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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- APRIL 2019

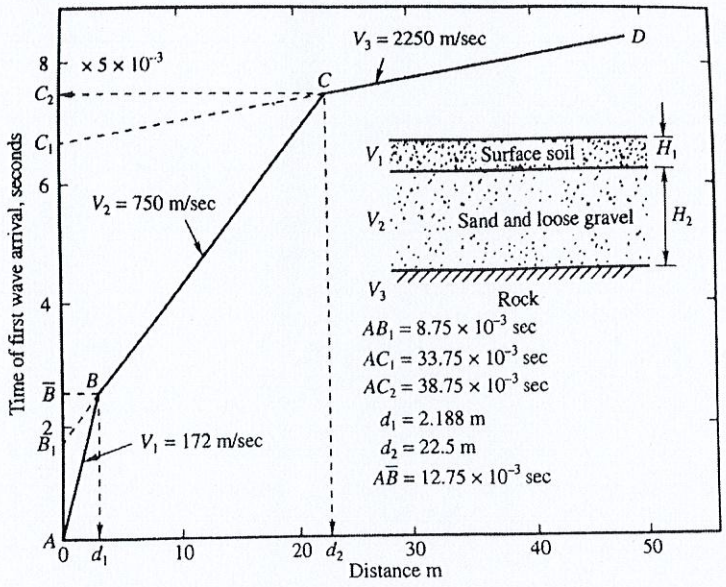
COURSE CODE: 10B11CE612 MAX. MARKS: 25

COURSE NAME: FOUNDATION ENGINEERING

COURSE CREDITS: 04 MAX. TIME: 1.5 Hrs

Note: *All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Prefer answering in sequence. Assume suitable data 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. **[4]**



2. The following data was obtained from a plate load test carried out on a 60 cm square test plate at a depth of 2 m below the ground surface on a sandy soil which extends up to a large depth. Determine the settlement of a foundation 3mx3m carrying a load of 110t and located at a depth of 2m below the ground surface. What would be the settlement if foundation is located at 3m depth?

Load Intensity(t/m²)	0	5	10	15	20	25	30	35	40
Settlement(mm)	0	2	4	7.5	11	16.3	23.5	34	45

Assume the water table to be located at large depth. **[6]**

3. Comment on the nature of the samples obtained from following with given outside and internal diameters: **[3]**

(a) Core cutter 165 mm OD and 150 mm ID

(b) Split barrel 55 mm OD and 35 mm ID

(c) Seamless Shelby tube 51 mm OD and 48 mm ID

4. Write descriptive notes on the following with neat sketches: **[4x3=12]**
   (a) Wash boring
   (b) Limitations of SPT and Plate Load test
   (c) Flat Dilatometer test