

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, July 2020

Course: Foundation of Structures
Program: M. Tech. (Structural Engineering)
Course Code: CIVL 7015

Semester: II
Time 03 hrs.
Max. Marks: 100

Instructions: Do any one Question. Relevent codes, books and other reference materials may be used. Assume and state clearly, any data considered necessary but missing.

S. No.		Marks	CO
Q 1	<p>A steel chimney is to be constructed for an industry in Delhi. Assume the height of chimney as 60m, suggest suitable dimensions for the chimney. If the chimney is built in an area where the site condition is flat ground with terrain category 3, design a suitable foundation for the chimney, assuming that the safe bearing capacity is 150 KN/m² at 3m depth.</p>	100	CO3
Q 2	<p>A mobile transmission tower 50m high is to be constructed near River Yamuna in Delhi. The tower consists of 10 panels each 5m high. The tower width at the top is 1.5 m. Assuming that the tower has a square cross section consisting of four legs, with the top panel being being straight and all the other panels are flaring out, calculate the bottom width of the tower. The site condition is flat ground with terrain category 4.</p> <p>(a) Design a suitable foundation for the tower, assuming that the safe bearing capacity during the dry season is 140 KN/m² at 2.8 m depth.(b) During the monsoon season, the foundation can get fully submerged by river water. What revised size of foundation would be required for this change in site condition.</p>	100	CO4
