Give the answers to questions 1 to 10 in English words. Do not use symbols.

1. What is the range of silt size particles?
2. What is the coefficient of uniformity?
3. What is the name of the analysis used to obtain the grain size of fine grained soils?
4. What is an SP soil?
5. What are the Atterberg limits?
6. What is soil suction?
7. What is the equation used to calculate the effective stress?
8. Define the hydraulic conductivity of a soil.
9. Define the hydraulic gradient.
10. What is a quick sand?

11. A cylindrical soil sample has a length of 20 mm and a diameter of 75 mm. It weighs 1.766 N and the water content is determined to be 25 %. If the specific gravity of the solids is 2.7 what is the degree of saturation and the dry unit weight of the soil sample?

12. A soil sample has 60 % passing a sieve with an opening equal to 20 mm, 30 % passing a sieve with an opening equal to 4.75 mm, and 10 % passing a sieve with an opening equal to 0.075 mm. The plastic limit is 12 % and the liquid limit is 40 %. Classify the soil according to the USCS.

13. For the flow net shown below calculate the elevation head, the total head, the pressure head, the pore pressure, the total vertical stress, and the effective vertical stress at point M.