



UTHM

Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER 1
SESSION 2021/2022**

COURSE NAME : CIVIL ENGINEERING
SOFTWARE APPLICATION

COURSE CODE : DAC 21203

PROGRAMME CODE : 3 DAA

EXAMINATION DATE : JANUARY / FEBRUARY 2022

DURATION : 24 HOURS

INSTRUCTION

1. ANSWER **ALL** QUESTIONS
2. THIS FINAL EXAMINATION IS A **TAKE HOME** ASSESSMENT AND CONDUCTED VIA **OPEN BOOK**

THIS QUESTION PAPER CONSISTS OF FOUR (4) PAGES



Q1 Figure Q1 shows a two (2) dimensional structure simply supported at both end. Point load of 5 kN act on every node on the top chord. Input all necessary information into StaadPro and :

- (a) analyse the structure as a truss and submit a printout report for all support reactions and all internal forces.

(15 marks)

- (b) design the truss according to BS5950 by assigning a uniformly size steel section. Find the most economic section size for the structure.

(15 marks)

- (c) analyse the structure as a rigid frame and submit a printout report for all support reactions and all internal forces.

(15 marks)

- (d) design the rigid structure according to BS5950 by assigning a uniformly size steel section. Find the most economic section size for the structure.

(15 marks)

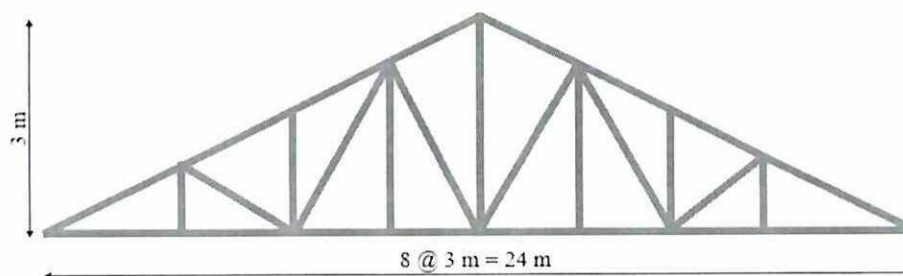


Figure Q1

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Q2 Figure Q2 shows Floor Key Plan of Ground and Roof level of a single story building. By using StaadPro:

- (a) input all necessary information and run the integrity test. Prepare a printout of the integrity test result. Submit your works in pdf format only.

(15 marks)

- (b) design the structure as using reinforced concrete and prepare detail drawing for a typical beam. Submit your works in Autocad native format and pdf printout.

(15 marks)

Q3 Using information from drawing in Figure Q2, prepare a work programme using Microsoft Project by listing atleast 10 activities related to reinforced concrete works. Submit your works in MS Project native file format and pdf printout.

(10 marks)

END OF QUESTIONS

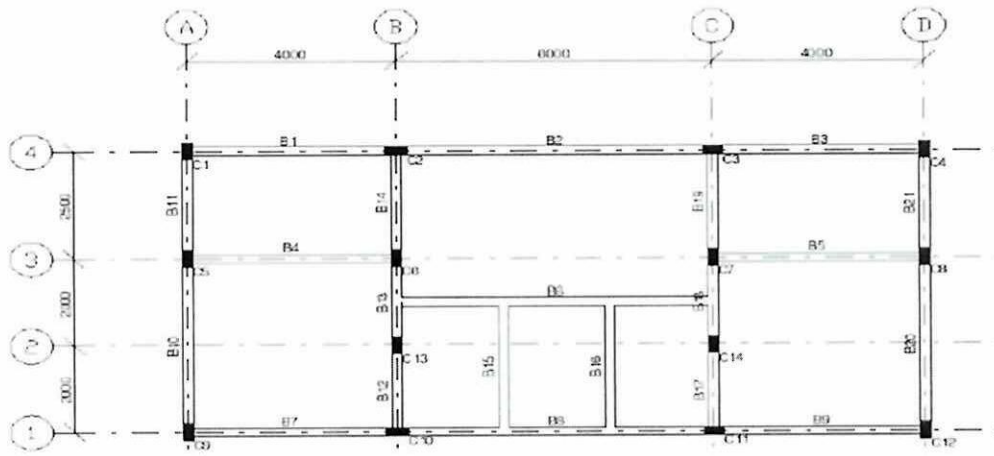
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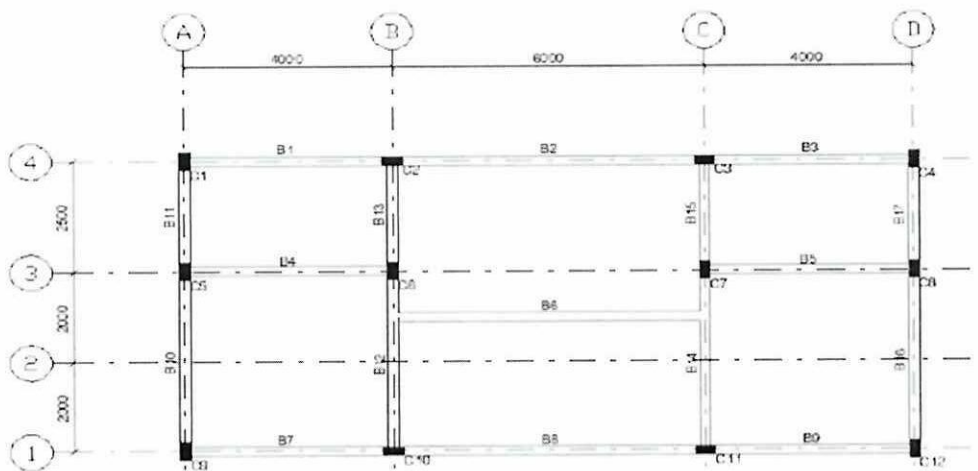
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Floor Key Plan: GB

a) For Floor key plan GB

- Beam size : 600 mm x 200 mm
- Beam B/1-4 : 700 mm x 200 mm
- Beam C/1-4 : 700 mm x 200 mm
- Stump Column : 400 mm x 200 mm



Floor Key Plan: RB

b) For Floor Key Plan RB

- Beam size : 500 mm x 200 mm
- Column : 400 mm x 200 mm

Figure Q2

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