

**MINOR I :CVL 861 ANALYSIS AND DESIGN OF  
MACHINE FOUNDATIONS (2020-21)**

**Time allowed:** 1hour  
**Venue** : Online

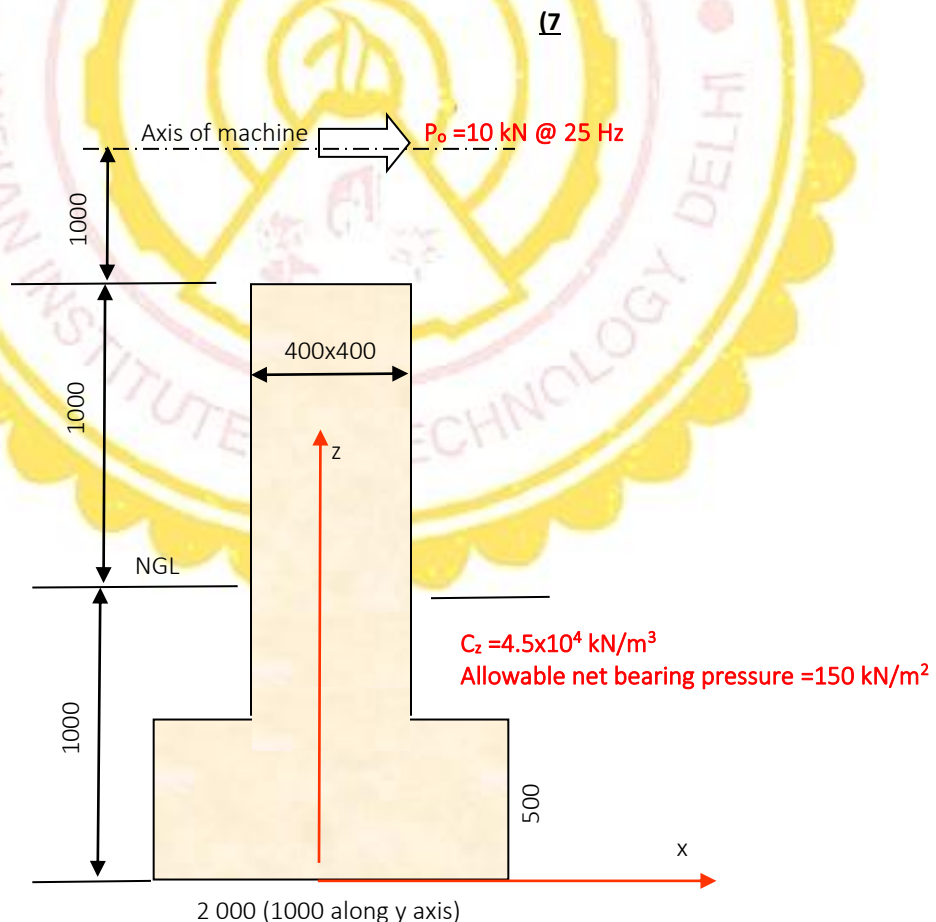
**Date** : 18 March 2021  
**Max marks** : 15

**NOTE:** (a) This question paper contains one page only. (b) All questions are compulsory. (c) Assume any data which you deem is necessary but not supplied. (d) Draw neat and clear sketches wherever required.

**Question 1**

Referring to the foundation system for a horizontal reciprocating machine shown below, carry out the following computations:

- (1) Determine the frequencies and the amplitudes of vibrations at critical locations and conclude about adequacy of the foundation as per the provisions of IS 2974 (I).
- (2) Determine the inertial moment at the junction of the pedestal and the foundation raft.
- (3) Determine the maximum gross pressure below the foundation and conclude whether the pressures are within safe limits?
- (4) Suggest any measures for improving/ correcting the design, if any.



ALL DIMENSIONS ARE IN MM