Design a concrete mix for a 22 MPa concrete strength beam with a maximum size of aggregate = 0.91 cm, with Fineness Modulus of sand = 2.4, the dry rodded weight of coarse aggregate (gravel) = 3.50 E13 mg/km³, and a moisture content of 2% for the coarse aggregate and 1.5% for the fine aggregate.

Provide the weight of materials (lb) needed for 1 yd³.

Either type all calculations or write neatly all calculations on engineering paper.

Please cite the specific resources used, including tables used in the calculations.