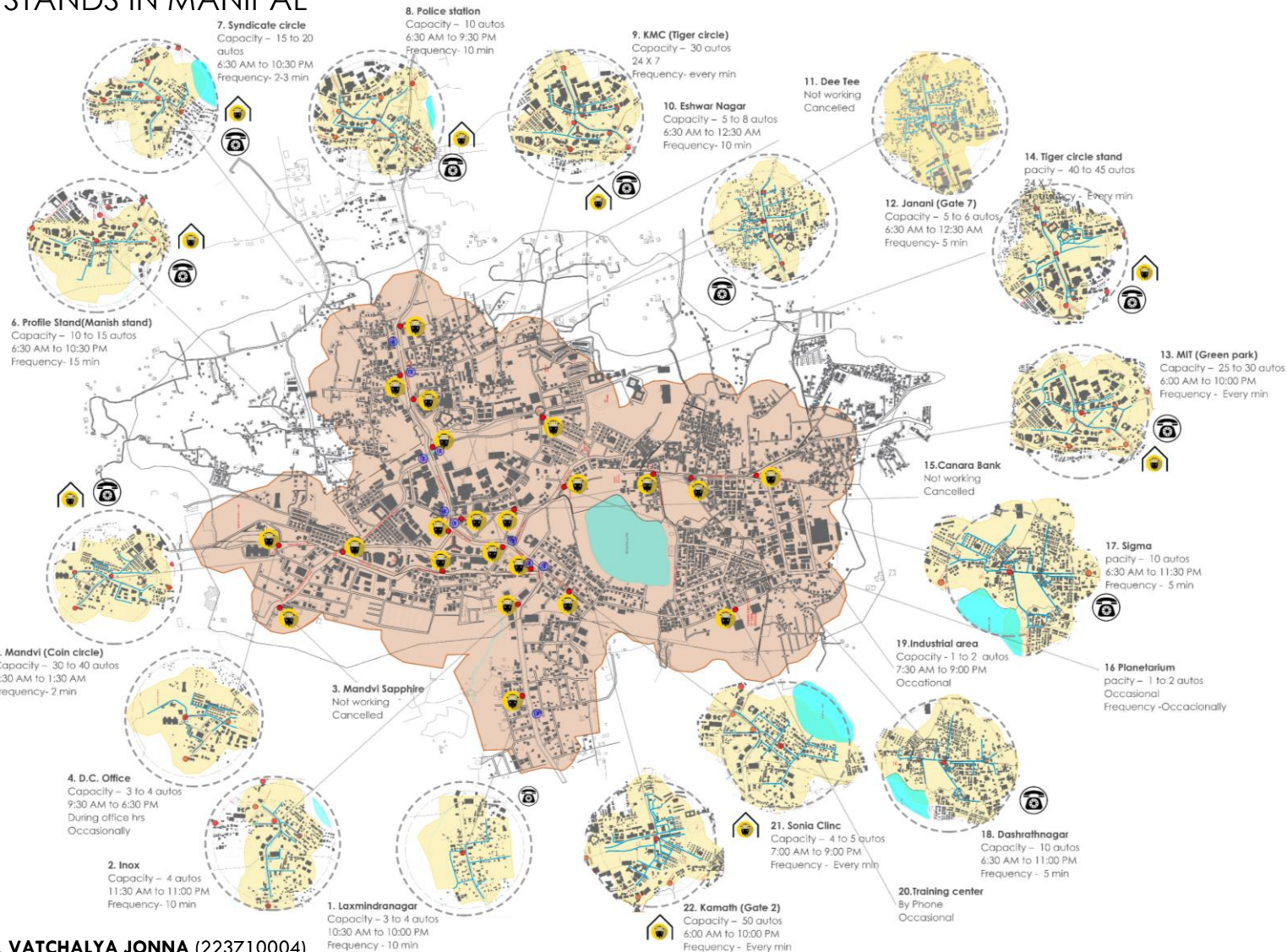
## ACCESSIBILITY TO AUTO STANDS IN MANIPAL

### Observations

- Every auto has a unique registration number.
- Every year auto driver needs to renew their license.
- Manipal-registered Autos do not have permission to operate from Udupi Stands.
- MIT Gate 2 (Kamath) Auto stand stops its operation while MAHE has a vacation.
- During the Student's vacation period as Gate 2 Stop is not functional, drivers opt for their agricultural chores.

### Legend

-  Auto Stand
-  Shelter
-  Telephone
-  Bus stops



STUDENT: ANSHITA GUPTA (223710004), VATCHALYA JONNA (223710004)

FACULTY: KUMAR GAURAV

MIT (GREEN PARK)



# ARC 6202 Urban Design Studio - II

## PROPOSAL OF THE MASTER PLAN FOR HUBLI-DHARWAD CITY, KARNATAKA

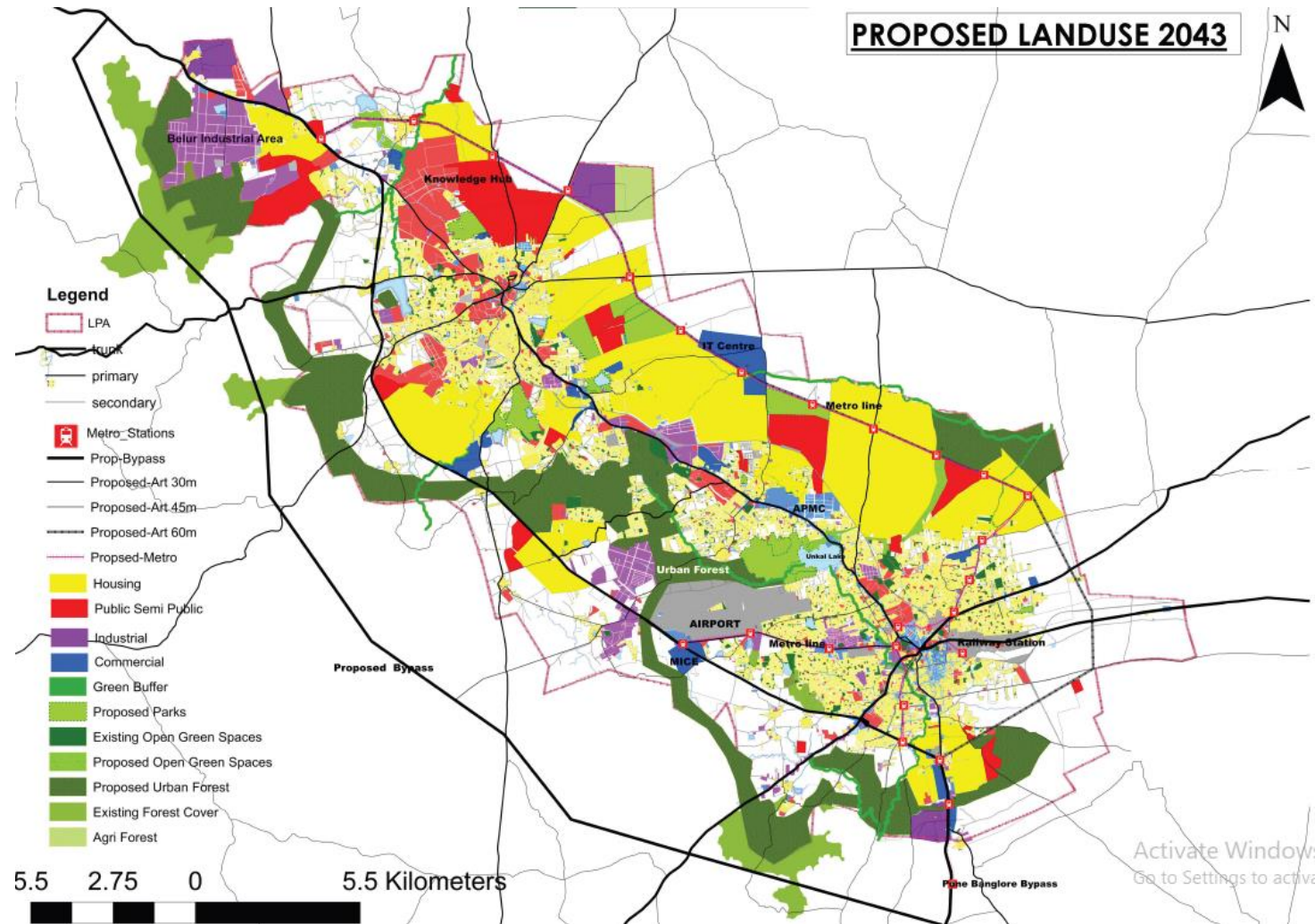
### COURSE OBJECTIVES:

The course introduces and exposes students to the intricacies and complexities in terms of pressing issues such as conflict between old and new areas, fragmentation, transformations, lack of character, and image. The complications and implications arising out of urban contestations surrounding the management of the common pool resources (such as environment or culture) are understood and the studio seeks a way forward to manage the challenges of urban futures.

### PROJECT BRIEF:

The spatial concept envisions Hubli-Dharwad as a hierarchy of mixed-use areas, corridors, and nodes, that integrate the natural ecological system, and that are connected by an efficient public transit system”

Polycentricity combines the advantages of compact and dispersed models and is thus widely regarded as a desirable urban form.



STUDENT: ANSHITA GUPTA (223710004)

FACULTY: BOORLA VENKATARAMANA

# ARC 6204 Urban Governance and Management

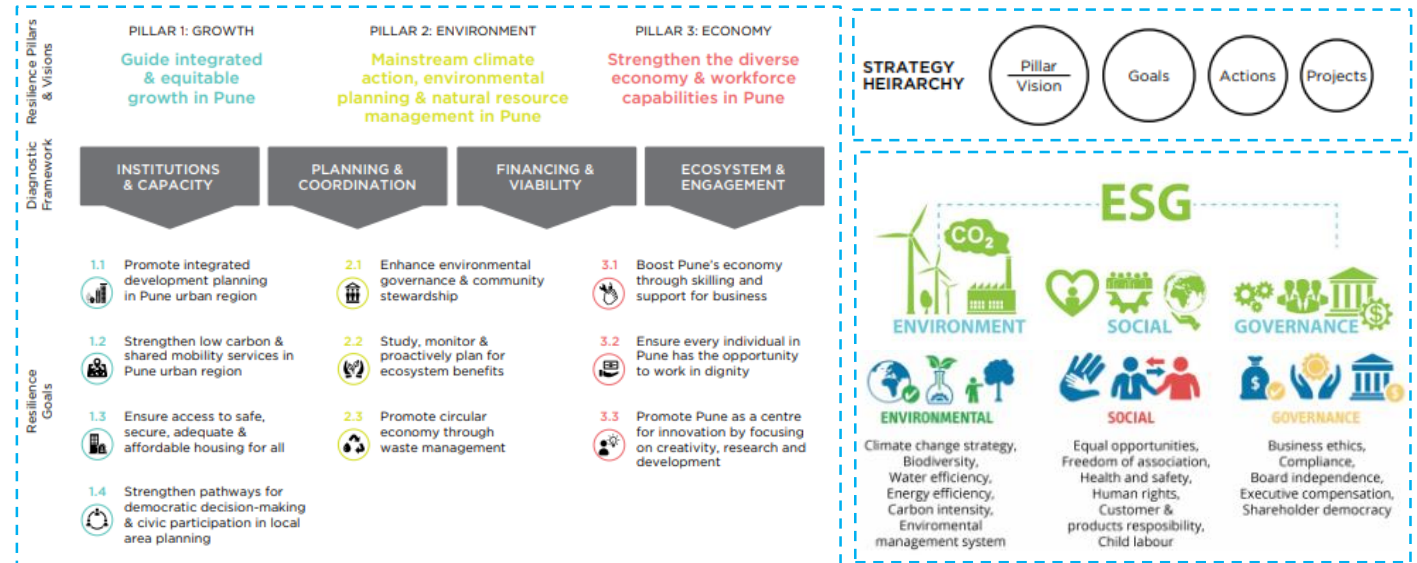
## GOOD GOVERNANCE PRACTICES – PUNE CITY

### COURSE OBJECTIVES:

To understand the framework of Indian governance and administrative set up. To learn the hierarchy of powers among centre, state and local governance. To identify urban issues and relate them with urban management methods/techniques. To interpret solutions for urban issues based on comparative analysis.

### PROJECT BRIEF:

The idea of this project was to understand the good governance Practices. The strategies such as E-governance, Grievance redressal mechanism, etc. To understand the Accountability, Transparency, Efficiency, by analyzing the existing process in the governance of Pune City.



Good Governance

### Smart Governance in Pune (Pune Municipal corporation - PMC):

- “SMART Governance” is about the future of the public services, it’s about greater efficiency, community leadership, mobile working and continuous improvement through innovation. Technology is great enabler and it will play critical role in achieving the Pune’s Smart city vision through smart governance model.
- The essential components of Smart Cities would be IT enabled public services, cost-efficient physical, social and institutional infrastructure, quality education, cheaper health care and high-speed interconnectivity, fast and efficient urban mobility, etc. It includes e-government, the efficiency agenda and mobile working.
- Smart Governance focuses upon improved customer service, increased access to information and increased efficiency across the ecosystem. SMART Governance is about using technology to facilitate and support better planning and decision making. It is about improving democratic processes and transforming the ways that public services are delivered. It focuses upon:
  1. Effective Service Delivery
  2. Accountability and Efficiency
  3. Transparency
  4. Citizen centric government processes

STUDENT: BRINDA KOTHARI (223710005)

FACULTY: KOMAL JAISWAL

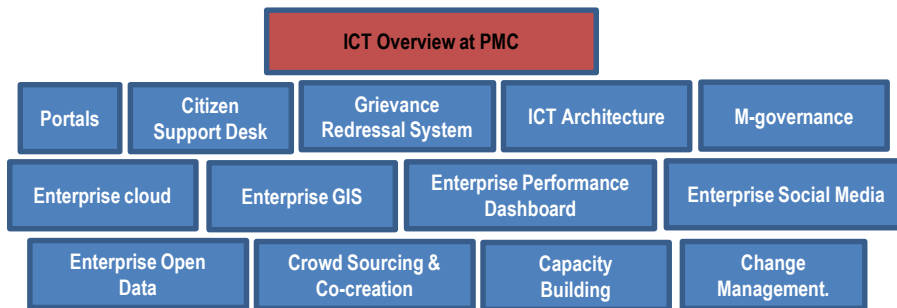


# ARC 6204 Urban Governance and Management

## GOOD GOVERNANCE PRACTICES – PUNE CITY

### ICT Overview at PMC:

1. **Portals:** To revamp the existing portals to deliver meaningful and relevant content related to Pune Municipal Corporation over the internet for its stakeholders
  - a) **Pune Corporation Portal:** PMC aims to revamp its existing portal. RFP is published for the same.
  - b) **Smart City Portal:** Smart city portal will provide all the information to citizens about Pune City. PMC is looking forward to generate revenue through various revenue streams like advertising, e-Commerce etc.
  - c) **Pune Connect (Online Digital Service Window):** Site to deliver citizen services through single window over web, CFC and Kiosks to its stakeholders
  
2. **Citizen Support Desk:** PMC has setup citizen support to address citizen queries and provide support over call. Toll free Number 1800 1030 222 is now operational to provide citizen support from 7 am to 11 pm. Citizen Support Desk operates in three languages namely Marathi, Hindi and English.
  
3. **Grievance Redressal System:** PMC upgraded citizen help desk mechanism for its citizens to provide support and guidance over any day to day services related to Pune Municipal Corporation departments/wards. PMC has also setup 10+ channels to entertain citizen grievance which are as follows :
  - a) Web, Mobile App, Twitter, Facebook, Google+, WhatsApp, SMS.
  - b) Dedicated cell has been established by Pune Municipal Corporation to monitor citizen issues over specified channels closely and resolve it on priority.



STUDENT: BRINDA KOTHARI (223710005)

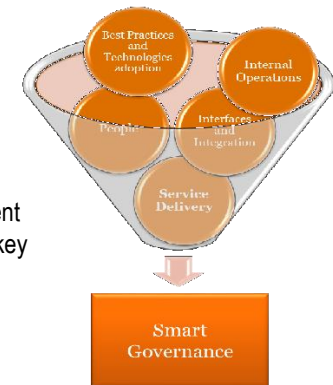
FACULTY: KOMAL JAISWAL

### Scorecard Initiative:

Evaluation Parameters	Detailed Description
1. Percentage of services available over web channel?	This is the measure of availability of services on the web channel.
2. Percentage of services available over mobile devices	This is the measure of availability of services on Mobile channel.
3. Percentage of services that do not require hard copy submission	This parameter identifies percentage of services which doesn't require any paper, file or any other hard copy submission i.e. it can be done via web or mobile channel directly thus making process paperless and reducing the touchpoint between stakeholder and department.
4. Percentage of services that do not require a physical visit to Concerned Dept. / CFC	This parameter identifies percentage of services which doesn't require physical presence
5. Percentage of transactions which leverage online payment gateway	This parameters identifies percentage of services where payment can be done online.

Under Smart Governance framework, assessment and monitoring performance are key components. Assessment is a critical step in the identification of gaps in terms of process, technology and skill set of department. Reliable and relevant smart governance metrics or key performance indicators for assessment can offer crucial insights to guide HODs in the right direction. This scorecard aims to achieve the goal of measuring progress of smart governance initiatives at department level.

1. Effective Service Delivery
2. Accountability and Efficiency
3. Transparency
4. Citizen centric government processes
5. Removal of hierarchical barriers and red tape
6. Effective service delivery
7. People Participation and Community Engagement
8. PwC has created scorecard considering five key dimensions to evaluate Smart Governance activities
9. Service Delivery
10. Internal Operations
11. Integration and interface
12. Best practices and New technologies adoption
13. People



# ARC 6206 Policy Planning and Legislation

## GOOD GOVERNANCE INDEX - JAMMU & KASHMIR

### COURSE OBJECTIVES:

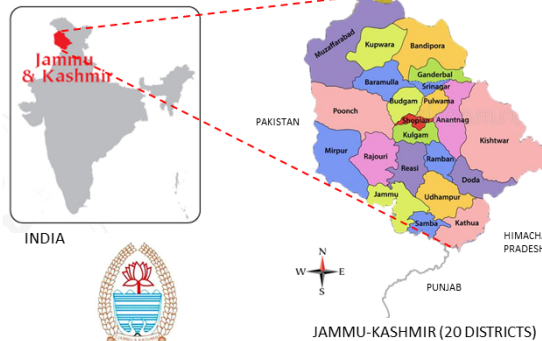
To understand the purpose, scope, means, and effectiveness of urban design policy planning processes. To identify urban issues that signify urban conditions with emphasis on policy management frameworks. To interpret the public policy, guidance, legislation, and related processes of incentive and regulation. To intervene in the design of urban policy and legislation.

### PROJECT BRIEF:

The idea of this project was to understand the good governance of Jammu-Kashmir based on its governance index. Firstly, by understanding the separation of powers through 3 pillars of government, and their powers. Later by understanding the proposed strategies, initiatives, schemes and the related departments for the same.

### JAMMU & KASHMIR - OVERVIEW

- Jammu and Kashmir is a union territory out of 8 U.T of India
- The Government of Jammu and Kashmir is the governing authority of the Indian union territory of Jammu and Kashmir
- it has 2 divisions and 20 districts.
- Jammu and Kashmir is a union territory in India under the terms of Article 239A



Government of Jammu & Kashmir

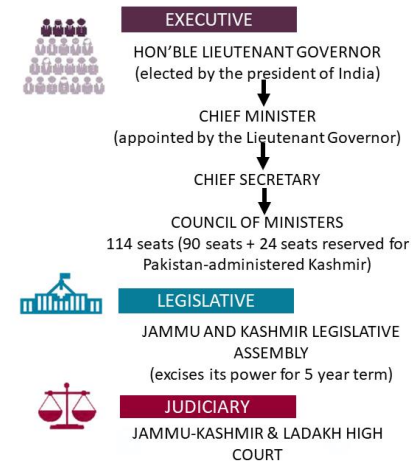
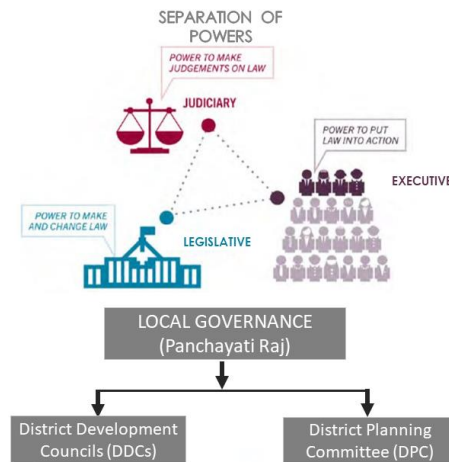
### DISTRICT GOOD GOVERNANCE INDEX

- It is prepared by the Department of Administration Reforms and Public Grievances (DARPG).
- GGI compares the state of governance in all states and union territories, while DGGI monitors programs of central and state governments at the district level.
- Performance of Jammu and Kashmir on GGI: An **increase of 3.7% in Good Governance** Indicators from 2019 to 2021.
- The **strong performance of J-K was also noted in the fields of commerce and industry, agriculture, judiciary and public infrastructure** among others.
- Jammu district topped the composite ranking, followed by Doda and Samba districts of the Jammu Division.
- Pulwama district of the Srinagar Division at the 4th spot and Srinagar district at the 5th.
- The district of Rajouri finished at the last spot, while Poonch and Shopian districts also featured towards the end of the rankings.
- Srinagar district bagged the first rank in the Public Infrastructure and Utilities sector.**
- Kishtwar topped in 'Agriculture and Allied Sector', Pulwama topped in 'Human Resource Development', Reasi topped in 'Public Health', Ramban topped in 'Social Welfare and Development', and Ganderbal topped in the 'Financial Inclusion' sector.

- 2 divisions
- 7 Sub divisions
- 20 districts.
- 207 tehsils
- 20 blocks



JAMMU-KASHMIR FLAGS



STUDENT: BRINDA KOTHARI (223710005)  
FACULTY: PURUSHOTTAM KESAR



# ARC 6206 Policy Planning and Legislation

## GOOD GOVERNANCE INDEX - JAMMU & KASHMIR

### PROPOSED INITIATIVES, SCHEMES:



#### INITIATIVES

- Centre for district youth training and empowerment (C-DYTE) Jammu
- National social assistance programme
- Beti bachao beti padhao (BBBP)
- Special industry initiative for J&K-Udaan
- Prime ministers development package for J&K, 2015
- Relief and rehabilitation to Kashmiri migrants
- Relief to Jammu migrants
- Financial assistance to displaced families of POJK and Chhamb
- Establishment of five India reserve(IR) battalions for J&K
- High end security & law –order system in J&K
- Pilot project for construction of bunkers in blocks of Jammu



#### MISSIONS

- Mission youth J&K
- National health mission (NHM) PIPS & ROPS
- National rural health mission (NRHM)
- National urban health mission (NUHM)
- JK Housing Mission.
- Green india mission
- Jammu and kashmir Rural livelihood mission (JKRLM)



#### DEPARTMENTS

- Agriculture production department
- Animal and sheep husbandry dept.
- Ari, training's and stationary & office supplies departments
- Civil aviation department
- Cooperative department
- Department of culture
- Department of fisheries
- Department of food, civil supplies and consumer affairs
- Department of horticulture
- Department of law, justice & parliamentary affairs
- Department of rural development and panchayati raj
- Disaster management relief, rehabilitation and reconstruction department
- Election department
- Finance department
- Floriculture, parks and gardens dept.
- Forest, environment and ecology dept.
- General administration dept. (gad)
- Higher education dept.
- Home department
- Hospitality & protocol dept.
- Housing & urban development dept.
- Industries & commerce dept.
- Information department
- Information technology dept.
- Jal shakti department
- Labour & employment dept.
- Planning, development and monitoring department
- Power development dept.
- Public works (r&b) dept.
- Revenue department
- School education dept.
- Skill development dept.
- Social welfare dept.
- Tourism department
- Transport department
- Tribal affairs department



STUDENT: BRINDA KOTHARI (223710005)

FACULTY: PURUSHOTTAM KESAR

# ARC 7004 Environment & Behavior

## REJUVENATION OF SURFACE WATER FROM EXISTING RIVER BODIES IN HUBLI-DHARWAR CITY

### COURSE OBJECTIVES:

Prediction of environmental attitudes and behaviour. Perspectives on perception, learning, habituation, and perception of change. Models and acquisition of spatial cognition and cognitive maps. Wayfinding, characteristics, settings.

### PROJECT BRIEF:

Water bodies are the major sources of water for different purposes such as drinking cooking washing, etc. but in the current scenario the depletion of water as a resource is increasing at alarming rates due to certain anthropogenic factors. Similarly, the depletion of water body such as ponds, lakes, rivers due to disposal of wastes such as sewage water, industrial waste including chemicals and effluents, domestic waste is dumped through point sources or non-point sources such as dumping of wastes directly into water, etc. hence we think of understanding the allocation of the river bodies near to the industries in Hubli- Dharwad..

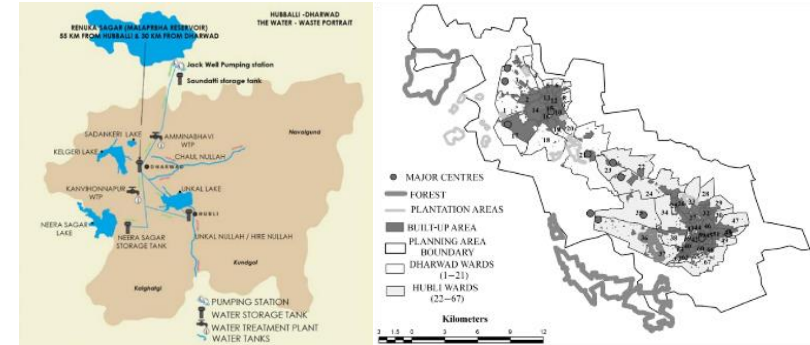
### INTRODUCTION:

The district Dharwad with an area of 4273 sq. km (427329Ha) lies in the northern part of Karnataka state between 15°02'00" to 15°48'00" north latitude and 74° 43' 30" to 75° 33'25" east longitudes as depicted.

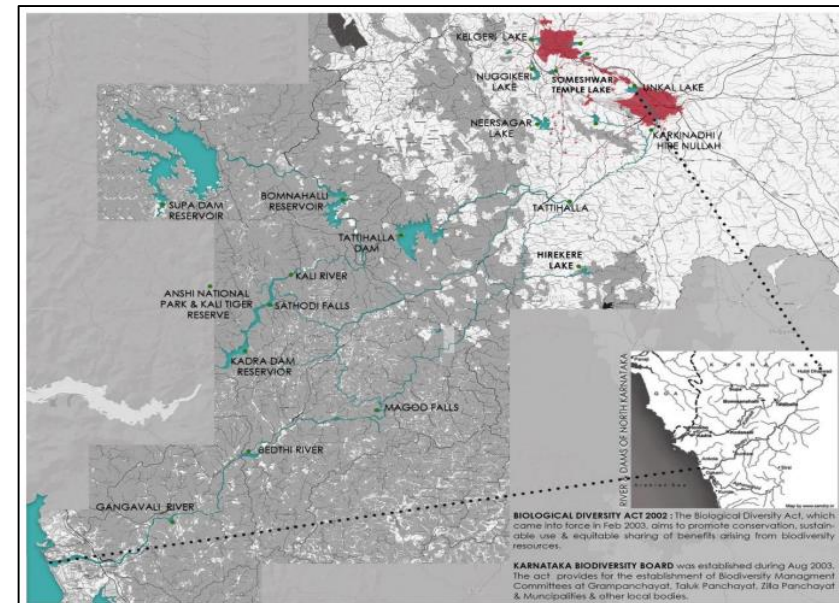
The study area falls in the western-ghat section (Sahyadris) of the peninsula within the rugged foothills. An undulating central Peditain and the eastern maidan is the prominent feature. It is situated at an altitude of 753 m (N-W Dharwad Tk) to 558 m. The lateritic brownish sandy soil occurs in the western region with 19.62 to 3.6-cm/hour rate of infiltration characteristic. The black cotton soil (BCS) in the eastern part has 2.0 to 5.0 meters thickness, are high humus and low phosphate content, with normal pH-value and very low infiltration characteristics. The Loamy to kankary soil are seen along the banks of river/stream courses.

### OBJECTIVES:

- To understand the pollution levels caused to water bodies due to industrial waste, based on types of industries and types of waste generated and to understand how to make the city sustainable by using sustainable development goal targets.
- To analyze the primary and secondary data available for Hubballi Dharwad city for understanding the effects caused on the environment and the communities residing in the city due to pollution of surface water.
- To observe and understand the existing mitigation measures for reducing the pollution levels and the mitigation measures to be implemented.



The century-old Navalur Lake, built in 1887 to meet the drinking water needs of surrounding villages and irrigation requirements of around 68 acres of land, may soon die if the indiscriminate discharge of drainage water into it is not stopped.



STUDENT: NANDHINI(223710001); BRINDA KOTHARI (223710005)

FACULTY: SASMITA CHAND



# ARC 7004 Environment & Behavior

## REJUVENATION OF SURFACE WATER FROM EXISTING RIVER BODIES IN HUBLI-DHARWAR CITY

### RESULTS AND DISCUSSION:

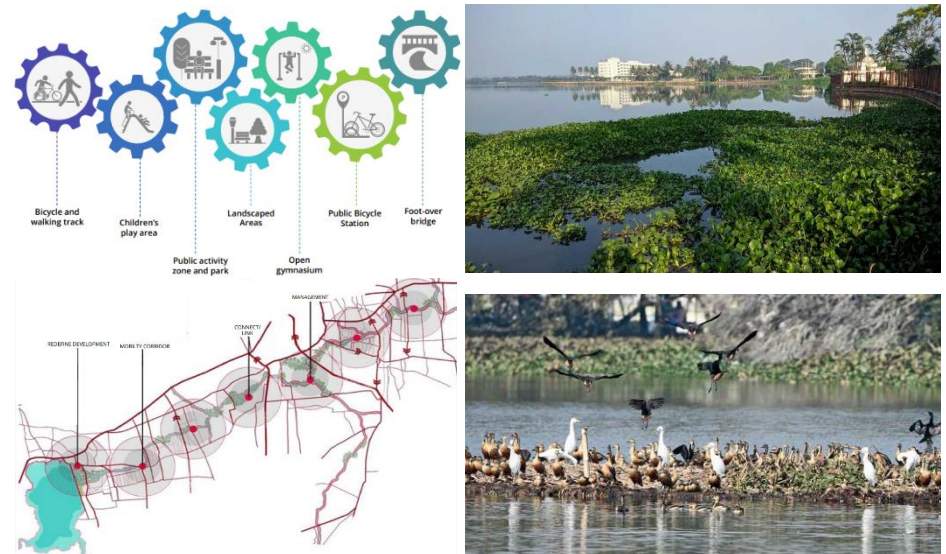
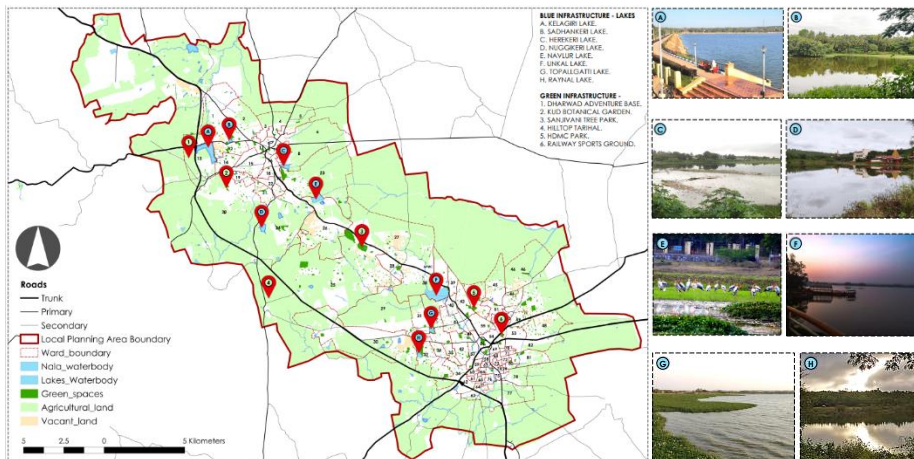
The century-old Navalur lake, built in 1887 to meet the drinking water needs of surrounding villages and irrigation requirements of around 68 acres of land, may soon die if the indiscriminate discharge of drainage water into it is not stopped.

Drainage water is polluting the lake water and also poses a threat to aquatic life as well as domestic animals as some portion of the lake is covered by farm lands. Most of the farmers take their cattle for grazing on the lakebed as they have no other option. Not only drainage water, even effluents from Lakkamanhalli industrial area, have also polluted the lake. A few years ago, owing to pressure from public, authorities took some measures to stop the flowing of effluents into this lake. But that didn't last long as a huge flow of effluents into lake continues during heavy rain. For the past decade or so, the lake has lost its importance, said a villager, adding that local politicians or authorities are not bothered about renovating it. The presence of two major compounds in drainage water and industrial waste often resulted in aquatic weed growth that obstructs the flow of water and impacts the health of those who use the water.

### CONCLUSION:

Conservation of lakes under a Public Private Partnership is not envisaged directly under any of the enactments and policies, however, few lakes were undertaken under private participation and it was alleged by the public that it is the commercialization of the lakes that would serve the interest of the private parties and not the public at large.

Navalur Lake is under stress due to the mismanagement with the uncoordinated and fragmented governance, which is evident from the sustained inflow of untreated or partially treated sewage, untreated industrial effluents, dumping of municipal solid waste including construction and demolition waste, encroachment of stormwater drains and lake bed. Despite the attempts to restore the degraded lake to its original status have proved to be futile due to the lack of ecological approaches in the restoration. Multivariate analyses showed that the physicochemical parameters like Ph, dissolved oxygen, chloride, calcium, BOD, COD, water temperature, and TDS played an important role in determining the water quality of these restored lakes.



STUDENT: NANDHINI(223710001); BRINDA KOTHARI (223710005)  
FACULTY: SASMITA CHAND

# ARC 7008 Spatial Information Mapping and Analytics

## UNDERSTANDING THE TOPOGRAPHY OF PUNE CITY USING GIS

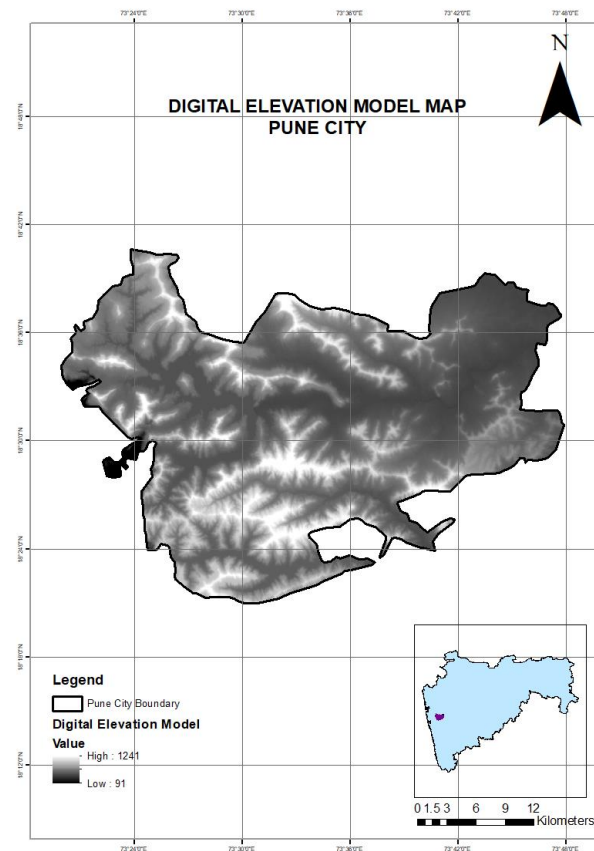
### COURSE OBJECTIVES:

To introduce the concepts of Geo-informatics and to familiarize with the associated scientific tools, their relevance, and applicability in urban designing. Working knowledge of the relevant image processing and GIS software through hands-on experience. Projects assigned to understand and learn the applications in the field of urban design and development.

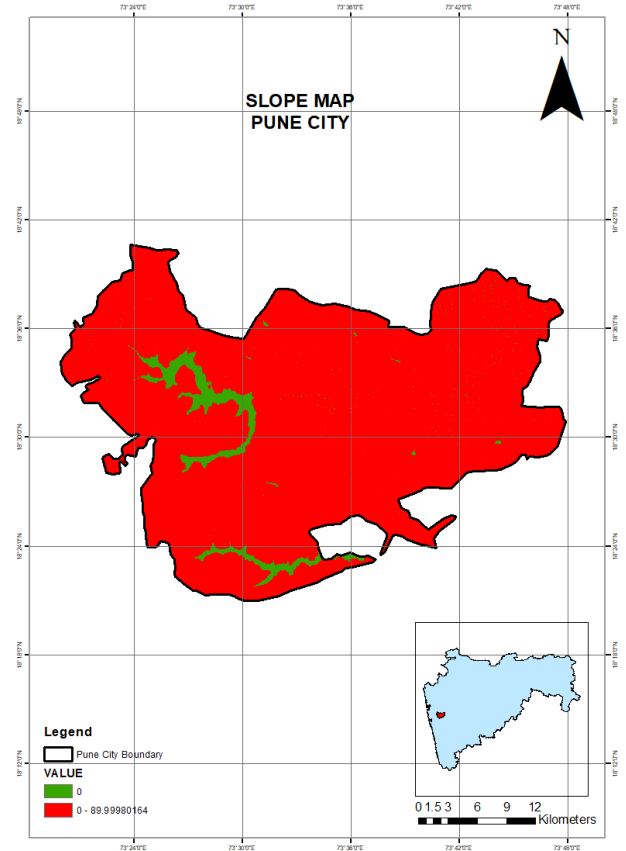
### PROJECT BRIEF:

To understand the usage of GIS software and the various representations of maps for analyzing the selected area i.e. Pune city in an urban scenario, by preparing the digital elevation model, its contours, hill-shade, topography, and aspect ratio. These maps may be helpful when used for analysis in urban cases for overlapping maps on each other and concluding based on the same.

1. To discover the Digital Elevation Model (DEM) for your native place and show the maximum and minimum elevation values of the DEM.



2. To analyse the topography of a region with respect to its slope and aspect using a Digital Elevation Model.



STUDENT: BRINDA KOTHARI (223710005)

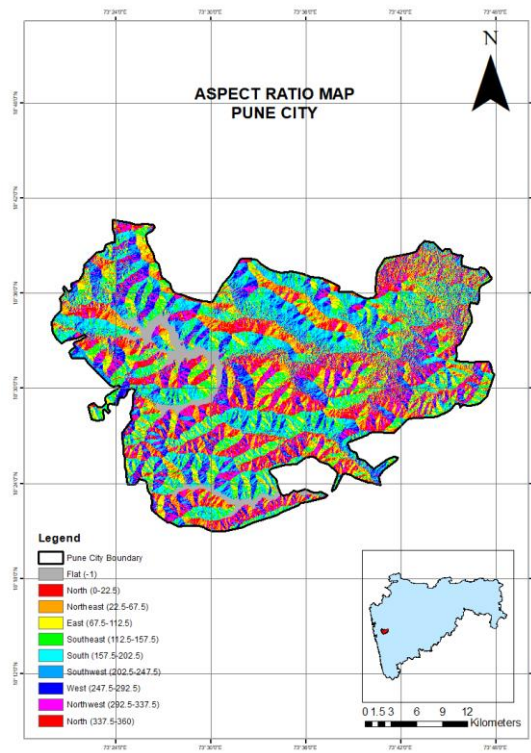
FACULTY: ANOOP SHUKLA



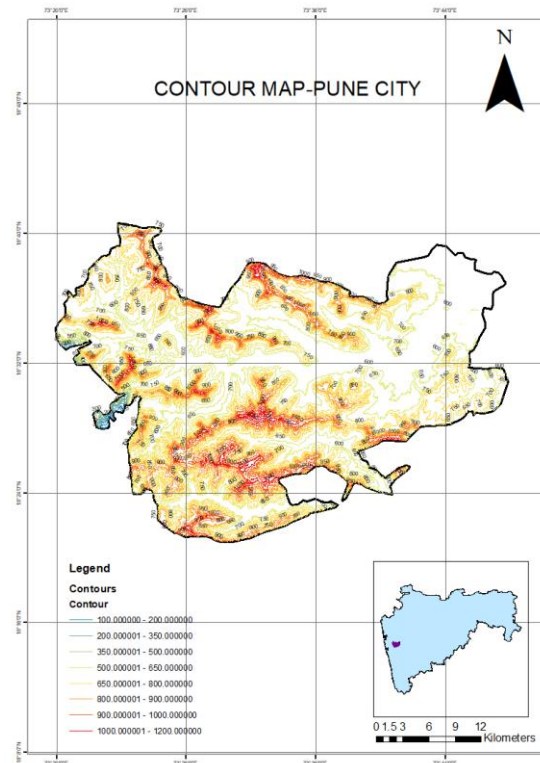
# ARC 7008 Spatial Information Mapping and Analytics

## UNDERSTANDING THE TOPOGRAPHY OF PUNE CITY USING GIS

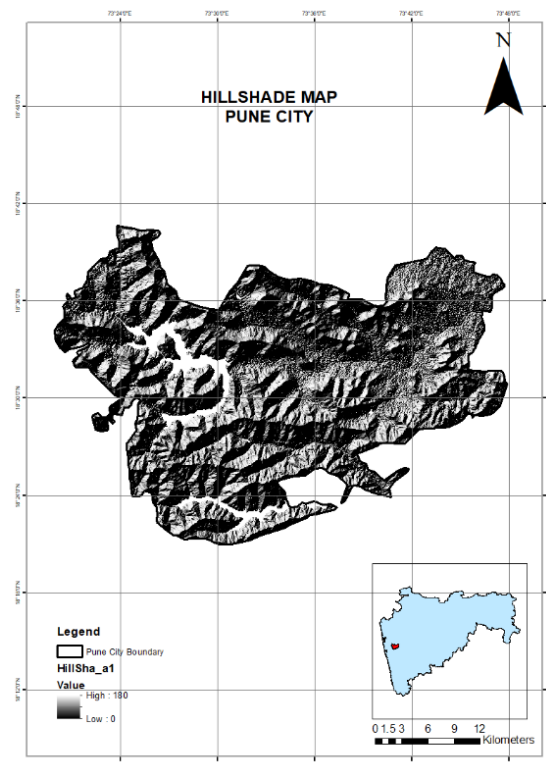
3. To analyze the topography of a region with respect to its slope and aspect using a Digital Elevation Model.



4. To prepare the contour map of your native place with any contour interval (e.g. 5m, 10m, 20m....) using a Digital Elevation Model and showing the contour values in the contour map.



5. To Prepare overlay maps of Hillshade in combinations with different Curvature layers and describe the patterns and features that you observed.



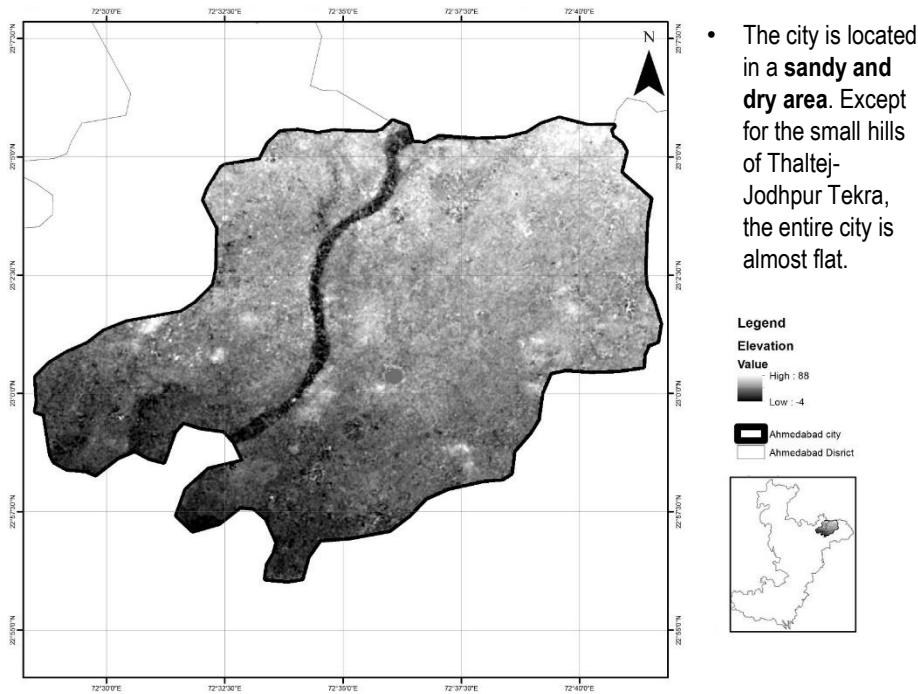
- In Pune city, the hillshade map can help identify the patterns and features of the terrain and urban infrastructure. For example, the hillshade map can help identify the location of hills and valleys within the city, as well as the slope of the terrain.
- By combining the hillshade map with other layers such as curvature, land cover, and hydrology, it is possible to gain a more comprehensive understanding of the patterns and features of Pune city's landscape. This information can be used to support a variety of applications, such as urban planning, environmental management, and disaster response.

STUDENT: BRINDA KOTHARI (223710005)

FACULTY: ANOOP SHUKLA

# ARC 7008 Spatial Information Mapping and Analytics

## UNDERSTANDING THE TOPOGRAPHY OF AHMEDABAD CITY USING GIS

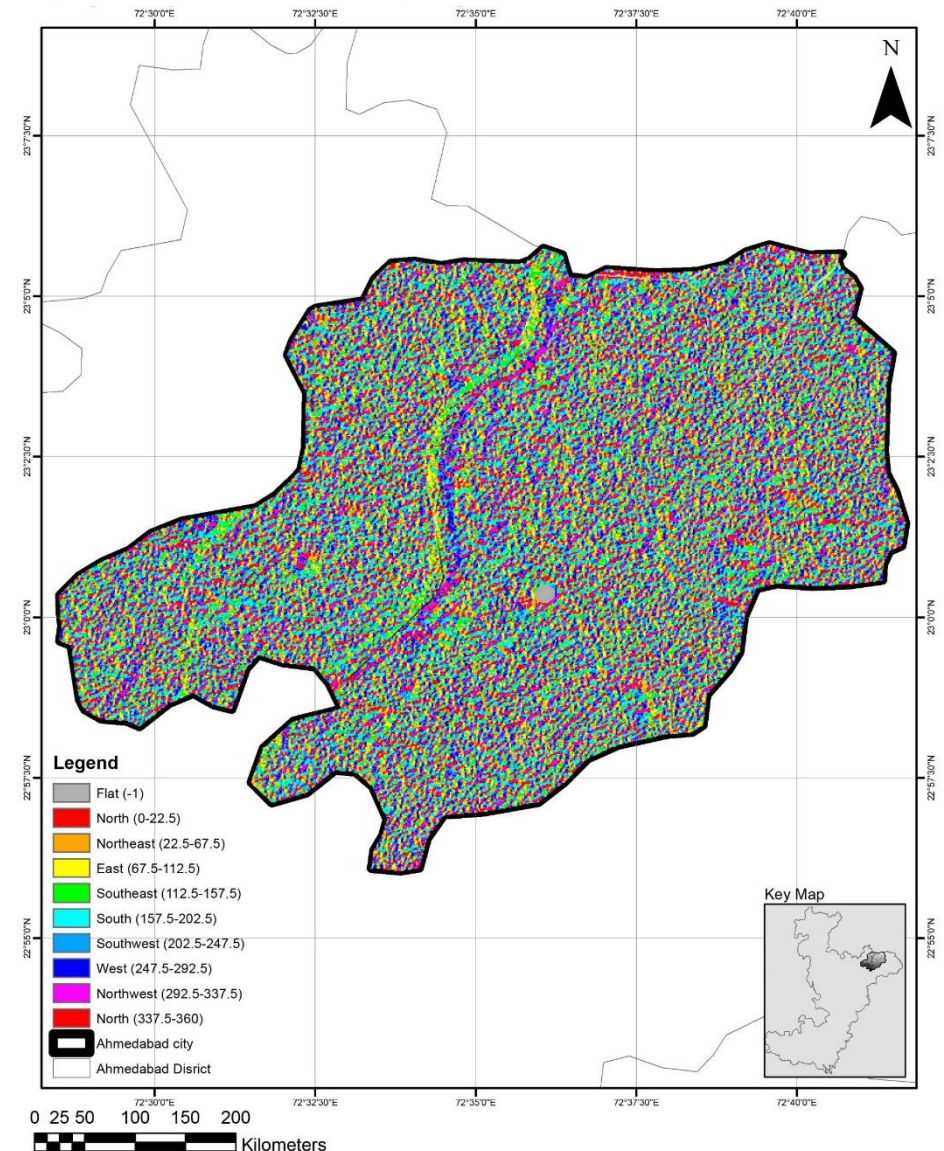


Digital elevation model (DEM) for Ahmedabad, Gujarat

- It covers an area of 464 km<sup>2</sup>.
- The Sabarmati frequently dried up in the summer, leaving only a small stream of water, and the city is in a sandy and dry area.
- Three lakes lie within the city's limits—Kankaria, Vastrapur and Chandola. Kankaria
- From the Terrain and topographic analysis of following maps we can infer that towards the south west area the gradual slope of city lies.
- Maximum elevation of the city is 80 m from the MSL.

STUDENT: ANSHITA GUPTA (223710004)

FACULTY: ANOOP SHUKLA

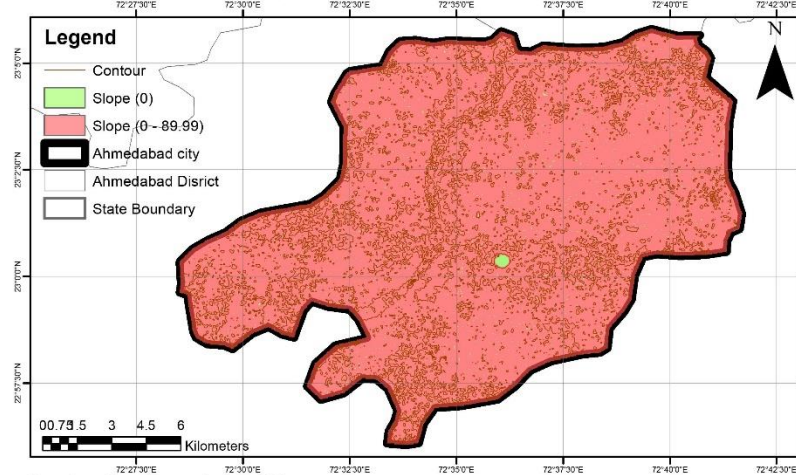




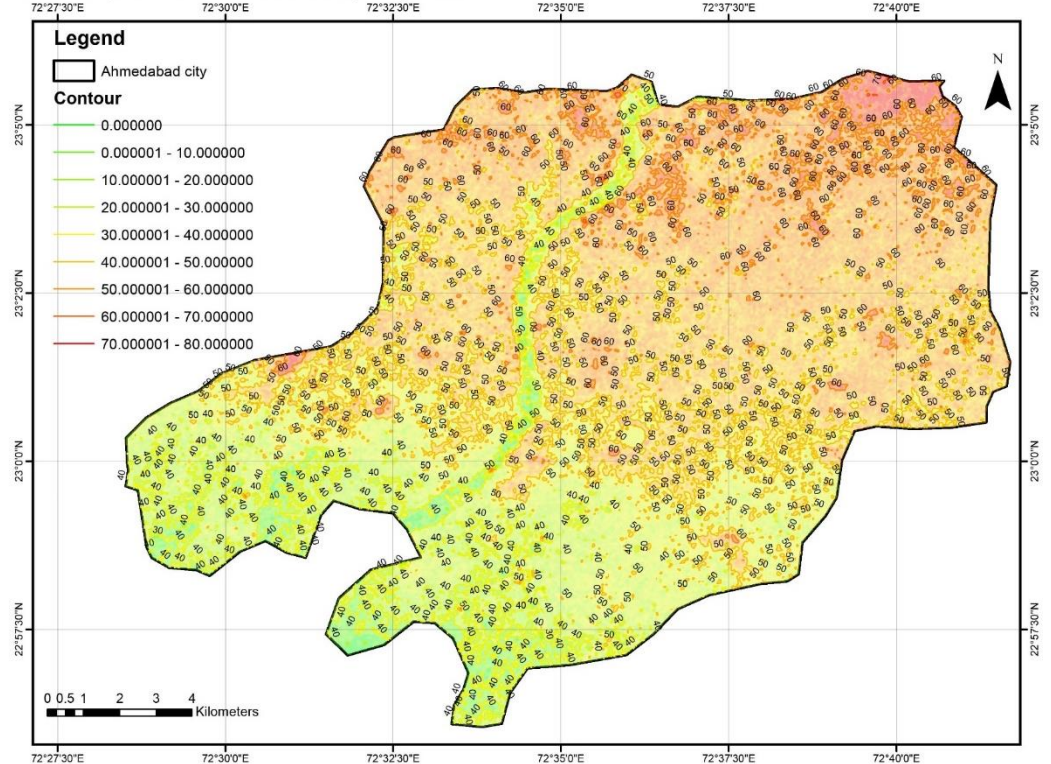
# ARC 7008 Spatial Information Mapping and Analytics

## UNDERSTANDING THE TOPOGRAPHY OF AHMEDABAD CITY USING GIS

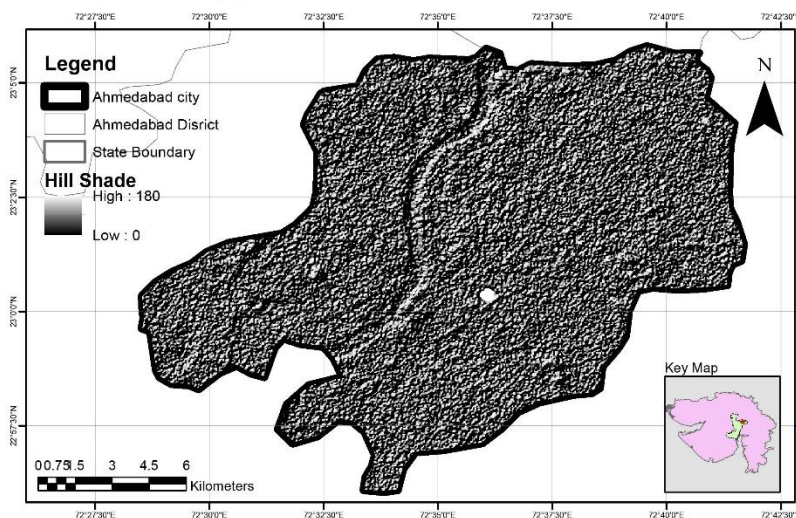
Terrain of Ahmedabad, Gujarat



Contour plan of Ahmedabad, Gujarat



Contour plan with overlaying of Slope map



Hill Shade analysis

### Terrain of the city

- The city has extremely flat terrain.
- Analysis simulate lighting of a terrain from a certain direction or multiple directions based on slope and aspect further improves the terrain visualization.
- Overlapped result of slop map and contour plan shows the evenness of the surface.

STUDENT: ANSHITA GUPTA (223710004)

FACULTY: ANOOP SHUKLA

Master's in Architecture (Urban Design & Development)  
Postgraduate Program

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Year

2

Architecture



# ARC 7201 Urban Design Studio – III

## FLOOD MITIGATION AND RESTRUCTURING OF NEIGHBORHOOD THUNDIPARAMBU, KOCHI

### COURSE OBJECTIVES:

The course deals with the complexities of large cities, addressing the importance- of its existing and future engagement with respect to stakeholders, globalization, and environmental agenda. The interventions be addressed in the context of social fabric, networks (formal and informal), urban equity (infrastructure), and spatial justice.

### PROJECT BRIEF:

The studio was focused on enhancing and preserving the natural ecosystem and historical character of the delineated area along with the upgradation and improvement of the transportation network, and social and physical infrastructure, it also focused on creating a child-friendly region. The master plan would resolve current issues and also prepare the region for future Urban issues., through various innovative design interventions, policies, and guidelines. This project in line with the studio aims to mitigate the danger of flooding and to restructure the neighborhood to solve other urban issues which are becoming a barrier towards sustainable urban design interventions.

### MASTERPLAN

#### Vision

The vision of this master plan is to enhance and preserve natural ecosystem and historical character of the delineated area along with upgradation and improvement of transportation network social and physical infrastructure . the master plan also focuses on creating a child-friendly region. This plan would resolve current issues and also prepare the region for future Urban issues..through various innovative design interventions policies and guidelines.

#### Coastal Erosion- Soft solutions:Till Naval Base

##### Artificial Beach Nourishment

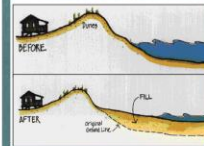
Sand is added to the existing beach.

##### Natural Eco-friendly way to combat coastal erosion.

Preserves flora fauna and recreational opportunities.

CHINESE FISHING NETS

AND VASCODAGAMA SQUARE



#### Child friendly guidelines:

##### Traffic calming measures:

- Install 3m wide speed table at a distance of 5m from the junction
- It makes the car users alert to moving pedestrians and cyclists. Traffic calming generally reduces traffic noise. Speed reductions from 50 to 30 km/h.
- Installation of Signals for pedestrian crossing, speed limit and other signages at a clear sighting distance of 50m from the junction
- Stop line 1.2 m before crossings
- Compulsory signage of shared bi-cycle track on 12m roads.
- Raised pedestrian crossing at junction of child friendly route.

#### Cultural Spine and heritage structure

##### Preservation of local character

##### BUILDING LINE

The building line of the existing street is the street side external boundary of the heritage buildings footprint. This building line shall be the building line for all the new buildings.

##### ROOF

The predominant roofline of the street should be maintained. The roofing system can be of any choice but covering material shall be Mangalore pattern tiles. No features other than the roof should be visible from the street.

##### ROOF STYLE

Slope: 33deg. Overhang: 60 cms. Over hang portion on to the street should be of timber structure i.e. With timber rafters and tile, to be made visible from the street below.



STUDENT: RAGHAV CHAWLA (213710012)

FACULTY: DEEPIKA SHETTY, SUNDEEP KUMAR S, VISHAL CHETTRY



# ARC 7201 Urban Design Studio – III

## FLOOD MITIGATION AND RESTRUCTURING OF NEIGHBORHOOD THUNDIPARAMBHU, KOCHI

### Visuals of the neighbourhood



STUDENT: RAGHAV CHAWLA (213710012)

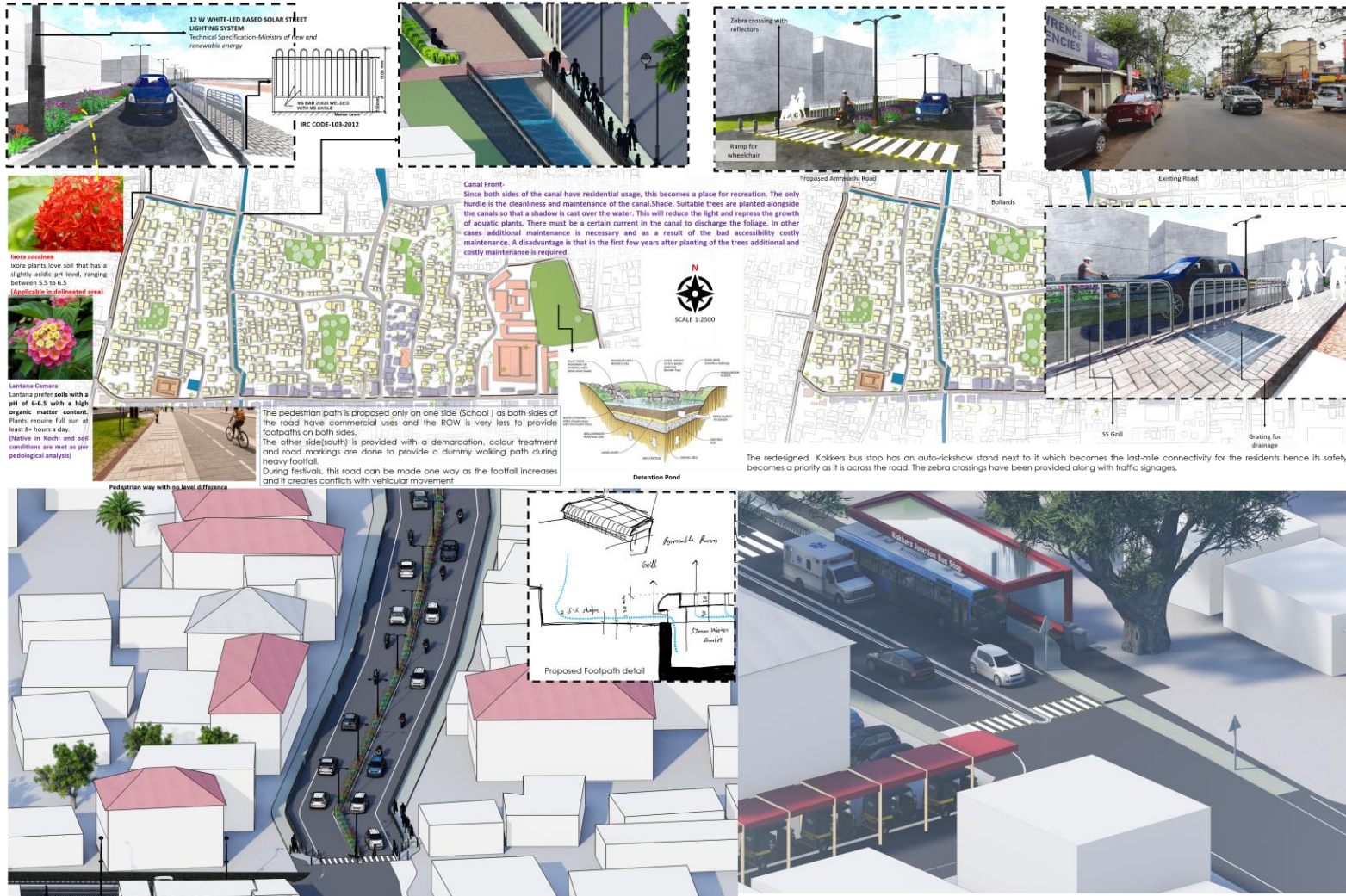
FACULTY: DEEPIKA SHETTY, SUNDEEP KUMAR S, VISHAL CHETTRY



# ARC 7201 Urban Design Studio – III

## FLOOD MITIGATION AND RESTRUCTURING OF NEIGHBORHOOD THUNDIPARAMBHU, KOCHI

Detail Design



STUDENT: RAGHAV CHAWLA (213710012)

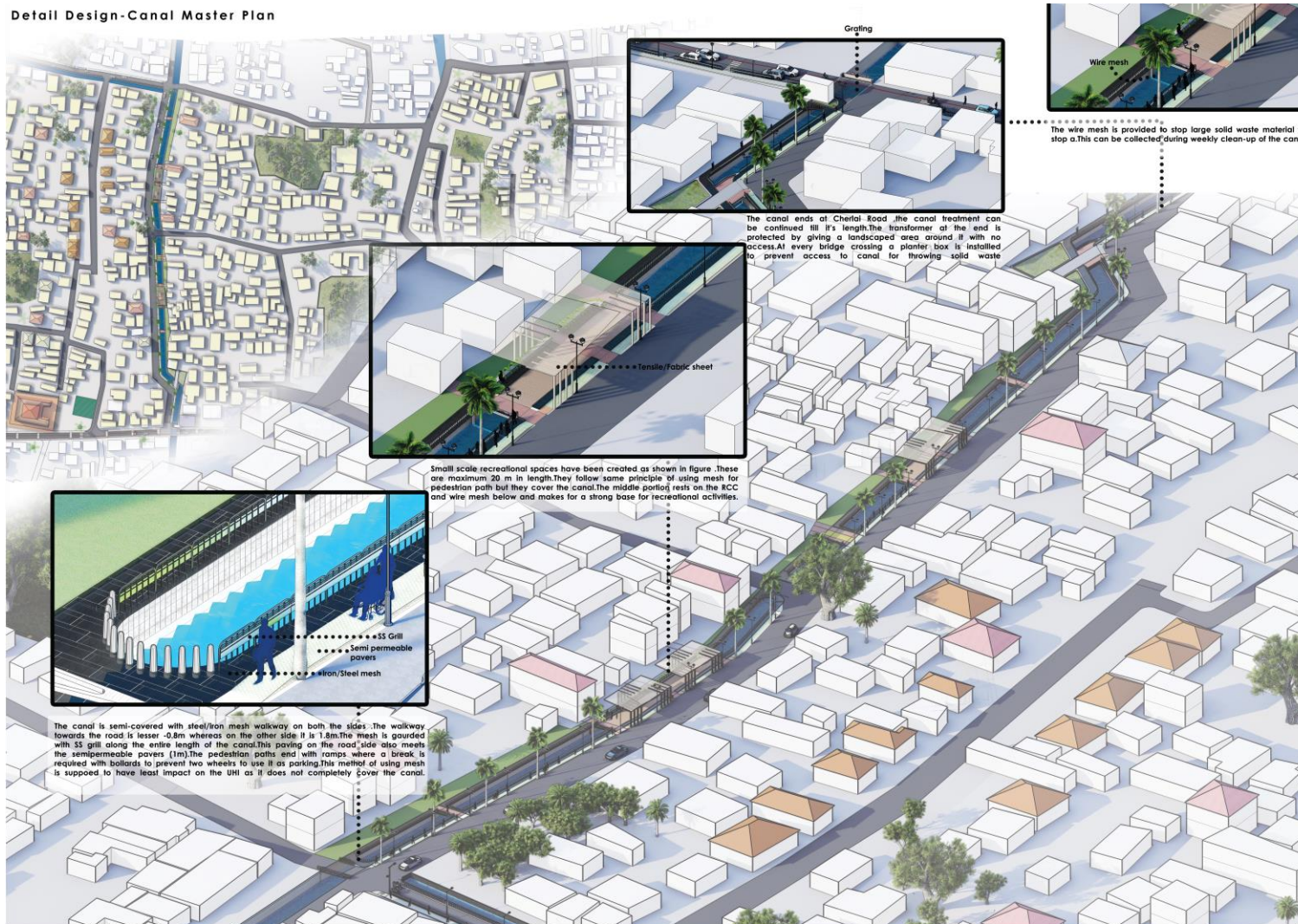
FACULTY: DEEPIKA SHETTY, SUNDEEP KUMAR S, VISHAL CHETTRY



# ARC 7201 Urban Design Studio – III

## FLOOD MITIGATION AND RESTRUCTURING OF NEIGHBORHOOD THUNDIPARAMBHU, KOCHI

Detail Design-Canal Master Plan



STUDENT: RAGHAV CHAWLA (213710012)

FACULTY: DEEPIKA SHETTY, SUNDEEP KUMAR S, VISHAL CHETTRY



# ARC 7201 Urban Design Studio – III

## FLOOD MITIGATION AND RESTRUCTURING OF NEIGHBORHOOD THUNDIPARAMBHU, KOCHI

Site level Master Plan



STUDENT: RAGHAV CHAWLA (213710012)

FACULTY: DEEPIKA SHETTY, SUNDEEP KUMAR S, VISHAL CHETTRY



# ARC 7203 Urban Land Economics

## SABARMATI RIVERFRONT DEVELOPMENT

### COURSE OBJECTIVES:

To develop a basic understanding of economic ideas related to land-use, land use policy, and its economic significance. To identify issues related to the Real estate market, demand and supply analysis, and profitability with emphasis on Policies.

## SABARMATI RIVERFRONT DEVELOPMENT , AHMEDABAD | Urban Land Economics

**Project Brief** - The Sabarmati Riverfront Project aims to reclaim private river edge as a public asset and restore the city's relationship with its river. The Riverfront project presents a great opportunity to create a public edge to the river on the eastern and the western sides of Ahmedabad with claims of providing solution to flood management, protection of the river from sewer pollution, as well as creating value on land that is currently wasted by creating a unique skyline.

### Project Implementation -

Ahmedabad Municipal Corporation (AMC) set up Sabarmati Riverfront Development Corporation (SRFDCL) in May 1997 with a mission to revive the city centre by reconnecting it to the river Sabarmati.

### Features - Rehabilitation of Slum Dwellers

12,000 hutments occupying nearly 20% of the critical project area. More than 10,000 families - resettlement houses 9,078 families shifted and the remaining are under the process. Each house is of 26.77 sq. m. carpet area with a range Rs. 10 -25 lakhs.

### Urban Forestry Sewage System -Water Recreation



**Gujari Bazaar** - A MoU was signed between the AGA and SRDC spread over 70,000 sq. m. and 1,600 with business on 778 pucca platforms and 783 laris with 200 streetlights & 800 trees.

**Dhobi Ghat** - 9,400 sqmt area, utility area - 6,000 sqmt.

**Event Area** - An area of 60,000 sqmt spread between Sardar Bridge & Ellis Bridge has been designated for hosting events like the Kite festival, Marathon, Cyclothon, Garib Kalyan Mela.

### OUTCOME -

Rs. 1,200 Cr. will be returned by SRFDCL to AMC and increase of Rs.50 Cr. from property taxes is likely to be realized.

The project is expected to contribute significantly to the financial resources of the municipality with 14.5% of the total area is intended for multi-use land sale.

2,94,082 sq. m. of total area and 8,40,000 sq. m. of total saleable floor area is expected to be sold (amounting to Rs. 1,700 Cr)

MANASI SHENDRE |

**HIGHLIGHTS**

- Minimize flooding in traditionally floodprone areas and to clean-up the Sabarmati with new sewage treatment infrastructure
- providing intercepter sewer lines along both banks of the river to divert sewage to Ahmedabad's two sewage treatment plants; and building retaining walls
- two-level promenade, lower promenade with a minimum width of 10 meters, pedestrian access and upper promenade for public buildings, cultural, public parks and plazas

The first phase of the project - 9 km stretch of the riverfront. In 2002, the project was extended to cover a 20 km stretch

10.5-kilometres stretch, creating approximately 185 hectares of reclaimed land for social uplift and urban rejuvenation

STUDENT: MANASI SHENDRE (213710011)

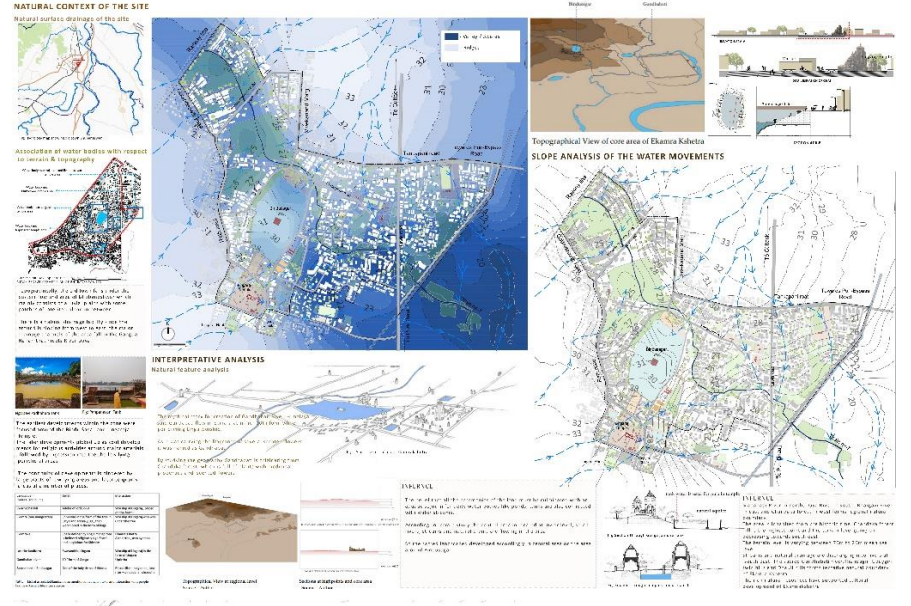
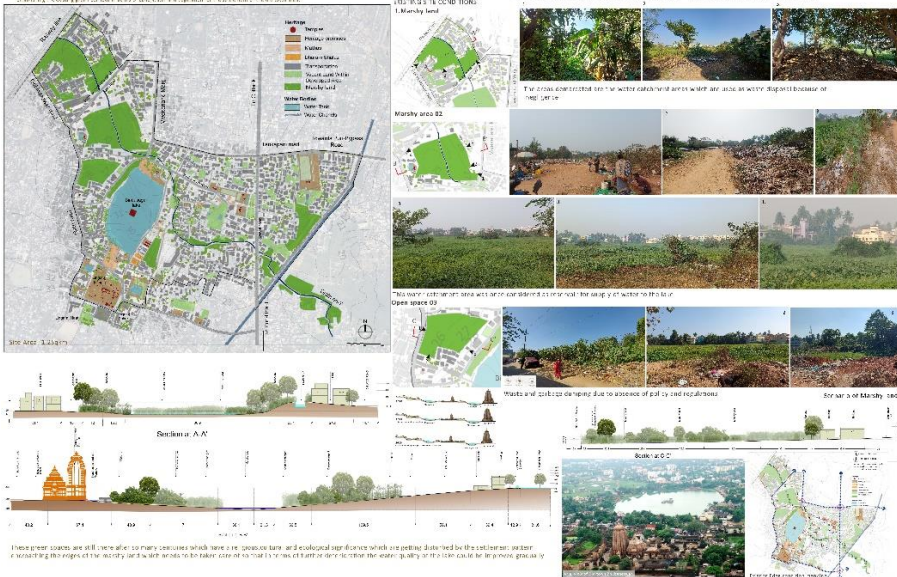
FACULTY: BOORLA VENKATARAMANA

M. ARCH. (UDD) YEAR 2, SEMESTER 3 (2022-23)



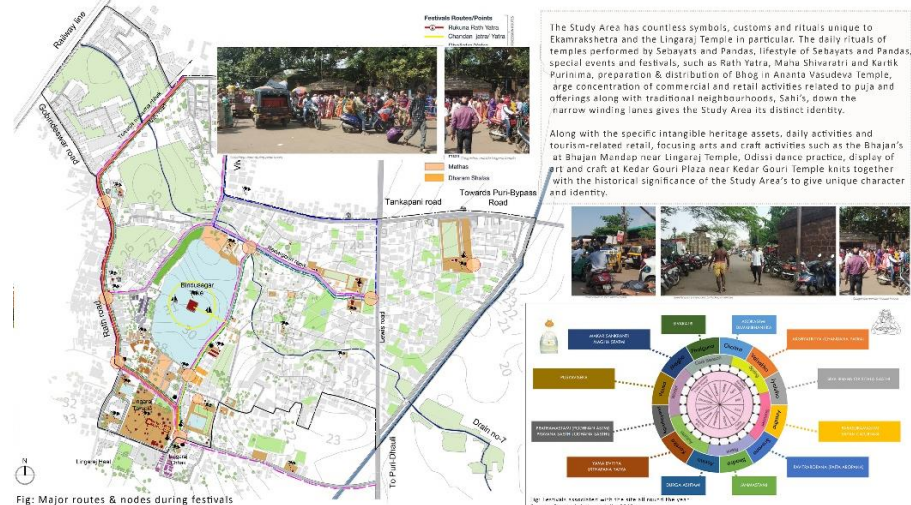
# ARC 7202 Urban Design Thesis

## REVIVING THE SCARED BLUES AND GREENS THROUGH ECOLOGICAL URBANISM FOR THE TEMPLE TOWN OF BHUBANESWAR



### Project Brief

This thesis advocates an ecological urbanism approach to restore Old Town Bhubaneswar's natural and cultural heritage, emphasizing the sacred blues and greens - LAND + WATER + VEGETATION - through sustainable development. It proposes incorporating traditional ecological knowledge, citizen participation, and green infrastructure to balance economic growth and environmental conservation. By revitalizing water bodies, rain gardens, and bioswales, the city can improve water quality and create a landmark corridor for temples and people. Sustainable tourism can be promoted by showcasing the city's cultural and natural heritage through eco-tourism trails. In conclusion, ecological urbanism can conserve the city's cultural legacy, promote sustainable development, and create a resilient urban environment benefiting both people and nature.



STUDENT: PRIYANKA PATRA (213710005)

FACULTY: AJIT C. MADKAIKER



# ARC 7202 Urban Design Thesis

## REVIVING THE SACRED BLUES AND GREENS THROUGH ECOLOGICAL URBANISM FOR THE TEMPLE TOWN OF BHUBANESWAR



### CONCLUSION:

The temple town of Bhubaneswar, India, is known for its ancient temples and vibrant culture, which has been sustained for centuries. However, the city's growth and development in recent years have caused significant ecological damage to its surrounding areas, resulting in the loss of the city's sacred blues and greens. Many development pressures are affecting the Indian spiritual and cultural landscape of Bhubaneswar's ancient centre. Using Bhubaneswar's Old Town as my study location, I propose an integrated master plan to protect the cultural landscape focused on restoring the natural and spatial architectural wanders and their link with the people who comprise the old town.

This thesis proposes an ecological urbanism approach to revive the city's natural and cultural heritage, particularly its sacred blues and greens, through sustainable development practices.

The proposal argues that a sustainable and ecologically sensitive urban planning approach can help to balance economic growth with environmental conservation and restore the city's cultural and ecological identity. It also discusses how the incorporation of traditional ecological knowledge, citizen participation, and green infrastructure can be instrumental in achieving the goal of ecological urbanism. The thesis concludes by highlighting the need for an integrated and holistic approach to address the challenges faced by the temple town of Bhubaneswar and other urban areas in the world to create a sustainable future for all.

STUDENT: PRIYANKA PATRA (213710005)

FACULTY: AJIT C. MADKAIKER





# KALEIDOSCOPE

2022-23

## COMPILATION TEAM

### STUDENT TEAM

Siddhi Manocha  
K Sharvesh  
Harishbala  
Anushka Singh  
Kanisgha K D  
Eesha Mulumoodi

### FACULTY TEAM

Aiswarya Ajith  
Komal Jaiswal  
Nikhil S Kohale

### CONTENT

As provided by respective students and faculties.  
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