**PARTIAL REPLACEMENT OF COARSE AGGREGATES BY POLYSTYRENE BEDS IN CONCRETE**

**ABSTRACT**

With the increase in demand for construction materials, there is a strong need to utilize alternative materials for sustainable development. The main objective of this investigation is to study the properties, such as compressive strength and tensile strengths of lightweight concrete containing Expanded Polystyrene (EPS) beads. Its properties are compared with those of the normal concrete i.e., without EPS beads. EPS beads are used as partial replacement to coarse aggregates. The results showed that the amount of polystyrene beads incorporated in concrete influences the properties of hardened concrete. At 28 days, it was found that compressive strength of 5%, 10%, 15%, 20%, 25% and 30% EPS incorporated concrete strengths were 91%, 77 %, 71%, 63%, 57%, and 45%, respectively when compared to concrete with no EPS case.

**Key Words**: Expanded polystyrene beads (EPS); Workability; Compressive strength; Splitting tensile strength;