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City of Chandigarh

The city beautiful

ABOUT CHANDIGARH

AREA: 114 sq. km
POPULATION 1.05mn

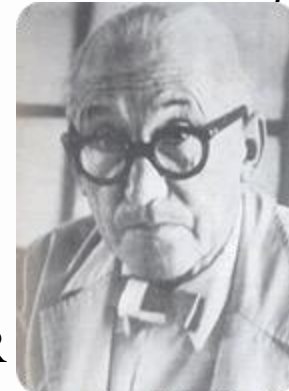
YEAR OF DEVELOPMENT : 1952

REASON FOR SELECTION OF SITE:

The present site was selected in 1948 taking into account

- 1.its Central location in the state,*
- 2.proximity to the national capital*
- 3.availability of sufficient water supply,*
- 4.fertile soil,*
- 5.gradient of land for natural drainage,*
- 6.beautiful site with the panorama of blue hills as backdrop*
- 7.moderate climate.*

LE CORBUSIER



TEAM OF ARCHITECTS:

Le Corbusier and his team which consisted of

- 1. Maxwell Fry*
- 2. Jane B Drew (wife of Maxwell Fry)*
- 3. Pierre Jeanneret (cousin of Le Corbusier)*

These senior architects were supported by Indian architects and planners consisting of:

- 1. M.N. Sharma,*
- 2. A. R. Prabhawalkar,*
- 3. U.E. Chowdhary,*
- 4. J.S. Deth,*
- 5. B.P. Mathur,*
- 6. Aditya Prakash, and others*

DIVISION OF WORK:

Le Corbusier : Master plan of the city
The Capital Complex
Established the architectural control & design of the main buildings of the city.

Senior architects: Housing for Govt. employees, schools, shopping centers, hospitals

LE CORBUSIER'S MASTER PLAN:

➤The master plan of the city has a **rectangular shape with a grid iron pattern** for the fast traffic roads.

➤**Vertical and high rise buildings were ruled out**, keeping in view the socio economic-conditions and living habits of the people.

➤The master plan was to be realized in **two phases**, catering to a total population of half a million.

Phase-I

**30 low density sectors
area of 9000 acres (Sector 1 to 30)
1,50,000 population**

Phase-II

**17 considerably high density Sectors
(Sectors 31 to 47)
area of 6000 acres
3,50,000 population.**

➤The Master Plan of Chandigarh by Le Corbusier is analogous to a human body .

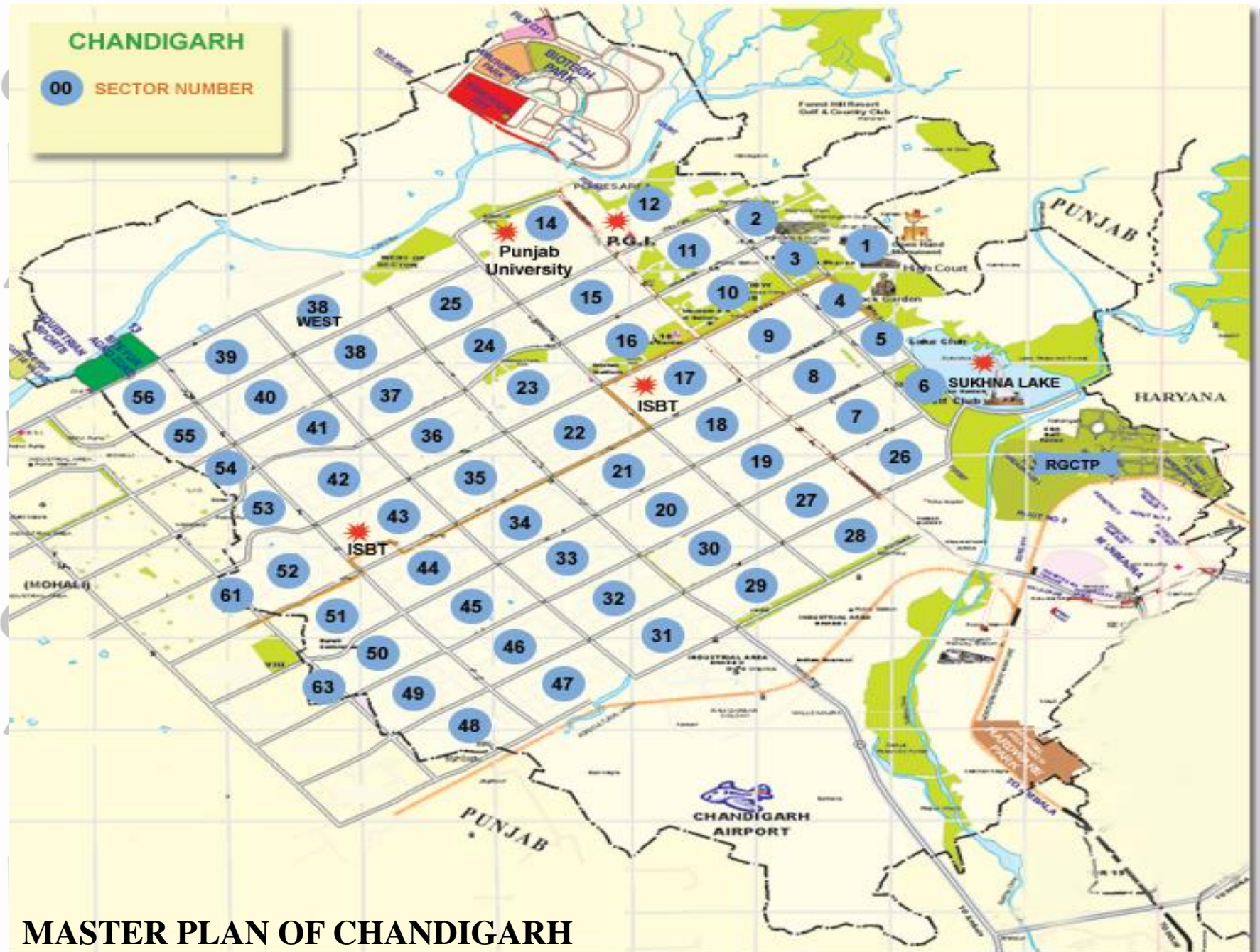
Head (Capital Complex),
Heart (City Centre),
Lungs (Leisure Valley and Gardens),
The Limbs (Cultural and Educational Institutions)
The Circulatory System (7 Vs).

➤The conception of the City has been formulated on the basis of four major functions:

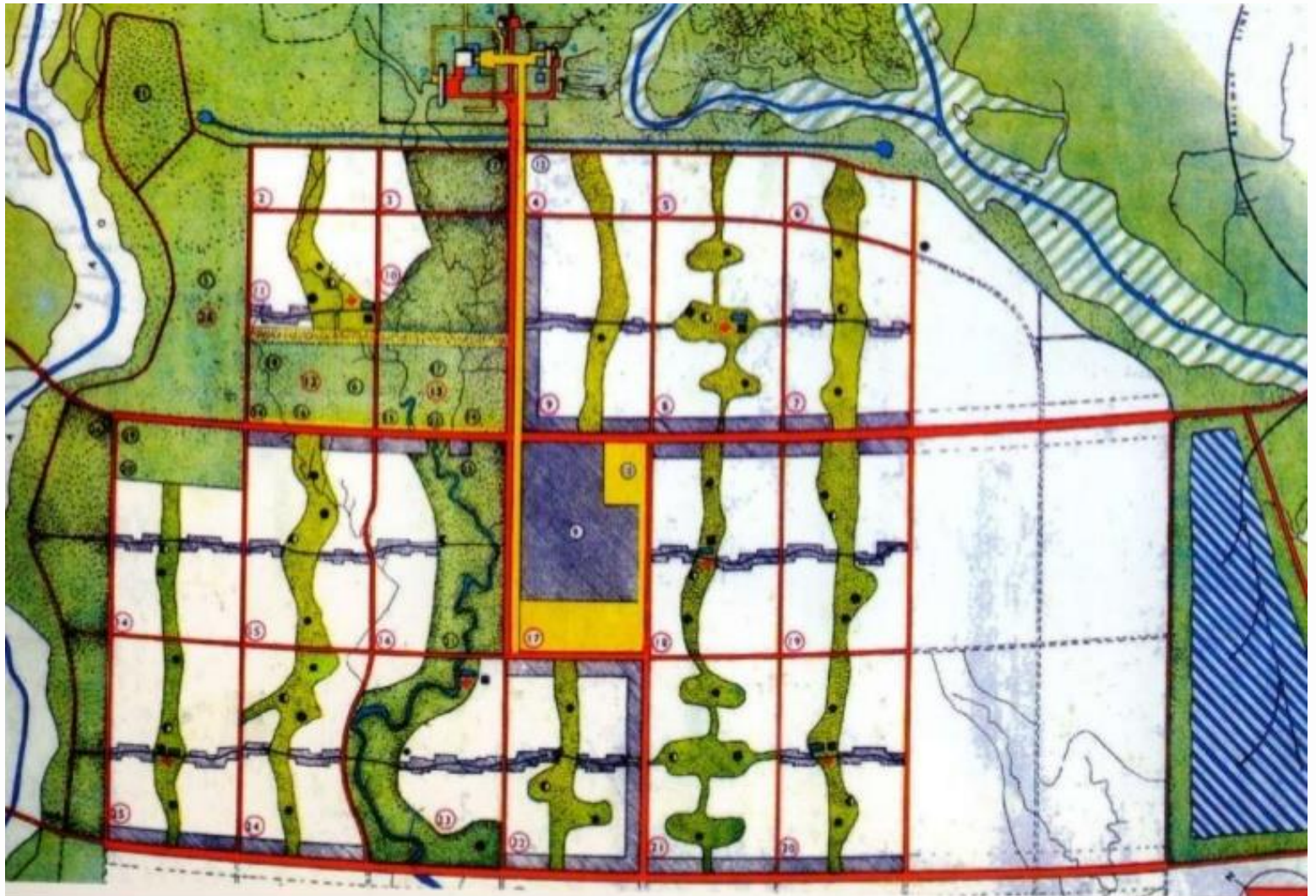
Living,
Working,
Care of the Body and Spirit
Circulation.

CHANDIGARH

00 SECTOR NUMBER



MASTER PLAN OF CHANDIGARH



THE CITY LANDSCAPE PLAN OF THE FIRST PHASES, SHOWING THE LEISURE VALLEY & THE SWATHS OF GREEN SPACES THAT ALSO ACT AS FLOOD CONTROL

ROADS

The roads of the city are classified into seven categories known as systems of 7 Vs as below :

- V-1 Fast roads connecting Chandigarh to other towns.
- V-2 Arterial roads.
- V-3 Fast vehicular sector dividing roads.
- V-4 Meandering shopping streets.
- V-5 Sector circulation roads.
- V-6 Access roads to houses.
- V-7 Foot paths and cycle tracks.



Road network within the sector



SECTOR:

- The primary module of city's design is a Sector, a neighborhood unit of size **800 meters x 1200 meters**.
- It is a **self-sufficient unit** having residential units shops, school, health centers and places of recreations and worship.
- The population of a sector varies between **3000 and 20000** depending upon the sizes of plots and the topography of the area.
- The shops are located along the V4 street (shopping street), which runs North-West to South-East across the sector.
- Every sector is **introvert** in character and permits only 4 vehicular entries into its interior.
- The shopping street of each sector is linked to the shopping street of the adjoining sectors thus forming one long, continuous ribbon like shopping street.
- The central green of each Sector also stretches to the green of the next sector.

PLANTATION ALONG ROADS

V2 AND V3 ROADS

- This avenue consists of a heavy traffic automobile highway with parallel band of parking, large pavement on each side with shops, arcades and high buildings.
- Plantation on these roads was planned keeping in view the sun's position , favourable conditions for the motorists.
- As such tree species with spreading forms have been planted on these vertical V3 roads are Mango, Imli, Mahua , Kusum etc. to create green tunnels.
- Two avenues namely Vidya Path and Chandi Path were eventually planted with the original concept , one can see the tunneling effect in these.

- Plantation of Jan Marg merits special mention among all major vertical roads.
- The initial species planted on both sides of Jan Marg were Silver Oak , Cassias, Nili Gulmohar and Kadam.
- Most of the species were not successful hence the plantation scheme was revised for the V2 arterial road as it passes between sectors 16 and 17, 10 and 9, 3 and 4 and the initial plantation was supplemented by other tree species such as Mahogany , Philkan , Chukrasia.
- Horizontal V3 roads run from south-east to the north-west, as far as sun direction is concerned not much glare is faced.
- 3 most important roads in this category are Madhya Marg, Dakshin Marg and outer Dakshin Marg.
- Other horizontal roads of V3 category are Uttar Marg, Vigyan Path and Udyog Path.
- Beautiful single species avenue of Mahogany on Udyog Path and the Arjun trees along Dakshin Marg can be seen.

V4 ROADS

- Roads basically winding neighborhoods, shopping streets where highly intense activity of the city life takes place.
- Original concept of V4 road was to have a distant character of its own by planting different species of flowery trees which are aesthetically appealing and useful.
- Successful plantation along the V4 roads are those of Amaltas, Smunder phall, Kadam etc.
- Wherever flowering trees along the V4 roads did not do well, evergreen varieties were planted in their place.

V5 ROADS

- Roads that circulate through the entire sector.
- Along these houses are located on both sides.
- Evergreen trees with a combination of flowering trees have been planted to break the monotony of the built form.
- Eg.- trees such as Chukrasia in combination with Amaltas, Kachnars and Cassias have been planted in sector- 16.
- Eg.- Silver Oak in sector- 10 and Neem in sector- 22 .

V6 ROADS

- Most of the houses are located on the narrow V6 roads where tree plantation has been done only on one side of the road keeping in view the sun's direction, location of the houses and their height.
- Important aspect kept in view, trees should not block the morning sun from the residences.
- Efforts have been made to plant winter deciduous trees such as Lagerstroemias.
- Other trees planted are Makhan, Pagoda and small canopy trees like Bottle Brush, Lahura, Australian Kikar, Tecoma tree etc.

V7 PEDESTRIAN PATHS

- Only very few of the originally proposed pedestrian pathways called V7 paths have been built.
- Eg.- Jan Marg in the Punjab University campus.



PLANTATION ALONG ROADS



CITY'S GREEN

The hierarchy of open space is prominently visible in the city.

CITY LEVEL : Leisure Valley and special gardens.

SECTOR LEVEL : central green in each sector

COMMUNITY LEVEL : parks around which clusters of houses are arranged.

RESIDENTIAL LEVEL : courtyards provided on the front and rear side.

LEISURE VALLEY

A continuum of various theme gardens to take care of the body and spirit of the city.

Le Corbusier retained the eroded valley of a seasonal rivulet on the original site of the City and sculptured it into a Linear park now over **8km long**.

It starts from **Sector 1** in the north and leaves Chandigarh at its southern most edge in **Sector 53**.

The leisure valley consists of :

OTHER IMPORTANT PARTS OF CHANDIGARH

SUKHNA LAKE

- Lies in the foothills of Shivalik range.
- It is a manmade lake
- It is a 3 km long lake that was created in the year 1958.
- It was done by damming the Sukhna Choe, which is a seasonal stream flowing down from the Shivalik hills.



FORESTS

- Chandigarh has 3245 hectares under forest and most of it is hilly.
- The forest areas are mostly around Sukhna Lake, Sukhna Choe .
- There are two reserve forests in Chandigarh – Kansal and Nepli.
- Near village Kansal on the outskirts of Chandigarh towards the hills is a reserve forest, entry to which is restricted.
- At a short distance from Kansal forest is located another reserve forest known as Nepli.
- Nepli is a bit more wild than Kansal. On two sides it is surrounded by small hills and the whole area is covered by thick forest which is full of wild life..

MANGO BELT

- The Mango Belt is a long chain of mango trees planted on either side of the Purv Marg of Chandigarh. This belt separates the industrial area from the residential area starting from the Transport Area to Sector 47.
- Covering about 4 km there are about 12 rows of mango of different varieties of dusheri, langra and chausa. About 5000 mango trees are planted here.
- The Mango Belt serves a complete tree buffer to protect the residential areas from the pollutants emanating from the factories and the heavy traffic moving along the Purv Marg

CITY CENTRE, SEC-17

Spread Across the City Plaza (French word for Open Space) designed by Le Corbusier himself is the City Centre which is main shopping and commercial centre of Chandigarh in Sector 17.

- This vast commercial complex is partly pedestrianised.
- It is the favorite pass time for the residents of Chandigarh as everybody can find some reason to visit this place from hectic business activity to unhurried window shopping and even crowd gazing in the vicinity of the fountain.
- Big showrooms and departmental stores cater to the needs of shoppers.
- Government Emporia, innumerable shops, eateries, coffee houses, bars & pubs keep the visitor completely occupied.



PLAZA SEC 17



FOUNTAIN SEC 17

CAPITOL COMPLEX:

In Le Corbusier's original concept; the Capitol was to consist of:

1. *Secretariat*
2. *Assembly*
3. *High Court and*
4. *Governor's Palace (later changed to Museum of Knowledge)*

All these structures have been built except the Museum of Knowledge.

Apart from these main buildings there were also to be a number of monuments based on Corbusier's personal philosophy - to adorn the piazzas and the open spaces between the edifices. These are:

1. *The open hand*
2. *The martyr's memorial*
3. *The geometric hill*
4. *The tower of shadows*

Secretariat:

- The Secretariat is the largest of all from the buildings in the complex (254 meters by 42 meters) and was the first to be built in the complex.
- Positioned at a sharp right angle to the mountain range it is designed as a vast linear slab-like structure – a workplace for 4000 people.
- An endless rhythm of balconies and louvers on its linear facades is punctuated in a subtle way by a deliberately asymmetrical composition of brise-soleil (a sun shading device), evolved by Le Corbusier.
- It's façade, besides the rhythmic brise-soleil, is also sculpturally punctuated by the protruding masses of angled ramps and stairways,
- The roof line has a playful composition of a restaurant block ,a ramp and a terraced garden, to break the endless linearity.



Assembly Building

- In front of the Secretariat is located the most sculptural and eye-catching of all the geometrical forms of the Capitol - The Assembly.
- Characterizing the roofline of the Assembly is a great hyperbolic drum connected to a pyramidal by a small bridge
- The building has two entrances: one at the basement level for everyday use and the other from the piazza level for ceremonial occasions through a massive entrance, 7.60 meters high and 7.60 meters broad, whose enameled door (a gift to Punjab from France) translates a cubist mural painted by Le Corbusier himself.
- The external façade of the cuboid base has a rhythmic pattern of the brise-soleil with its play of light and shadow on three sides, And on the fourth opening towards the large piazza facing the High Court is a huge trough supported on massive pylons.



High Court:

- The High Court is a linear block with the main façade towards the piazza.
- It has a rhythmic arcade created by a parasol-like roof, which shades the entire building.
- The entrance for them through a high portico resting on three giant pylons painted in bright primary colors which visually punctuate the otherwise rhythmic facade of the High Court.
- A number of symbols that encapsulated Le Corbusier's view of man, earth, nature, the emblems of India and the scales of justice were depicted in abstract, geometric patterns. These tapestry designs referred to the basic element of architecture, and of order generally.



OTHER BUILDINGS OF THE COMPLEX:

Open Hand

- The most thoroughly developed of the Chandigarh monuments as well as the most important as a compositional element in the capitol complex is the monument of the open hand.
- It says "open to give, open to receive" and has been identified as the emblem of chandigarh.
- The open hand monument upholds a man made sculptural form against the rugged profile of the Himalayas .
- The hand rises 85 feet from an excavated plaza which is , the pit of contemplation, which is provided for debate on public affairs.
- The surface of the hand was to be coated with baked enamel in orange, white and green the colors of the Indian flag



The Geometric Hill:

- Situated adjacent to the memorial, this was to be a huge earth tilled hill, which will have its lower half in concrete relief work, and the top covered with grass turf.
- The relief will be in the form of Corbusier's diagram of daily balance of light and darkness, which in his words "rules man's activity"



The Martyrs Memorial

- In between the high court and the assembly building is the martyrs memorial ,a memorial to the martyrs of Punjab partition and consists of a square enclosure with one side elongated into a ramp by which one mounts the enclosing wall.
- Within the enclosure are to be symbolic figures of a prone man, a snake, and a lion set amid ruins.
- The concrete ramp permits one to see, from above, the Capitol in its entirety and creates a promenade -rising and descending.



The Tower Of Shadows:

- Just beyond the solar monument is the tower of shadows a demonstration of Corbusier's theories of sun control, consisting of a series of platforms oriented to the Cardinal points and containing sun breakers on three sides (except north).
- This concrete structure is a culmination of the in depth studies of Corbusier on the path of the sun and ways to control its penetration in to the built up space



Public places



CHANDIGARH



CHANDIGARH



CHANDIGARH



THANK YOU

CHANDIGARH