**EXPERIMENTAL BEHAVIOUR OF REINFORCED CONCRETE BEAMS WITH COCONUT SHELL AS COARSE AGGREGATE**

**ABSTRACT**

Properties of concrete with coconut shells (CS) as aggregate replacement were studied. Control concrete with normal aggregate and CS concrete with 0 - 20% coarse aggregate replacement with CS were made. Two mixes with CS and fly ash were also made to investigate fly ash effect on CS replaced concretes. Constant water to cementious ratio of 0.6 was maintained for all the concretes. Properties like compressive strength, split tensile strength, water absorption and moisture migration were investigated in the laboratory. The results showed that, density of the concretes decreases with increase in CS percent. Workability decreased with increase in CS replacement. Compressive and split tensile strengths of CS concretes were lower than control concrete. Permeable voids, absorption and sorption were higher for CS replaced concretes than control concrete. Coarse aggregate replacement with equivalent weight of fly ash had no influence when compared with properties of corresponding CS replaced concrete .The high cost of conventional building materials is a major factor affecting housing delivery in the world. This has necessitated research into alternative materials of construction.

In this study, coconut shell is used as light weight aggregate in concrete. The properties of coconut shell and coconut shell aggregate concrete is examined and the use of coconut shell aggregate in construction is tested. The project paper aims at analyzing flexural and compressive strength characteristics of with partial replacement using M25 grade concrete. The project also aims to show that Coconut shell aggregate is a potential construction material and simultaneously reduces the environment problem of solid..Beams are casted, tested and their physical and mechanical properties are determined. The main objective is to encourage the use of these „seemingly„ waste products as construction materials in low-cost housing.

**Keywords:** Experimental, Behaviour, Reinforced Concrete Beam, Coconut Shell, Coarse Aggregate