Lecture 2 Name:

**Short questions (1p each, answer not longer than 30 words + figure)**

1. Can we find out the preconsolidation stress in an oedometric test? How? Explain using a figure…

2. What kind of sample we need to find out the preconsolidation stress (either in a triaxial or oedometric test)?

3. What is the effective stress state in a sample at the end of drained triaxial test? Assume 54mm diameter sample, initial preconsolidation of 100 kPa and failure under load of 2 kN from the press.

4. How can we use the results of an undrained triaxial soil test?

5. Discuss whether it is possible to do a drained test in constant rate of strain oedometer? (50 words max)

6. Can we estimate the small strain stiffness in a triaxial test? If yes, how?

**Long question (10p, write 100-150 words + figure):**

Basing on critical state soil mechanics concept (see figure above) and taking Mohr-Coulomb failure criterion as valid – explain how the volume of soil is changing in drained triaxial tests for a) normally consolidated sample and b) for overconsolidated sample. Are your predictions fitting the available experimental data?

**Each point is equal to 0.25% extra score in the lecture test one if taken on the agreed date.**