**PREPARATION OF BRICKS USING CONSTRUCTION AND DEMOLITION WASTE AND SLUDGE**

**ABSTRACT**

The disposal of sewage wastes comprises as one of the major worldwide environmental problems as these wastes render the environment unfriendly. The growing demand for waste utilization has made solid wastes like sludge and demolition waste an essential composition of this study. The possibility of reduction of the production costs provides a strong logic for use of this waste.

Generally sludge, bio degradable materials are dumped in the land, and they decompose over the period of time. This study involves the usage of sludge, construction and demolition waste as an essential ingredient. The sludge was checked for its physical characterization such as bulk density, compressive strength and chemical properties such as water absorption percentage, presence of toxic metals such as Pb, Zn, Cu and Fe for the commercial purpose. The study was performed by using different ratios as 3:2:2:3, 3:2:3:2, 2:3:2:3 of fly ash, cement, sludge and demolition waste respectively for making brick samples. The test results showed a common trait that with the increase in content of sludge, the strength decreased. A maximum compressive strength of 15.88 MPa was achieved for the ratio 2:3:3:2 and a minimum of 11.67 MPa was achieved for 2:1:5:2, respectively.

Moreover the bulk density of the sample also decreased. A maximum of 2.61 g/cm3 was achieved for a 30% sludge content and a minimum of 1.983 g/cm3 for a sludge content of 50%. This was attributed due to the organic properties present in the brick. Moreover the water absorption percentage increased with the increased sludge percentage. With a minimum of 0.22 % was achieved for 30% to a maximum of 0.28% for 50%.