Assignment No:	**01**	**GEOTECHNICS**	
Date:	**28/08/2018**		
Sub Code	**2130606**	**Title of Subject**	**Geotechnics & Applied Geology**

#	Questions
1.	Scope of geotechnical engineering.
2.	Explain soil map of India and Gujarat.
3.	Explain soil formation in geological cycle.
4.	Discuss the properties of black cotton soils.
5.	Explain three face diagram of soil.
6.	Explain specific gravity determination by pycnometer bottle.

Date of Submission of Assignment - I

A – Division – 11/09/2018

B – Division – 14/09/2018

Assignment No:	**02**	**NUMERICAL**	
Date:	**28/08/2018**		
Sub Code	**2130606**	**Title of Subject**	**Geotechnics & Applied Geology**

	INDEX PROPERTIES
1	Derive the following relationship: $n = \frac{e}{1+e}$ b) $e = \frac{n}{1-n}$ c) $e = \frac{wG}{S_r}$ $\gamma_b = \frac{\gamma_w(G+es_r)}{1+e}$ e) $\gamma_d = \frac{\gamma_b}{1+w}$ f) $\gamma_d = \frac{(1-na)G\gamma_w}{1+wG}$
2	A soil has porosity 40% and specific gravity of soil particles is 2.65. Calculate (i) Void ration (ii) Dry density (iii) Saturated density
3	A soil specimen has a water content of 10% and a unit weight of 20 KN/m^3. If the specific gravity of soil mass is 2.70, determine the dry unit weight, void ratio and degree of saturation.
4	Following observations are noted during proctor compaction test. Considering specific gravity of specimen as 2.75, find: (i) Porosity (ii) Void ratio (iii) Degree of saturation (iv) Dry density.
5	A soil has porosity 40% and specific gravity of soil particles is 2.65. Calculate (i) Void ration (ii) Dry density (iii) Saturated density. Mass of soil sample= 2400 gm, Moisture content = 16%, Volume of Proctor mould = 1000 cc
6	A soil has porosity of 35% the specific gravity of 2.65 and a water content of 13%. Determine the mass of water required to be added to 100 m^3 of this soil full saturation.

Date of Submission – Assignment - II

A – Division – 11/09/2018

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