



Example 4:

A sand cone test has been performed in a compacted fill and test results were as follow:

Initial mass of sand cone: 5.912 kg

Final mass of sand cone: 2.378 kg

Mass of soil from hole: 2.883 kg

Moisture content of soil from hole: 7.0%

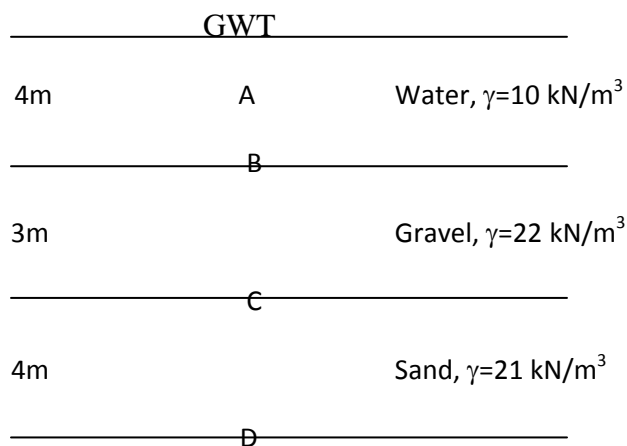
Density of sand:  $1300 \text{ kg/m}^3$

Volume of cone below valve:  $1.114 \cdot 10^{-3} \text{ m}^3$

The project specifications require a relative compaction of 90%. Compute dry unit weight and relative compaction and determine whether the project specifications have been met. If not suggest a course of action.

Example 5:

Determine the effective stress in the following figure at A, B, C and D.



Example 6:

A proposed vertical point load of 200 kN is to be applied to the ground surface 4 m east of Point A. Compute all the total and effective stresses acting on vertical plane in depth of 6 m below Point A. The GWT is at depth of 4 m and the soil bulk and saturated unit weight are  $18 \text{ kN/m}^3$  and  $20 \text{ kN/m}^3$ , respectively.