Enrollment No……

Master of Technology
Third Semester Main Examination, Dec-2020
Advance Foundation Engineering [MTSE301(2)]

Time: 3:00 Hrs. Max Marks 70

Note : Attempt any five questions. All questions carry equal marks.

Q.1 What Are the Different Types of Penetration Tests? Under What Circumstances Would You Recommend Them?

Q.2 Discuss The Factors Which Are Relevant To The Planning Of A Well Balanced Exploration Program.

Q.3 Discuss The Various Stages Of Sample Disturbance.

Q.4 Describe In Details The Different Types Of Settlements Which Are To Be Considered In The Design Of A Shallow Foundation?

Q.5 Explain The Method Of Conducting A Field Bearing Test. Discuss The Validity Of The Test Results In The Design Of Foundations.

Q.6 List The Circumstances Under Which A Pile Foundation Become Necessary.

Q.7 What Are The Factors To Be Considered In The Selection Of Pile Hammer?

Q.8 In A Two Layered Cohesive Soil, Bored Piles Of400 Mm Are Installed. The Top Layer Has A Thickness Of 5m And The Bottom One Is Of Considerable Depth. The Shear Strength Of The Top Clay Layer Is 45 Kn/M^2 And That Of The Bottom Is 100 Kn/M^2. Determine The Length Of The Bored Pile Required To Carry- A Safe Load Of 380 Kn, Allowing A Factor Of Safety Of 2.0.

Enrollment No……

Master of Technology
Third Semester Main Examination, Dec-2020
Design of Tall Structures [MTSE302(2)]

Time: 3:00 Hrs Max Marks 70

Note : (i) Attempt any five questions out of eight.
(ii) All questions carry equal marks.
(iii) Assume suitable data if necessary and state them clearly.

Q.1 (a) **A chimney of height 80 m is proposed to be built over a hill top at Jaipur. The height of the hill is 600 m and it has a gradient of 1:4.5. The horizontal approach is 2 km from G.L. Calculate the design wind pressure.**
(b) Explain Khosla's Theory.

Q.2 (a) Explain the **Various bracing used in tower.**

(b) Write down the design of flanged shear wall.

Q.3 **(a)** What is the difference between static and dynamic loads acting on tall structure?
(b) Explain in detail **Regorlans method.**

Q.4 **(a)** What is tabular structure and how this behaves under lateral load?
(b) Discuss **Khan and sbarro unit method.**

Q.5 **(a)** Explain the modeling for approximate and accurate analysis of a tall structure.
(b) Explain approximate method analysis for wind forces.

Q.6 (a) **Write down the uncertainties in earthquake design.**
(b) Discuss the design criteria for T.V. towers.

Q.7 **(a) Give case study of any tall structure.**
(b) Write down the uncertainties in earthquake design.

Q.8 **(a)** What is Hydrodynamic analysis of elevated water tank and codal provisions for this?
(b) Write in detail about the characteristics of wind and earthquake forces.