UNIT 4  ARCHITECTURE

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4.0 INTRODUCTION
In the previous units of this block we have studied about the different aspects of visual arts and especially painting and sculpture. In this unit we will learn about the way a dwelling place can be transformed by using the elements of design. Among all art forms that have been evolved, architecture by itself is functional. It is useful from the point of view of providing basic needs for a man in the form of providing shelter. With the development of civilization, man’s needs to live in a better house became a priority. He also felt the need to construct a better place to worship God. To make the place worthy enough to live or worship man discovered and used many kinds of materials in construction. Since architecture is not a pure art like sculpture and painting more is attention paid to create a plan and use of materials and also procuring materials. It is essential to know the development of architecture to understand the history and culture of a place.

4.1 OBJECTIVES
After reading this unit you will be able to:
• understand clearly the significance of architecture;
• explain the different types of architecture;
• know the different elements and techniques in architecture; and
• know the materials used for architecture.

4.2 EVOLUTION OF ARCHITECTURE
You must have seen around you the houses, mansions, market centres, shopping complexes, temples, churches or mosques. You also must have seen at least in photographs or television many great grand structures built in early times. They are all classed as architecture. When you really see them yourself you realise the greatness of these structures and the skills with which they were built.
Architecture began when man looked for better protection then a cave and then began to think of a shelter for him to live. After man learnt to make working tools for agriculture or household use his dwelling place never remained a mere hole or a nest. It became a utilitarian structure that gradually acquired an aesthetic aspect. This marked the beginning of architecture.

Architecture is the shaping of reality according to the laws of beauty in the building of houses and structures designed to cater to man's needs for housing and public premises. Architecture creates an enclosed utilitarian-artistic environment distinct from nature and the elemental environment and enabling people to use the humanized space in accordance with material and cultural requirements.

### 4.3 PRINCIPLE ELEMENTS OF ARCHITECTURE

Line, plane, surface, colour, material, space and time are the elements of architectural design. The common task for an architect and a designer is to give structure and meaning to the human environment. Many of the ideas are inherited from the pioneers of architecture and design. Architecture is expressive than representational. The rhythm of spatial relationships and lines is an important expressive means.

Design is the essential element of architecture. It is also a creative exercise. It needs a clear understanding of the space where the architecture is to be executed. It also needs a clear understanding of the climatic conditions and the directions of sun and light. Soil testing is also an essential element and the technical knowledge which is to be obtained by engineering skills. A clear plan will solve many problems. The building has to be designed to suit the needs and taste of the builder.

### 4.4 NATURE OF ARCHITECTURE

Architecture is the art of erecting buildings that are comfortable to live in, beautiful to the eye and durable. It creates the material man-made environment in which he lives and works. It is important that the work of architecture should fit into the natural and urban landscape. The architectural image is inseparable from the function of the structure and originally expresses its purpose.

The forms of architectural structure depend on geographical and climatic conditions, particularly on the intensity of sunlight, rains or even earthquakes. The architects design the structure according to their taste and principles of work which are socially conditioned. The development of architecture depends on the social system, aesthetic ideals, utilitarian and artistic requirements of the society. It is also linked with the available technology. It combines art, engineering and construction. Perhaps no other kind of art requires such a concentration of effort and material resources as architecture.

Architecture may be combined with monumental painting, sculpture and decorative arts. The architectural composition is based on a three dimensional structure and organic interconnection of the elements of the buildings. The scope of the work determines the artistic image and monumental character.

### 4.5 DIFFERENT TYPES OF ARCHITECTURE

**Egyptian architecture:** In ancient Egypt they built huge tombs in the shape of pyramids. For example the Great Pyramid in Giza is 150 metres high. This kind of architecture is marked by early understanding of geometrical shapes and lines. It is also to be noticed that these structures are constructed without any joints. These grand structures were
created not to satisfy the worldly needs of the people but for religious purposes. This was to firmly establish the political power of the rulers who were known as Pharaohs.

**Indus Civilization:** The very early material for architecture was timber, i.e., wood. Later the bricks made of mud were used for architecture. A very early and fine example of houses constructed with mud-bricks was found in the cities of Indus civilization such as Harappa, Mohenjodaro, Lothal and others. Public buildings were also constructed in other places using wood and mud-bricks. Early temples in European cultures were built with sun-burnt bricks and decorated with mosaics (using coloured stones or tiles of small sizes and creating a motif or design) and mural paintings. Later stone became the common material for architecture. Because of the use of stone the size of the building enlarged, they became long-lasting, permanent and looked grand.

**Greek Architecture:** The architecture of ancient Greece was the foundation of many subsequent styles in different parts of the world. The concept was democratic not imperialistic like the Egyptian Pharaohs. The entire city was full of well-planned structures. The temples, palaces, market squares, landscaped gardens, houses, swimming pools, open-air theatres, stadiums, gymnasia were the architectural achievements of the Greeks. It reflected the cultural blossoming of the Greek society as early as 8th to 2nd century BC.

Classical Greece set the standard for architecture and had the greatest single influence on the development of European art. It was the Greeks who laid down the rules of proportion and who constructed their buildings according to scientific formula. They translated these rules into living buildings which have timeless value and immortality. Every line and every shape fulfils a function and contributes to the flow of building and the astonishing sense of perfection it imparts.

They introduced the Classical Order of pillars and beams. Three major types of pillars were Doric, Ionic and Corinthian, which have become the characteristic of European style of architecture. They have also given the world the concept of ground plan which shows all the details of the division and column positions in the building. The Greek architecture moved to Rome and other parts of Italy and later in the middle ages to other countries of Europe. All great churches and cathedrals in Europe evolved from the Greco-Roman tradition and made alterations according to the requirement of their religion, Christianity.

**Indian Architecture:** In Asia, Indian and South East Asian architectural tradition is influenced by two major religions, Hinduism and Buddhism. According to the requirements of worship temples were built. We will study more about these traditions in the unit Architectural Heritage in Course I of this programme.

**Islamic Architecture:** Islamic architecture also has its unique characteristics. Islam as a religion originated in the Arab region but spread rapidly to the Middle East including Egypt, Africa, Spain and then to Central Asia, India and South-East Asian countries. The requirements of their religious architecture are interpreted in their holy book Kuran. Their religious place is known as a mosque which is a prayer hall for the people. They pray 5 times a day. It is a huge hall with a niche known as mihrab in the wall, delicately carved screen, directed towards Mecca, with high minarets in the form of column. The central dome of the mosque is beautifully ornate and the interiors are vast with high raised columns and arches. Use of marble is an important features of Islamic architecture. In India we have Jumma Masjid in many cities, which are monumental in character. They also constructed tombs for the dead. In and around Delhi we have many tombs like Humayun's tomb. One of the great pieces of Islamic architecture is the Taj Mahal built in fully marble.
Modern Architecture: The 20th century created new types of buildings like industrial buildings, offices, mansions, apartments, public places like bus stations, assembly houses, museums, galleries, sports complexes, shopping complexes, airports, apartments and residential colonies, theatre halls, universities etc. The materials used include glass, fibre glass, wood, steel, stone, brick, cement etc. The new material is used along with the concept of design. In present days, design decides everything in architecture. It has become a trend to construct a monumental structure within a short time. So, pre-fabricated blocks are the preferred materials for architecture. According to the needs and the time available the architectural project is taken forward and completed. Olympic Games are now occasions for introducing and creating wonders in architecture; each country looks forward to create a greater architectural project than ever before carried out. In the recent Beijing Olympics, the Chinese architects created the Bird’s nest, a grand symbol of modern architecture.

4.6 SUMMARY

We have seen in this unit how architecture can be seen simply as the creation of a building that satisfies the basic function of living in a shelter, which may be a simple four walled place with a roof. But if we think in terms of great structures it can result in the Pyramids, Athens temple, or Kailasa Temple of Ellora, Taj Mahal or the ‘nest’ of Beijing Olympics. Architecture is regarded as the most important of all visual arts because it is more functional than painting or sculpture. The other arts like drawing, painting and sculpture can be used to embellish or beautify architecture. We have also seen how design is the principle element of architecture. Selection of the materials, and execution of the work only depends on the design. Today architects who carry out great architectural projects are in great demand.

4.7 SELFASSESSMENT QUESTIONS

Self Assessment Questions 1

Write whether True or False

1. Architecture is the shaping of reality according to the laws of beauty.
2. Architecture creates an enclosed utilitarian-artistic environment distinct from nature.
3. It creates the man-made environment in which man lives and works.
4. The development of architecture does not depend on the social system and aesthetic ideals.
5. Architecture is linked with technology.

Self Assessment Questions 2

Fill in the blanks with suitable words given below

i) cities of Indus civilization, ii) design decides, iii) in their holy book Kuran, iv) to satisfy the worldly needs of the people, v) Classical Order

1. The Pyramids were created not____________ but for religious purposes.
2. A very early and fine example of houses constructed with mud-bricks were found in the____________
3. The Greeks have introduced the________________ of pillars and beams.
4. The Islamic requirements of religious architecture is interpreted
5. In present days requirement of everything in architecture.

4.8 TERMINAL QUESTIONS

1. Explain the evolution of architecture.
2. What are the principles element of architecture?
3. Write notes on a) Greek architecture and b) Islamic Architecture

4.9 ANSWERS

Self Assessment Questions 1

1 – T, 2 – F., 3 – F, 4 – F, 5 – T

Self Assessment Questions 2

i) to satisfy the worldly needs of the people, ii) cities of Indus civilization, iii) Classical Order, iv) ) in their holy book Kuran, v) design decides

Terminal Questions

1. The beginning of the architecture was a just a hole for man to seek protection then a cave and then a man-made shelter for him to live. After man learnt to make working tools for agriculture or household use his dwelling place never remained to be a hole or a nest. It became a utilitarian structure that gradually acquired an aesthetic aspect. Thus a building became architecture.

Architecture is the shaping of reality according to the laws of beauty in the building of houses and structures designed to cater to man’s needs for housing and public premises. Architecture creates an enclosed utilitarian-artistic environment distinct from nature opposing the elemental environment and enabling people to use the humanized space in accordance with material and cultural requirements.

2. Design is the very essential element of architecture. It is also a creative exercise. It needs a clear understanding of the space where the architecture is to be executed. It also needs a clear understanding of the climatic conditions and the directions of sun and light. Soil testing is also an essential element and the technical knowledge which is to be obtained by engineering skills. A clear plan will solve many problems. The building has to be designed to the needs and taste of the builder.

3. Greek Architecture: The architecture of ancient Greece was the foundation of many subsequent styles in different parts of the world. The concept was democratic not imperialistic like the Egyptian Pharaohs. The entire city was treated with well-planned structures. The temples, palaces, market squares, landscape gardens, houses, swimming pools, open-air theatres, stadiums, gymnasiums were the architectural achievements of Greeks. It reflected the cultural blossoming of the Greek society as early as 8th to 2nd century BC.

They have introduced the Classical Order of pillars and beams. Three major types of pillars were Doric, Ionic and Corinthian, which have become the characteristic of European style of architecture. They have also given the world the concept of ground plan which will show all the details of the division and column positions in the building. The Greek architecture moved to Rome and
other parts of Italy. Later in the middle ages to other countries of Europe. All great
churches and cathedrals in Europe evolved from Greco-Roman tradition and made
alterations to the requirement of their religion Christianity.

**Islamic architecture:** Islamic architecture has its unique characters. Islam as religion
originated in Arabia but spread rapidly to Middle East including Egypt, Africa, Spain
and then to Central Asia, India and South-east Asian countries. The requirements of
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place is known as mosque a prayer hall for the people. They have to pray 5 times a day.
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