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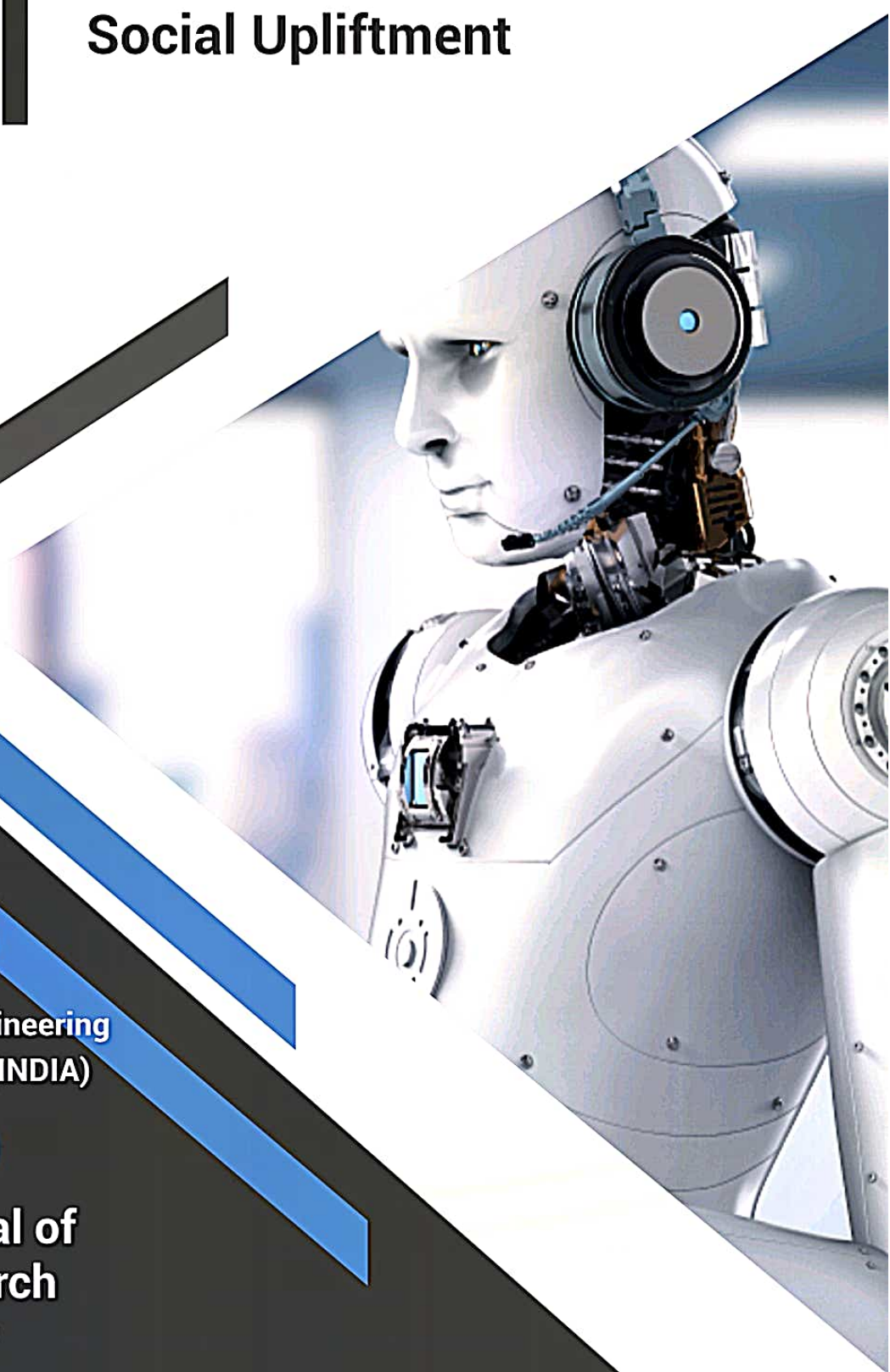
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This certificate is presented to  
Mr. Jaydeep Chougale

of  
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for presenting paper titled

NTASU6012 Study on Structural Behaviour of Earth Slab Panel Confined by G. I. Wire Mesh

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## Study on Structural Behaviour of Earth Slab Panel Confined by G. I. Wire Mesh

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### Study on Structural Behaviour of Earth Slab Panel Confined by G. I. Wire Mesh

(LOW COST HOUSING)

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Abstract The aim of this research work was to demonstrate how an innovative low cost structure can be constructed by minimal alterations in the conventional methods of construction. It is a well known fact that abundant soil is naturally available. Therefore, this study investigates the use of Soil, Concrete and GI wire

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**Abstract**— The aim of this research work was to demonstrate how an innovative low cost structure can be constructed by minimal alterations in the conventional methods of construction. It is a well known fact that abundant soil is naturally available. Therefore, this study investigates the use of Soil, Concrete and GI wire mesh to form a structure. This study introduces an economically affordable mode of construction by incorporating the use of soil as a filler material and GI wire mesh as reinforcement. According to this technique we came to know that about 65% of concrete use can be reduced and eliminating the use of steel for reinforcement. Thus, about 60% of cost reduction can be achieved.

The slab panel constitutes of 25mm (greater than maximum size of aggregate) concrete lining on either sides in which the soil is been confined. The layer of G.I. sheet is embedded in both layers of concrete & is been connected with vertical tie ups with designed spacing. Based on the results obtained from Deflection test by using extensometer, the structural behavior of the slab panel can be assessed and its applicability in the construction industry can be studied.

**Keywords**—low cost, soil, G.I. wire mesh, confinement, earth slab panel,

## I. INTRODUCTION

As we know that, Low Cost Housing has been a new concept & it deals with low budgeting and adopting techniques which will help in reducing the cost construction through the use of locally available materials along with improved skills and technology without losing the strength, performance and life of the structure. From past times it has been a misconception that low cost housing is suitable for

only sub standard works and they are constructed by using cheap building materials of low quality. But the fact is that Low cost housing can be done by proper management of resources.

**Building Cost:** Usually the building construction cost is been divided into two parts i.e.:

1. Building material: 60%
2. Labour cost: 40 %

In our case, building material cost is less because we make use of the locally available materials. Reduction of cost can be achieved by selection of more efficient material & by an improved design.

**Areas from where cost can be reduced using this technique:-**

- 1) As the density of our earth slab panel has been reduced from 25 N/m<sup>3</sup> to 20 N/m<sup>3</sup> thus it will reducing the dead weight of structure hence can be implemented where SBC of soil is low.
- 2) One can use locally available material like soil cement blocks in place of burnt brick for partition wall.
- 3) As the dead weight of structure is reduced considerably there is no need of strong foundations.
- 4) Use of TOR steel has been eliminated & hence cost of material can be saved .

## II. LITERATURE REVIEW

There are various issues and construction strategies proposed for the Indian housing sector. Availability of building materials for construction and affordability of a