<h1 style="text-align:center">Experiment No. 2: SPECIFIC GRAVITY OF AGGREGATE</h1>

Aim: To determine the specific gravity of given aggregates

Theory and Scope:

Specific Gravity is defined as the ratio of Weight of Aggregate to the Weight of equal Volume of water. The specific gravity of an aggregate is considered to be a measure of strength or quality of the material. Aggregates having low specific gravity are generally weaker than those with high specific gravity. This property helps in a general identification of aggregates. It is an important property used in mix design calculations.

Apparatus:

- Weighing balance (accuracy 0.1g)
- Wire basket (for coarse aggregates)
- Water bath
- Tray
- Oven (temperature 100-110°C)

Procedure:

1. About 2 kg of aggregate sample is taken, washed to remove fines and then placed in the wire basket. The wire basket is then immersed in water, which is at a temperature of 22°C to 32°C.
2. Immediately after immersion the entrapped air is removed from the sample by lifting the basket 25 mm above the base of the tank and allowing it to drop, 25 times at a rate of about one drop per second.
3. The basket, with aggregate are kept completely immersed in water for a period of 24 ± 0.5 hour.
4. The basket and aggregate are weighed while suspended in water, which is at a temperature of 22°C to 32°C.
5. The basket and aggregates are removed from water and dried with dry absorbent cloth.
6. The surface dried aggregates are also weighed.
7. The aggregate is placed in a shallow tray and heated to about 110°C in the oven for 24 hours. Later, it is cooled in an airtight container and weighed.

Observations:

Sl. No.	Descriptions	Observed Values
1	Weight of saturated aggregate and basket in water: W_1 g	
2	Weight of basket in water: W_2 g	
3	Weight of saturated aggregates in air: W_3 g	
4	Weight of oven dry aggregates in air: W_4 g	
5	Apparent Specific Gravity: W_4 / [W_4 – (W_1 - W_2)]	
6	Bulk Specific Gravity: W_4 / [W_3 – (W_1 - W_2)]	

Result: The specific gravity of a given sample of aggregate is_____