

MyWriterMaster

Freelance Academic Writing



MyWritingMaster

Structural Engineering EQT

We are glad to offer you this EQT to test your subject matter depth and word doc formatting skills before taking you in our freelance expert writing team.

You will be judged on these aspects

- 1. Plagiarism and referencing:** Plagiarism (Copy pasting from external sources) is a strict offense and will result in cancellation of your solution straight away. Please note that all the assignments undergo a plagiarism test using Turnitin software and a content review from our expert reviewers before sending it to the client.
- 2. 8 word doc formatting.** (Check here: <http://mywritingmaster.in/writing-methodology/>)
- 3. Relevant content:** The solution should be to the point and as per the questions asked.
- 4. Written English language:** Your solution should have correct grammar and sentence formation etc.
- 5. Commitment to word limits and deadline.**

If you have any doubts regarding the above 5 points please refer <http://mywritingmaster.in/writing-methodology/>

Structural Engineering

Test Questions (Two questions)

Please solve the questions listed below and mathematics notations for numbers and equations in MS Word Document:

Please note that you need to follow Australian standards AS3600,AS2327.1,AS4100 compulsorily. Without this these questions cannot be solved.

Question 1. A pinned-base portal frame is constructed adjacent to a concrete building as shown. From analysis, it is shown that the forces acting on the foundation through the column due to:

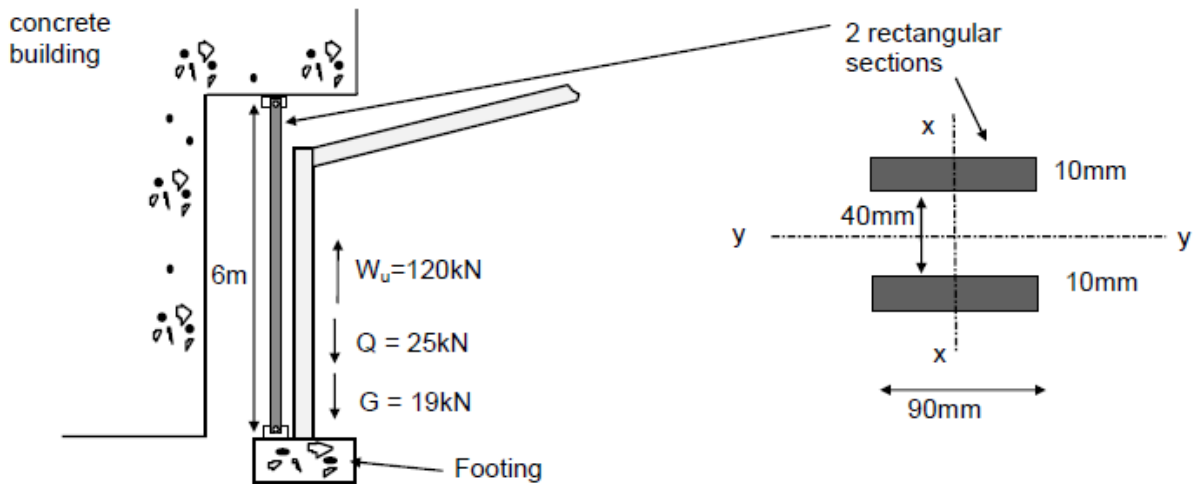
Wind load, W_u : -120 kN (Uplift)
Dead load, G : 19 kN (downward)
Live load, Q : 25 kN (downward)

In order to reduce the weight of the concrete footing required for counteracting the uplift force, a column consisting of two rectangular sections, 90mm x 10mm and 6m

long each, is installed between the footing and the concrete ceiling as shown in the Figure. The column is ideally pinned at both ends about both the x-x and y-y axes.

(a) Determine the member capacity, ϕN_c , for the column. Grade 300 steel is to be used for the column. Assume that the form factor $k_f = 1.0$ and no deduction for hole area is necessary.

(b) Hence, determine the minimum volume of concrete required for the footing. Specific weight of concrete = 24 kN/m^3 .



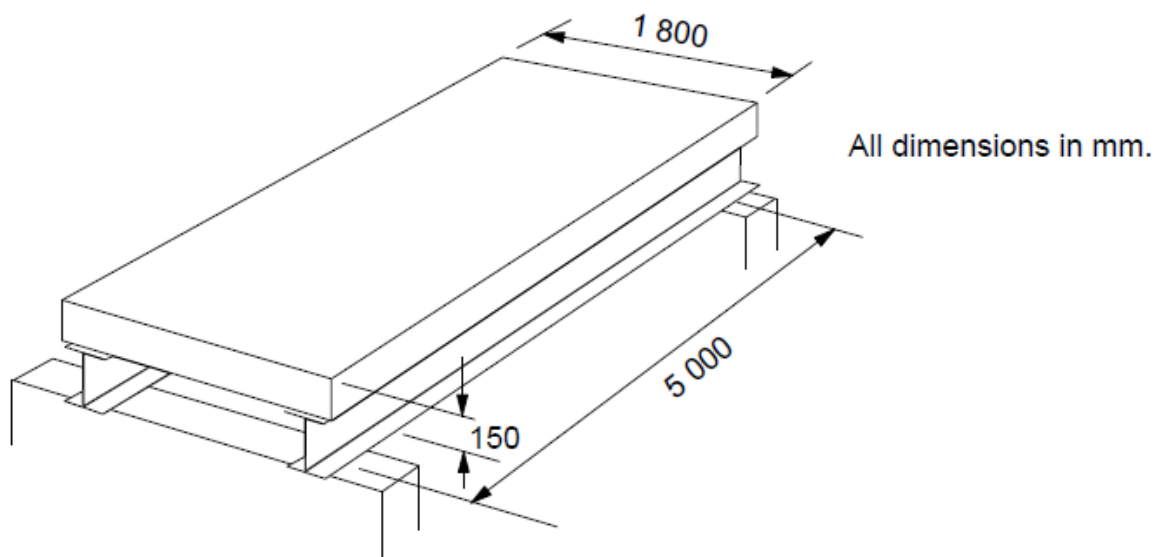
Question 2. A small footbridge with an effective span of $5m$ consists of two UB sections supporting $150mm$ concrete slab with a width of $1.8m$ (see figure below).

Assume a live load of $6.6kN/m^2$

Steel Grade 250

Density of concrete (reinforced) $2450kg/m^3$

Assume that the bottom flange of the beams is bolted to the supports and that stiffener plates are provided at these points, providing full restraint against torsion. Choose a suitable size of UB, checking for moment capacity, shear capacity and deflection (only). Include the self-weight of the beam in your final check.



	<p>List of References A list of end-text references formatted according to the international standard requirements using the APA format. Marks will be deducted if in-text or end-text references are not formatted correctly.</p>
--	---

Academic Misconduct (Including Plagiarism)

All Universities regard academic misconduct of any form as unacceptable. Academic misconduct, which includes but is not limited to, plagiarism; inadequate and in correct referencing; will be dealt as clear case of Misconduct (including Plagiarism) Policy.