

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2016

B.Tech. VI Semester

COURSE CODE: 10B11CE612

MAX. MARKS: 15

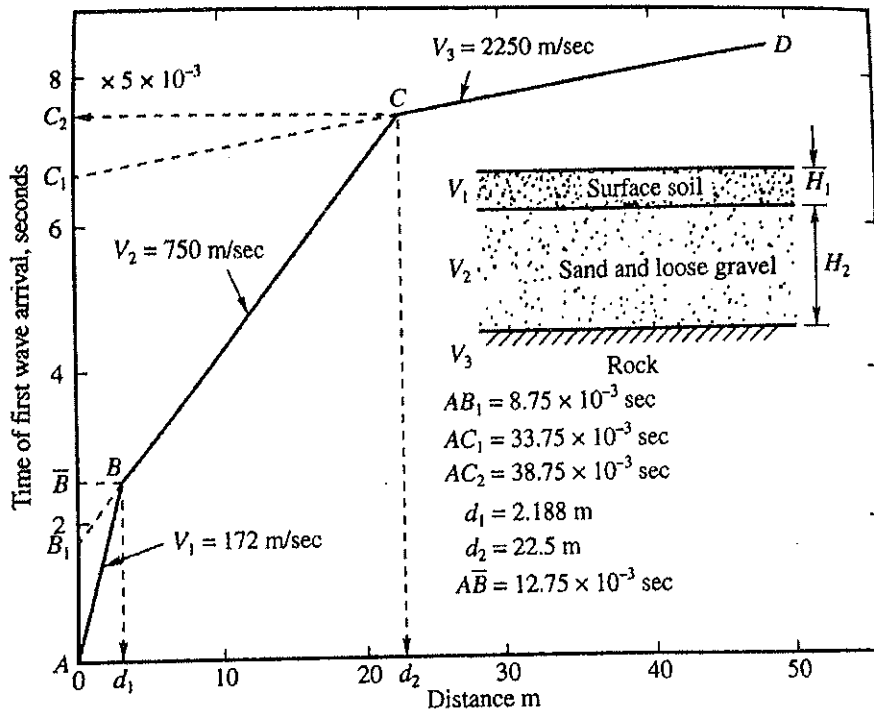
COURSE NAME: FOUNDATION ENGINEERING

COURSE CREDITS: 04

MAX. TIME: 1 HR

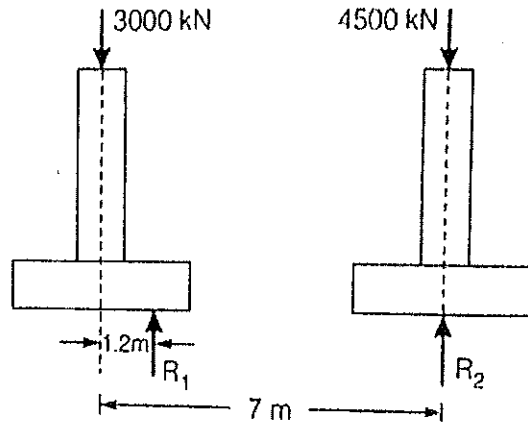
Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Assume necessary values as per IS code if required.

1. A seismic survey was carried out for a large project to determine the nature of the substrata. The results of the survey are given in the Figure below. Determine the depths of the strata. [3]



2. Compute the area ratio of sampling tube given the outside diameter = 100 mm and inside diameter = 94 mm. In what types of soil can this tube be used for sampling? [1.5+1.5 = 3]
3. What will be the water content of the mixed soil made from 1 kg of soil A having water content 100% and 1 kg of soil B having water content 50%. [3]

4. A strap footing is to be provided for the two columns as shown in figure. What is the required length L of the left footing if the width of both the footings is 3.5 m and the safe bearing capacity of the soil is 350 kN/m^2 [3]



5. Comment on the correctness of the following and justify your statement. [1.5+1.5 = 3]
- Earth pressure at rest is greater than the active earth pressure but smaller than the passive earth pressure.
 - Smaller footings settle more than the larger footings under same load intensity.