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CHAPTER-6

BIOMIMICRY- INTEGRATING NATURE INTO ARCHITECTURAL CONSTRUCTION FOR SUSTAINABLE AND HUMAN-CENTERED DESIGN

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ABSTRACT

Due to urbanization, people are moving from rural to urban areas. Urban areas are occupied by a concrete jungle that creates an urban heat island in the center of the city. So, we must integrate nature into the field of Architecture. The meaning of Biomimicry is an imitation of nature, getting a form from nature, implementing the function of nature and integrates nature into buildings. Ancient days onwards, human beings have been living in nature; living with nature. Nowadays, people are living in the global boiling stage. So, we must understand the form and function of nature, and to integrate nature into the architecture. Natural forms are used for buildings and functions are used to achieve stability, ventilation, lighting, material selection, and utilization of spaces. Integration of nature into buildings created comfortable living, reduced temperature, less air pollution, less noise pollution, increased air quality in addition to aesthetical and visual benefits, economic and increased human wellbeing. So, biomimicry design is a sustainable and human centered design. This chapter deals with integrating biomimicry design into the field of architecture.

CHAPTER 11

GREEN BUILDING MATERIALS (GBM)

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ABSTRACT:

The rapid urbanization that is taking place across the country results in the construction industry being forced to contend with an increasing number of significant environmental challenges. There has been an increase in the demand for buildings, which has led to an increase in the consumption of energy, resources, and raw materials. This has resulted in an increase in the emission of CO₂, which is harmful to both people and the environment. It is necessary for us to learn how to use products that are friendlier to the environment if we are going to be able to reverse the wide range of negative effects that are currently being seen on the planet. Both inside and outside, it contributes to the contaminants that are found in the indoor air. Green building materials (GBMs) with non-toxic, natural, and organic chemicals have the potential to lessen their overall effects on both the health of humans and the environment. This is because GBMs have the capability of contributing to sustainable development (SD). This article primarily introduces the concept of GBMs (Green Building Materials), as well as the benefits of using these materials, and a few different varieties that are being utilized by Indian architects. The goal of doing so is to provide readers with a more in-depth understanding of this category of materials. This also addresses the problems that have been caused by using GBM in the construction of buildings.

1. INTRODUCTION

Buildings must be environmentally friendly because they use a lot of natural resources. In India's construction sector, green and sustainable structures are currently necessary. Sustainable design has become more and more well-liked among architects and