Total number of printed pages:1 **UG/7th Semester/UCE711**

2024

SOIL STABILIZATION AND GROUND IMPROVEMENT TECHNIQUES

Full Marks: 100

Time: Three hours

The figures in the margin indicate full marks for the questions.

*Answer **any five** questions.*

1.	a)	What do you mean by ground improvement? What are the factors affecting the choice of ground improvement methods.	2+8=10
	b)	Describe about the classification of ground improvement techniques.	10
2.	a)	Why compaction of soil is necessary in the field? Describe about the compaction behaviour in a fine grained soil with the help of a diagram.	3+7=10
	b)	How surface compaction is done by adopting compaction equipment?	10
3.	a)	How soil can be stabilized by cementing? Give two examples of cementing.	4+2= 6
	b)	What do you mean by lime stabilization?	2
	c)	Explain the different factors influencing cement stabilization?	10
	d)	What are the different operations involved in construction of soil-cement?	2
4.	a)	Define grouting? Write about the different applications of grouting process.	2+8= 10
	b)	Give two examples of grouting materials. Describe the grouting procedure in the field.	2+8= 10
5.	a)	How the soil properties can be improved by adopting soil reinforcement techniques? How the reinforcing elements can be installed in the field?	2+3= 5
	b)	What are different elements available for soil reinforcement? Draw Figures for each element.	5
	c)	Describe about the various applications of soil reinforcement technique.	10
6.	a)	How the ground water related problems can be mitigated in civil engineering construction? What are the requirements of a filter material?	3+4= 7
	b)	What are the methods available for controlling seepage?	3
	c)	Describe about the different methods of dewatering systems?	10

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