

Q)The water which is lifted up by surface tension above the free ground water surface is called--> **capillary water**

Q)The water chemically combined in the crystal structure of clay particles is called--> **structural water**

Q)The swelling nature of a block cotton soil is due to--> **Montmorillonite**

Q)Amongst the clay minerals the one which is having max. swelling tendency is--> **Montmorillonite**

Q)The water trapped in between the gaps of soil particles is called--> **Pore water**

Q)The water which is freely adsorbed from the atmosphere by the physical forces of attraction of clayey particles and held by the force of adhesion is called--> **adsorbed water**

Q)An arrangement of soil particles having edge to edge or edge to face orientation with respect to one another is called--> **Flocculent structure**

Q)An arrangement of soil particles having face to face or parallel orientation with respect to one another is called--> **Dispersed structure**

Q)Compaction is best suited for--> **cohesion less soils and mixture of partly cohesive and cohesion less soils**

Q)Compaction is a--> **quick process**

Q)The process of artificial arranging soil particles into closer state of contact by removal of air is called--> **compaction**

Q)The compaction needle was named after--> **Proctor**

Q)In a compaction test as the compactive effort increases the moisture content--> **Increases first and decreases thereafter**

Q)Compaction of soil is defined as--> **removal of air**

Q)The shape of a clay mineral is usually--> **flaky**

Q)If the porosity of a soil sample is 20% the void ratio is--> **0.25**

Q)The placement water content is exactly--> **More or less than OMC**

Q)Number of blows applied during IS light compaction test--> **25**

Q)The hammer weight used for IS heavy compaction test--> **4.9 kg**

Q)The drop of hammer for IS light compaction test--> **31cm**

Q)The process of compacting the soil by tamping is adopted for--> **confined places**

Q)The placement water content is defined as--> **The water content used in the field compaction**

Q)The compaction process may be accomplished by--> **All of above**

Q)Sheep foot rollers are best suitable for compacting--> **clayey soils**

Q)In 95% compaction curve the percentage of air voids--> **5**

Q)Modified compaction test results are used for--> **Heavier transport and military aircrafts**

Q)Compaction effect on compressibility--> **reduces**

Q)Compaction effect on permeability--> **reduces**

Q)Zero air void line is a--> **theoretical compaction curve**

Q)100% compaction can be achieved in the field--> **no**

Q)The drop of hammer for IS heavy compaction test--> **45cm**

Q)Heavy compaction curve is always--> **above light compaction curve**

Q)The checking of field compaction quality is called--> **Field compaction control**

Q)The ratio between compaction achieved in the field to that in the lab is called--> **Degree of**

compaction

Q) Road roller is a--> **field compaction equipment**

Q) The soil scientist who worked on soil compaction--> **Proctor**

Q) Compaction curve is graph between--> **water content and dry density**

Q) Compaction curve is drawn--> **on an ordinary graph sheet**

Q) Compaction effect on soil shear strength--> **increases**

Q) Compaction effect on soil bearing capacity--> **increases**

Q) Wind blown deposit of silt is called--> **loess**

Q) The soil which is a mixture of sand, silt and clay is called--> **loam**

Q) The soil which is a stiff marine calcareous clay of greenish color is called--> **Marl**

Q) The soil formed by melting of glaciers is called--> **Till**

Q) The soil with particles whose size is less than 0.002mm--> **clay**

Q) The soil with particle range between 4.75 mm to 80mm is called--> **gravel**

Q) The soil with particle range between 0.002mm to 0.075 mm is called--> **silt**

Q) The soil with particle range between 0.075 mm to 4.75 mm is called--> **sand**

Q) The principle involved in the relation between submerged and saturated unit weights is-->

Archimedes Principle

Q) The soil particles having nearly same size is called--> **Uniformly graded**

Q) The soils with some sizes missing are called--> **gap graded**

Q) The soils containing all sizes of particles are called--> **well graded**

Q) The soil formed by fine grained particles ejected during volcano explosion is called--> **Tuff**

Q) The sedimentary deposits consisting of alternate layers of silt and clay is called--> **Varved clays**

Q) The soil consisting of disintegrated pieces of rock or shale with or without boulders is called--> **Moorum**

Q) The organic soil having fibrous aggregates of macroscopic and microscopic particles is called--> **peat**

Q) The temperature correction in Hydrometer analysis is--> **sometime positive and some times negative**

Q) The dispersing agent correction in Hydrometer analysis is always--> **positive**

Q) The meniscus correction in Hydrometer analysis is always--> **positive**

Q) When a soil changes from liquid state to plastic state then the corresponding water content is called--> **Liquid limit**

Q) Sedimentation analysis is based on soil particles are--> **spherical shape**

Q) The function of dispersing agent used in sedimentation analysis is--> **To disperse the soil particles**

Q) Sedimentation analysis is based on which theory?--> **Stokes law**

Q) Terminal velocity of falling particle in a liquid medium is proportional to--> **square of the diameter of the particle.**

Q) The minimum water content at which a soil will just begin to crumble when rolled into thread of 3mm diameter.--> **Plastic Limit**

Q) The name of the graph generally used for finding out liquid limit in the lab--> **Semi log graph**

Q) The name of the curve obtained to finding out liquid limit in the lab--> **Flow curve**

Q) The number of blows which gives liquid limit from the lab liquid limit test--> **25**

Q)The minimum water content at which the soil possess small shear strength is called--> **Liquid limit**

Q)The maximum water content at which a reduction in water content will not cause a decrease in volume of soil mass is called--> **Shrinkage Limit**

Q)When a soil changes from plastic state to semi solid state then the corresponding water content is called--> **Plastic Limit**

Q)When a soil changes from semisolid state to solid state then the corresponding water content is called--> **Shrinkage Limit**

Q)The ration of liquid limit minus the natural water content to the plasticity index of a soil is called--> **Consistency Index**

Q)The numerical difference between liquid limit and plastic limit is called--> **Plasticity Index**

Q)The range of water content under which soil behaves like a plastic material is indicated by--> **Plasticity Index**

Q)The water plasticity ratio of soil is also called as--> **Liquidity Index**

Q)The name of the tool used to cut groove in lab liquid limit test--> **Casagrande (BS) Tool**

Q)The slope of a flow curve is called--> **Flow index**

Q)The name of the scientist who worked on the soil consistency limits--> **Casagrande**

Q)Russian cone penetration test is used to get--> **Liquid limit**

Q)The decrease in volume of a soil mass expressed as a % of dry volume of soil mass when water content reduced from given percentage to shrinkage limit is called--> **Volumetric shrinkage**

Q)Field density can be determined using--> **core cutter**

Q)The decrease in one dimension of a soil mass expressed as a percentage of original dimension when water content reduced from given percentage to shrinkage limit is called--> **Linear Shrinkage**

Q)The ratio of natural water content of a soil minus its plastic limit to its plastic Index is called--> **Liquidity Index**

Q)The negative consistency index indicates soil behaves likes a--> **liquid**

Q)If the consistency of soil is unity the soil is at--> **Plastic limit**

Q)The ratio between plasticity index to flow index is called--> **Toughness index**

Q)As per IS Soil classification well graded gravels are indicated by symbol--> **GW**

Q)As per IS Soil classification poorly graded gravels are indicated by symbol--> **GP**

Q)The soil particle size which is also known as effective particle size is--> **D₁₀**

Q)The soil particle size expressed in mm such that only 10% particles are finer than that size is called--> **D₁₀**

Q)The soil particle size expressed in mm such that only 30% particles are finer than that size is called--> **D₃₀**

Q)The soil particle size expressed in mm such that only 60% particles are finer than that size is called--> **D₆₀**

Q)The soil particle size which controls the permeability of soil is called--> **D₁₀**

Q)As per IS Soil classification well graded sands are indicated by symbol--> **SW**

Q)As per IS Soil classification inorganic silts with low plasticity are classified as--> **ML**

Q)As per IS Soil classification silty sands are indicated by symbol--> **SM**

- Q)As per IS Soil classification silty gravels are indicated by symbol--> **GM**
- Q)As per IS Soil classification clayey gravels are indicated by symbol--> **GC**
- Q)As per IS Soil classification poorly graded sands are indicated by symbol--> **SP**
- Q)As per IS Soil classification clayey sands are indicated by symbol--> **SC**
- Q)As per IS Soil classification inorganic silts with high plasticity are classified as--> **MH**
- Q)As per IS Soil classification inorganic clays with high plasticity are classified as--> **CH**
- Q)As per IS Soil classification inorganic silts with medium plasticity are classified as--> **MI**
- Q)As per IS Soil classification inorganic clays with low plasticity are classified as--> **CL**
- Q)As per IS Soil classification organic silts with low plasticity are classified as-->
- Q)As per IS Soil classification organic silts and clays with medium plasticity are classified as--> **OI**
- Q)As per IS Soil classification inorganic clays with medium plasticity are classified as--> **CI**
- Q)The basis for IS soil classification of fine grained soils is--> **Liquid Limit**
- Q)Gravitational water in soils is also called--> **Free water**
- Q)As per Unified Soil classification fine grained soils are classified into--> **Two groups**
- Q)As per IS Soil classification organic silts with high plasticity are classified as--> **OH**
- Q)As per IS Soil classification the line dividing inorganic clays with inorganic silts and organic matter is called--> **A-line**
- Q)IS Soil classification resembles to--> **Unified Soil Classification**
- Q)As per IS Soil classification fine grained soils are classified into--> **Three groups**
- Q)The effective pressure is also known as--> **Inter granular pressure**
- Q)Inter granular pressure in soils is due to--> **Load transferred due to soil particles at their contact points**
- Q)The effective pressure in a soil is due to--> **solid particles of soil**
- Q)The phenomenon of raise water from the ground level due to capillary forces is called--> **Capillarity**
- Q)Capillary zone of water in soils is--> **Above water table level**
- Q)The property of porous material which allows water to flow through it is called--> **Permeability**
- Q)The neutral pressure in a soil is due to--> **water**
- Q)The rate of discharge of percolating water through unit cross section area of soil pores perpendicular to the direction of flow is called--> **seepage velocity**
- Q)Coefficient of percolation and coefficient of permeability are related by--> **porosity**
- Q)The seepage velocity is proportional to hydraulic gradient. Then what is the name of coefficient of proportionality?--> **Coefficient of percolation**
- Q)The relation ship governing the laminarflow through capillary tube is known as--> **Poiseuilles law**
- Q)The law explaining linear dependency between velocity of liquid and hydraulic gradient for laminar flows is called--> **Darcys law**
- Q)The actual or true velocity of liquid through soil pores is called--> **seepage velocity**
- Q)The seepage velocity and discharge velocity are connected by--> **porosity**
- Q)Variable head permeability test is used for--> **Fine grained soils**
- Q)Permeability of soil in the lab is determined by--> **Permeameter**
- Q)Constant head permeability lab test is used for--> **coarse grained soils**
- Q)The permeability of clay when compared to sand--> **much less**

Q)Darcys law of permeability of soils valid for--> **laminar conditions of water only**

Q)The permeability coefficient which does not depend on properties of permeant (water) is called--> **Coefficient of absolute permeability**

Q) $K=CD_{10}^2$ is a following scientist formula--> **Allen Hazen**

Q)The phenomenon of lifting of soil particles due to upwards seepage pressure is called--> **above all**

Q)During quick sand the effective pressure on soil is--> **zero**

Q)The pressure exerted by water on the soil through which it percolates is called--> **seepage pressure**

Q)Specific gravity of soil solids is determined in the lab by--> **pycnometer**

Q)For any stratified soil mass permeability parallel to bedding planes is ---- to permeability perpendicular to bedding planes--> **greater**

Q)For any stratified soil mass permeability parallel to bedding planes is controlled by--> **most permeable bedding plane**

Q)For any stratified soil mass permeability perpendicular to bedding planes is controlled by--> **least permeable bedding plane**

Q)<---image missing-----> This two dimensional equation is called--> **Laplace equation**

Q)If a laminar flow is continuous then it must satisfy--> **continuity equation**

Q)The top most saturated line of an earth dam body is called--> **Phreatic line**

Q)During quick sand condition the cohesion less soils shear strength is--> **lost**

Q)Two sets of curves drawn orthogonal to one another for determining seepage of dams is called--> **flow net**

Q)The area bounded by two consecutive flow lines and potential lines is called--> **field**

Q)The last field of a flow net drawn for foundation seepage of an earth dam is used for determining--> **Exit gradient**