

Town planning of ancient romans essay sample



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- Romans adopted the technology and planning skills of the Greeks. They were more advanced than the Greeks in terms of technological skills which they used to develop better infrastructural facilities and construction techniques.
- Lime concrete was invented
- Applied mechanics for moving heavy masses developed.
- Roads were paved with stones
- Advanced system of water supply (Aqueducts & water reservoirs), sewage system and drainage system through ducts and underground sewers in semi-circular vaulted form were used.
- All public latrines were connected to underground sewerage system. People normally used the public latrines.

Planning principles

- The town planning was slightly different in various areas depending on the geography, resource potential, which determined the ruling strategy.
- Each city occupied a commanding site, including building works of enormous scale and impressive stylistic quality. Perimeter of the city was usually square/rectangular.
- Chessboard planning -expressing laws and orders.
 - o Crossing of parallel and equidistant streets at right angles to one another within the 2 main crossroads “ Decamanus”(East -west) through the center of the town and the ‘ Cardo’ (North- south) usually bisecting the ‘ Decamanus’ at right angles towards one end.
 - o “ Secondary streets”

complete the gridiron layout and form the building blocks known as “

Insulae” • Cross streets occasionally stepped and bridged around the city. •

Generally rectangular walled city entered by several gates, showing complete town organization.

- From the religious significance of the Temples by the Greeks there was a change to the civic influence of Law Courts “ Basilica” which became more important than the public buildings.

- “ Forum Area” usually located centre of the town formed by the intersection of the Decamanus and the Cardo being the administrative, commercial and religious center, normally consists of a colonnaded courtyard with a meeting hall built across one end. It was the lively central place of economic, cultural and friendly exchanges. The main temple, the Theatre and the public baths were also located near the “ Forum” in the center of the town.

- Outside Gate- stadium, Triumphal arches.

Aqueducts, sanitation, public health considerations were excellent for the noble areas. Noble people lived in wealthy homes- “ Domus” and the poor lived in “ Insulas” – Building blocks divided into flats. The flats went up to 3 stories initially. Later it even went up to 7 stories but because of their collapse the height had to be restricted to 70’ .

Important cities of ancient Rome

1. Pompeii

2. Rome

3. Timgad

1. City of Pompeii

1. A colonial city- Extent 4/5 mile (Length)- 2/5 mile -width (Maximum) 2. The city had 25, 000 inhabitants.

3. A walled city with 8 gates.

4. The Forum placed at the center of an irregular street system, where the width of the streets was 32 feet. 5. Amphitheatres located near the center- elliptical within a central area used for conducting naval exhibitions and other exhibitions. 6. 'Circus maxima' at the southern corner for chariot races.

2. City of Rome- City of 7 hills

7. The area of the city was 3465 acres.

8. The city was bounded by 2 walls- 1. Republican wall (BC 378-352) and the Aurelian wall to protect the city from the Barbarian attacks from the North with protective towers at 100 Roman feet interval.

9. There were-1. Colloseum 2. Enormous forums 3. Circus Maxima.

It is to be noted that all constructions merged well with the general landscape. The building was proportionate, geometrical and well balanced with nature. Roman "Castras" formed the settlement for the military camps, known as the temporary cities to house the soldiers.

3. Timgad (Algiers, Africa) (100AD -200AD)

10. Typically rigid chessboard plan.

11. 355m x 325m -area 30 acres.

12. Principally designed for residential colony.

1. Abundant water supply.

2. Rigid formality of the plan

3. Eleven parallel cross-streets in either direction with surface terracing on the undulating ground. 4. This gives an unparalleled completeness in its architectural footing. 5. The forum is (160 feet x 145 feet). The market, the temple site and the other non-residential buildings were artificially raised above the general street level. 6. The public buildings had porticoes, colonnades and other features giving variety to the architectural scene. 7. Some houses were as big as 200 feet x 200 feet.

Assignment No: 1

1. Explain in detail with sketches the town planning consideration in cities during medieval&renaissance Period.(Eg. Florence, 2. Explain in detail with sketches the town planning consideration in cities during industrial &post industrial Period

Town planning India

Development of town planning in ancient India.(3000B. C)

Town planning in Indus-valley civilization (3000 B. C)

- The twin cities of Mohenjo-daro and Harappa were center of all activities. Both cities were a mile square, with defensive outer walls. Cities were divided into lower dwellings and the Citadel housed important buildings.

- A remarkable feature of the large urban settlements of the Indus Valley Civilization was the regularity and order in the town planning and consideration given to the civic amenities, the sewerage system and drainage.
- These cities had highly advanced systems of town planning.

City of Mohenjo-Daro&Harappa

- The main streets of the cities at both Harappa and Moenjo-daro were generally oriented from north to south, with connecting streets running east to west.
- The streets of major cities such as Mohenjo-daro and Harappa were also laid out in a perfect grid pattern; the street layout showed an understanding of the basic principles of traffic, with rounded corners to allow the turning of carts easily. • These streets (9m wide) divided the city into 12 blocks. Each of 365m x 244m
- Citadels always face west which served as sanctuaries for the cities` populations in times of attack and as community centers in times of peace.
- Except for the west-central blocks, the basic unit of city planning was the individual house.
- The houses were of varying in sizes and stories (usually two storied), constructed with brick walls. Wood and Stones were also used in construction. • Rooms were arranged around an open to sky court.

- The residences had no direct entrance to the main streets. The doors of the houses usually opened on to the side lanes rather than on to the main streets.
- Common well was provided to the groups of buildings.
- The city had an elaborate sanitary and drainage system. Each and every house had a connection with the main drain. The drains were laid under walkways and finally connected to main sewer laid under main roads. Manholes were provided at different places for cleaning and inspection. The urban plan found in these cities included the world`s first urban sanitation systems.
- The elaborate brick-lined drainage system for the removal of rainwater is of unparalleled engineering skill.

Granaries: Large granaries were located near each of the citadels, which suggest that the state stored grain for ceremonial purposes, times of shortage, and possibly the regulation of grain production and sale.

Market halls, granaries, offices were neatly planned.

The great bath which is surrounded by toilets and private baths was 7m wide, 12m long and 2.5m deep.

Town planning during the Vedic Period (up to 400 B. C)

Town planning was more advanced and scientific during Vedic period.

The principles and importance of town planning were mentioned in some of the sacred books. In Visva Karmaprakash it is stated that “ First layout the towns then plan the houses”

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In Mansara Silpashastra many aspects of town planning, such as study of soil, climate, topography, orientation according to wind and sun etc. are described.

Also this gives an idea about various layouts of towns such as

- Dandaka
- Swastika
- Padmaka
- Nandyavarta
- Prastara
- Chaturmukha
- Karmuka

■ The main streets (Raja Marga) were aligned East-West to get the roads purified by the sun rays, while short roads aligned north-south. ■ The roads running around the town called Mangal Veethi were reserved for Priests. ■ Also this book refers to the skills of a town planner that he must have a good knowledge of cultural, social and religious aspects besides the scientific knowledge of planning.

Many temple cities in south India were planned based on these principles.

Eg. Madurai

Buddhist period (up to 320 A. D)

Arthashasthra, a treatise on town planning written by Chanakya during this period deals with various principles of town planning such as • Zoning regulations – depending on communities • Main roads (Raja Marga) to be

parallel to the cardinal direction. –Grid-iron pattern of development. • Raja marga should not be less than six “ dandas”-nearly 30 feet.

Eg; Patliputra (Patna), Taxila, Nalanda

City of Pataliputra

- It was the capital of Magadha.
- The city was 16km long and 3.5 km wide was surrounded by a deep moat 180m wide and fort wall 40km long, with 64 gates and 570 towers. • The town was laid on grid -iron pattern consisting of 16 sectors. • Most of the houses had gardens with wells and ponds
- Proper underground drainage network was provided for the city

Taxila and Nalanda were the cities renowned for education.

These cities were provided with facilities like temples, hostels and libraries etc.

Medieval period (12th to14th century)

There was gradual development of trade and commerce during this period.

Famous cities during this period are

- Krishnanagar- famous for clay models
- Agra- famous marble and perfumery
- Jaipur – famous for palatial buildings of artistic excellence.

City of Jaipur

- The city of Jaipur, the Pink City, is a good example of a planned city.

- The city was built in 1753 on a carefully prepared plan, broad avenues and public buildings.
- Jaipur has well laid roads with geometric precision and arithmetic accuracy, systematically designed open squares and fountains.
- Various spaces/land uses inside the city were zoned carefully .

Moghul period (1526-1707 AD)

- Cities like Agra & Delhi were redeveloped during this period • Fatehpur - Sikri was entirely planned
- Many gardens and parks were developed as part of the city planning, eg. Shalimar Bagh, Lal Bagh etc. This was a new trend in planning.

Pre-independence period (till 1947)

- Britishers started independent colonies on the out skirts of the existing towns, known as Cantonments and Barracks for the military occupied area and Civil Lines for the residence of Civilians. • They adopted grid-iron pattern of layout for roads. • Major town planning work during this was the period was the planning of New Delhi- the new capital of India in 1911.

The plan was prepared based on modern town planning principles by eminent town planner Edwin Lutyens assisted by Herbert Baker. It is laid out in the Versailles style of Renaissance. Hexagonal grids are adopted in the layout.

- The administrative buildings like Government house, Council hall, Secretariat has been designed with their monumental architecture. •

Industrial buildings were separated from residential sector • Residential sector is arranged around commercial and civic buildings.

Post independence period (after 1947)

The first city planned after independence was the capital of Punjab- Chandigarh

Chandigarh may be said to have started a new movement in the planning of towns and public buildings in India.

Chandigarh:

Master plan of Chandigarh was prepared by Le Corbusier assisted by Maxwell Fry. It took three years to complete the project- (1950-1953)

Chandigarh is located on the sloping plains at the foot hills of Himalaya, having about 3600 hectares of area.

Natural beauty of the site is taken into consideration while planning the layout. its scenic charm is further enhanced by forming an artificial lake on its northern part.

The city is planned for population of 500, 000 and conceived as a human body.

- Thus placed the Secretariat building and the Legislature Complex, being the head and the brain of the city, at the top (northern end).
- Industries were placed at the southern end, to give a strong footing or base to the city, as the legs do.

- The city-centre being the heart was placed at the centre.
- The entire communication system was conceived as arteries and blood vessels, to interconnect the various parts of the city and to facilitate smooth flow of men and materials.

Sector planning is adopted in Chandigarh. City is divided into various sectors (47 sectors), each 1200m x 800m size, with grid-iron pattern of roads.

Population of each sector vary from 10000 to 15000

Sector -1 is the best part of the city – that is the Head of the human being where the administrative buildings (High court, assembly hall, secretariat, Governors palace) were located. Sector -17 the centre of the city is the heart of man , having business centers, offices etc.

Sector 14 & 26 are the right and left hands of man –that is educational and industrial part of the city.

Salient features of chandigarh planning

Sector planning: – to get maximum comfort and convenience of the residents the city is divided into 47 sectors. There are 3 to 4 neighborhood units in each sector. • Each sector is made self sufficient by providing daily needs like shopping centers, meeting places, nurseries, schools etc. • All the schools are within 15 minutes walk able distance. • A central continuous green band of open space passes through one sector to another which enables the pedestrians to walk in perfect safety and comfort along the shaded footpaths.

Transportation system:- 7 Vs system of roads for different traffic.- for the perfect safety of the inhabitants. • V1- national high way-leading into the city from out side • V2- connects to V1 and forms the main axes.

• V3-surround the sectors forming the grid pattern of the city. • V4 – shopping streets bisecting the sectors.

• V5- loop roads inter sect the V4s at two points in each sector.(for slow traffic inside the sector) • V6-roads giving access to residence.

• V7- exclusive pedestrian or cycle paths running through the park belt of the city.

Landscape & open spaces:

• The city has a planned landscape. Only one kind of trees are planted along the road side to identify the different roads from the kind of trees grow along the side. • Green band of open spaces runs from one sector to another. • There is provision for large central park and sufficient open spaces in all sectors. • A 90m wide avenue with beautifully designed park way leads to the capitol.

Other features:

• There are ample provisions for physical infrastructures such as water supply, drainage, electricity, telephone etc. • Proper zoning of various land uses

• Residential and industrial zones are segregated by wide green belt and wind direction is considered while placing the industries.