

Birzeit University
Faculty of Engineering
Department of Civil and Environmental Engineering

ENCE 331, Soil Mechanics
Quiz #3

Problem 1:

During Atterberg limit tests in the soil mechanics laboratory, the students obtained the following results from a clayey soil.

Liquid limit test:

Number of blows, N	Moisture content (%)
12	35.2
19	29.5
27	25.4
37	21

- Draw the flow curve and obtain the liquid limit.
- If plasticity index of the soil is 6.5 what is the plastic limit of this soil?
- Determine the flow index.
- Determine the liquidity index of the soil if the in-situ moisture content is 23.8%, and comment on the probable engineering behavior of this soil.

Problem 2:

Classify the following soils using USCS

Soil	Sieve analysis – Percent finer		Liquid limit	Plasticity index
	No. 4	No. 200		
1	70	30	33	21
2	48	20	41	22
3	95	70	52	28

Classify the following soils using AASHTO

Soil	Sieve analysis – Percent finer			Liquid limit	Plasticity index
	No. 10	No. 40	No. 200		
1	85	55	45	28	20
2	92	75	62	43	28
3	97	60	30	25	16