

Course / Subject Name: NQ-Civil-393 Soil Mechanics and Foundation engineering

Assessment Tasks (Summative Assessment)

Assessment Task 01		For a given soil, Classify the soil type, find out its Atterberg limits, dry density, relative compaction and permeability of soil		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Ensure ergonomic workstation setup to minimize strain during calculations and computer work.			
2.	Handle all measuring equipment safely to prevent injuries (e.g., sharp-edged tools/heavy tools etc.)			
3.	Maintain proper posture and take regular breaks to avoid repetitive strain injuries (RSIs).			
4.	Ensure adequate lighting and ventilation in the workspace to reduce fatigue and eye strain			
5.	Collect soil sample using hand auger			
6.	Identify sieves for sieve analysis.			
7.	Perform sieve analysis on the soil sample			
8.	Compute percentage retained and passing in sieve analysis			
9.	Prepare gradation curve of soil on basis of sieve analysis results			
10.	Prepare soil sample and perform Hydrometer analysis			
11.	Record the findings			
12.	Interpret findings clearly in a tabulated format			
13.	Identify apparatus of Liquid Limit and Plastic Limit test			
14.	Perform liquid limit test and record observations			
15.	Determine liquid limit by plotting graph of results i.e. no. of blows and water content			
16.	Prepare soil sample for Plastic limit test.			
17.	Perform plastic limit test and determine plastic limit			
18.	Classify soil sample using AASHTO classification system			
19.	Identify apparatus for Standard Proctor test			
20.	Prepare soil sample for Standard Proctor test			
21.	Determine optimum moisture content by plotting graph between dry density and moisture content			

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22.	Determine bulk density of soil in field by sand replacement method.			
23.	Compute relative compaction			
24.	Identify Constant Head Permeameter for determining permeability of soil			
25.	Perform Constant Head permeability test and take readings.			
26.	Calculate coefficient of permeability by formula.			
Competent ☐		Not Yet Competent ☐		

Assessment Task 02		Sketch of Foundation		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Ensure ergonomic workstation setup to minimize strain during calculations and computer work.			
2.	Handle all measuring equipment safely to prevent injuries (e.g., sharp-edged tools/heavy tools etc.)			
3.	Maintain proper posture and take regular breaks to avoid repetitive strain injuries (RSIs).			
4.	Ensure adequate lighting and ventilation in the workspace to reduce fatigue and eye strain			
5.	Draw sketch of isolated foundation.			
Competent ☐		Not Yet Competent ☐		

Assessment NO.2

Assessment Task 01		For a given soil, Classify the soil type, find out its Atterberg limits, dry density, relative compaction and permeability of soil		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Ensure ergonomic workstation setup to minimize strain during calculations and computer work.			
2.	Handle all measuring equipment safely to prevent injuries (e.g., sharp-edged tools/heavy tools etc.)			
3.	Maintain proper posture and take regular breaks to avoid repetitive strain injuries (RSIs).			
4.	Ensure adequate lighting and ventilation in the workspace to reduce fatigue and eye strain			
5.	Collect soil sample using hand auger			
6.	Identify apparatus for Modified Proctor test			
7.	Prepare soil sample for Modified Proctor test			
8.	Determine optimum moisture content by plotting graph between dry density and moisture content			
9.	Determine bulk density of soil in field by core cutter			
10.	Compute relative compaction			
11.	Identify Falling Head Permeameter for determining permeability of soil			
12.	Perform Falling Head permeability test and take readings.			
13.	Calculate coefficient of permeability by formula.			
14.	Identify sieves for sieve analysis.			
15.	Perform sieve analysis on the soil sample			
16.	Compute percentage retained and passing in sieve analysis			
17.	Prepare gradation curve of soil on basis of sieve analysis results			
18.	Prepare soil sample and perform Hydrometer analysis			
19.	Record the findings			
20.	Interpret findings clearly in a tabulated format			
21.	Identify apparatus of Liquid Limit and Plastic Limit test			
22.	Perform liquid limit test and record observations			

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23.	Determine liquid limit by plotting graph of results i.e. no. of blows and water content			
24.	Prepare soil sample for Plastic limit test.			
25.	Perform plastic limit test and determine plastic limit			
26.	Classify soil sample using AASHTO classification system			
Competent ☐		Not Yet Competent ☐		

Assessment Task 02		Sketch of Foundation		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Ensure ergonomic workstation setup to minimize strain during calculations and computer work.			
2.	Handle all measuring equipment safely to prevent injuries (e.g., sharp-edged tools/heavy tools etc.)			
3.	Maintain proper posture and take regular breaks to avoid repetitive strain injuries (RSIs).			
4.	Ensure adequate lighting and ventilation in the workspace to reduce fatigue and eye strain			
5.	Draw sketch of combined foundation.			
Competent ☐		Not Yet Competent ☐		