Sanjay Ghodawat University, Kolhapur 2019-20

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017 EXM/P/09/01

Year and Program: 2019-20 **School of Technology** **Department of Civil engineering** (F. Y. M. Tech. Construction Engineering and Management)

Course Code: CEM502R1 **Course Title:** Construction Methods and Equipment **Semester – I**

Day and Date Wednesday 18/12/19 **End Semester Examination (ESE)** **Time:** 3hr **Max Marks: 100** 10.30 am to 1.30 pm

Instructions:
1) All questions are compulsory.
2) Assume suitable data wherever necessary.
3) Figures to the right indicate full marks.

		Marks	Bloom's Level	CO
Q.1	**Attempt the following**			
a)	Frame safety policy for under water construction using pneumatic Caissons.	07	L_6	CO1
	OR			
a)	Compare tunneling methods in Hard rock. Explain problems facing during tunneling.	07	L_6	CO1
b)	Write short notes on grouting and explain drilling pattern and grouting procedure.	08	L_3	CO2
	OR			
b)	Explain optimum pressure requirements for grouting operations. Explain the method suitable for grouting foundation under dam.	08	L_3	CO2
Q.2	**Attempt the following**			
a)	Explain Analysis design and for well point system.	07	L_4	CO2
	OR			
a)	Differentiate between methods of dewatering for deep and shallow excavation.	07	L_4	CO2
b)	Explain the working of back hoe and discuss the factors affecting the output of back hoe.	08	L_4	CO3
	OR			
b)	Write a note on ripper.State the major applications of ripper as	08	L_4	CO3

	construction equipment.				
Q.3	**Solve any Two**				
	a)	Explain the following: 1)Types of surge chamber 2)Underwater construction problem	08	L_2	CO1
	b)	Explain the types of grouting.	08	L_2	CO1
	c)	Comment on vacuum dewatering by electro osmosis.	08	L_5	CO2
	d)	Comment on clamshell as an excavation equipment with cycle of operation.	08	L_5	CO3
Q.4	**Solve any Two**				
	a)	State the importance of matching of excavating and hauling equipment in major construction projects and how is it carried out.	09	L_3	CO4
	b)	Compare different types of blades used with bulldozers. State the applications of the bulldozers in major construction projects.	09	L_3	CO4
	c)	Explain working of scrapper with neat sketch.	09	L_3	CO4
Q.5	**Solve any Two**				
	a)	Define soil stabilization. Explain various soil properties affecting the selection of compacting equipment.	09	L_3	CO4
	b)	Explain trenchers with a neat sketch working of wheel type of trencher.	09	L_3	CO4
	c)	Explain with a neat sketch working of sheep foot roller. Discuss the suitability of sheep foot roller as compacting equipment.	09	L_3	CO4
Q.6	**Solve any Three**				
	a)	State the importance hauling equipment in major construction projects.	06	L_4	CO4
	b)	Explain the suitability of the hauling equipment and discuss the factors affecting the selection.	06	L_4	CO4
	c)	Explain various types of roller with suitability.	06	L_4	CO4
	d)	Write a note on Soil stabilization.	06	L_4	CO4

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