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Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2018/2019**

COURSE NAME : CONSTRUCTION ENGINEERING
COURSE CODE : BFC21002
PROGRAMME CODE : BFF
EXAMINATION DATE : DECEMBER 2018 / JANUARY 2019
DURATION : 2 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

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THIS QUESTION PAPER CONSISTS OF **SIX (6)** PAGES

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- Q1** (a) Explain the purpose of as-built drawing for construction activity in **Figure Q1(a)**.
(5 marks)
- (b) Explain the differences between ground beam formwork and upper beam formwork as clouded in **Figure Q1(b)**. Provide sketches to support your explanation.
(10 marks)
- (c) Discuss steps that should be taken to provide starter bars by highlighting differences between reinforced concrete square pile and reinforced concrete spun pile. Provide simple sketches to support your explanation.
(5 marks)
- (d) Justify the reason why fresh concrete must be placed not more than 1.5 meter height while using concrete bucket.
(5 marks)
- Q2** (a) Explain the method of installation for reinforced concrete square pile. Provide suitable sketches to support your explanation.
(10 marks)
- (b) Propose safety precaution that should be taken into account to reduce risk in excuting piling works.
(5 marks)
- (c) Explain the benefits of bore hole data in construction work.
(5 marks)
- (d) State the available information that available in pile records.
(5 marks)
- Q3** (a) In building construction, the elements such as beams, slab, columns and stair case are constructed step by step according to the construction phase. Therefore, it creates a cool joint between the elements. With appropriate examples, discuss the procedure of construction joint before the engineer can proceed with constructing next element. Provide suitable sketches to support your explanation.
(10 marks)
- (b) Prepare the procedure to construct a square column. Provide suitable sketches to support your explanation.
(15 marks)

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- Q4** (a) Propose method of construction for diagonal reinforced (RC) beam as shown in **Figure Q4(a)**. Provide suitable sketches to support your proposal. (15 marks)
- (b) Analyse preparation of formwork for constructing reinforced concrete spiral staircase based on **Figure Q4(b)**. (10 marks)

– END OF QUESTIONS –

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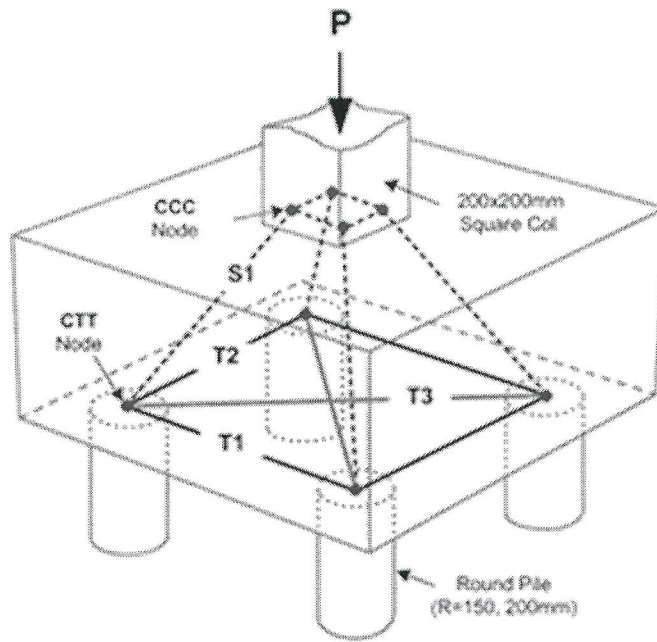


FIGURE Q1(a)

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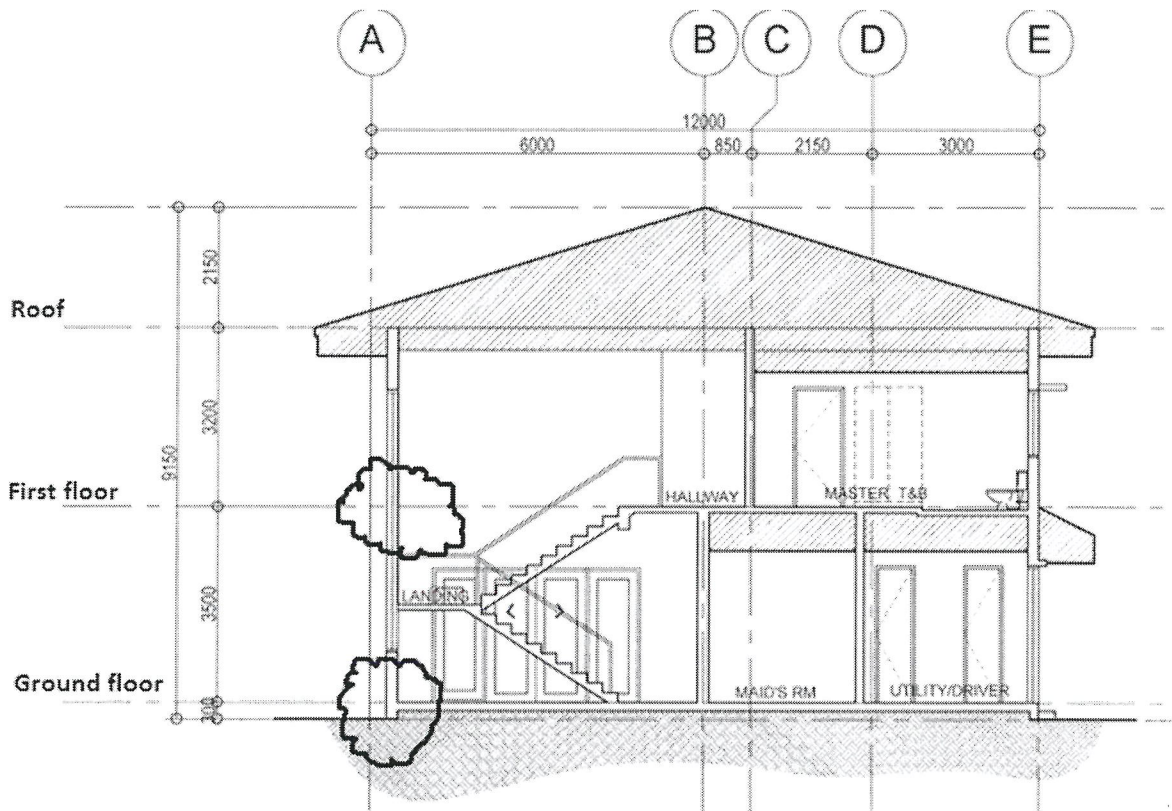


FIGURE Q1(b)

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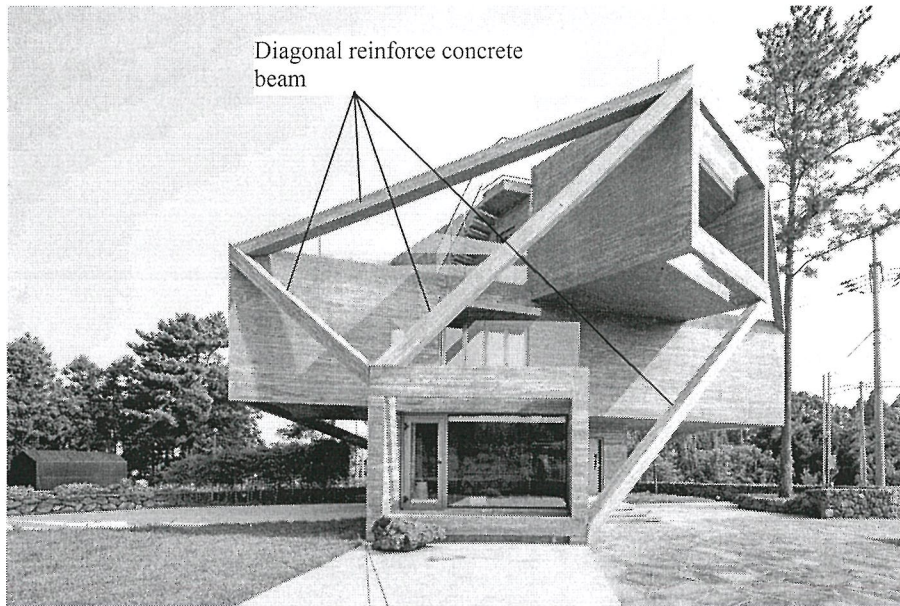


FIGURE Q4(a)



FIGURE Q4(b)

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