

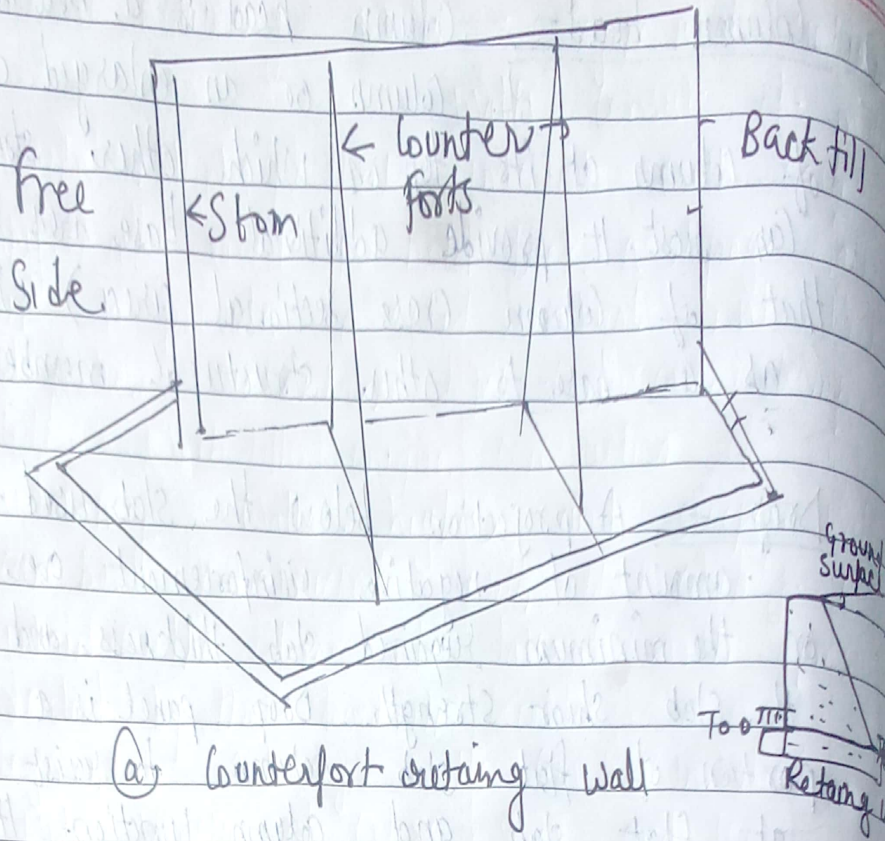
Ques 3/2

Column head - Column head is a bracket on top of column or an enlarged cross section of column at its top on which other structural member can rest. It provide additional base area (more than that of column cross sectional area) which serves as a base to other structural members.

Drop - A projection below the slab used to reduce the amount of negative reinforcement over a column or the minimum required slab thickness, and to increase the slab shear strength. Drop panel is a thickened portion of flat slab column to resist shear at flat slab and column junction. It is part of flat slab. It doesn't support any other structural member.

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Ques 4/2 Counterfort retaining wall - A counterfort retaining wall is a cantilever wall with counterforts, or buttresses, attached to the inside face of the wall to further resist lateral thrust. Some common materials used for retaining walls are treated lumber, concrete block systems, poured concrete, stone and brick.



(a) Counterfort retaining wall

- \* Counterfort retaining walls have thin vertical stems known as counterfort spaced across the vertical stem at regular intervals
- \* Counterforts tie vertical stem with the base slab
- \* The purpose of providing counterfort is to reduce shear force & bending moment in the vertical stem & the base slab.

A buttress wall is similar to a counterfort wall is similar to a counterfort wall except that the transverse support walls are located on the side of the stem opposite to the retained material and act as compression struts. Buttress, as compression elements are more efficient than the tension counterforts and are economical in the same height range.

A counterfort is more widely used than a buttress because the counterfort is hidden beneath the retained material, whereas the buttress occupies what may otherwise be usable