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Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

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

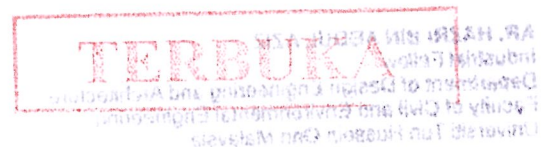
COURSE NAME : BUILDING CONSTRUCTION
COURSE CODE : BFR 21203
PROGRAMME CODE : BFR
EXAMINATION DATE : DECEMBER 2018 / JANUARY 2019
DURATION : 2 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

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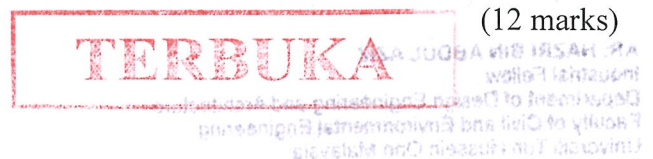
THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

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- Q1** At site the contractor would normally call the cement as ‘OPC’ cement and it is common in the construction works.
- a) Describe what is ‘OPC’. (3 marks)
 - b) List **FOUR (4)** classifications of cement. (4 marks)
 - c) Identify the main ingredients in cement and its basic mixture in terms of volume proportions and materials involved (6 marks)
- Q2** (a) Name **FOUR (4)** materials to form concrete. (4 marks)
- (b) List **THREE (3)** main elements of which concrete structure is widely used in building construction. (9 marks)
- Q3** (a) List **FIVE (5)** types of hardwood from Group A classification of Strength Classes. (5 marks)
- (b) Identify **FOUR (4)** factors affecting the strength of timber and elaborate **TWO (2)** of them. (6 marks)
- Q4** (a) Name and illustrate **FOUR (4)** type of bond most commonly used in brick masonry. (4 marks)
- Q5** (a) Describe **FOUR (4)** main purposes of formwork and explain the disadvantages of timber formwork. (8 marks)



- Q6** (a) Describe the reasons why an exposed steel structure requires fire proof. (6 marks)
- (b) Sketch the shape/section of the following steel sections:-
(i) Universal Column
(ii) Universal Beam
(iii) Channel
(iv) Hollow Section
(v) Angle and Tee (5 marks)
- (c) State **THREE (3)** principle systems for connecting steel member. (6 marks)
- Q7** (a) Draw the following types of staircases:-
(i) Straight run
(ii) Straight run with intermediate landing
(iii) Quarter landing
(iv) Double quarter landing
(v) Spiral (5 marks)
- (b) Indicate the design regulations for the ramp design calculation/gradient for the followings:-
(i) Wheel chair/disabled
(ii) Vehicular
(iii) Bomba Requirement (6 marks)
- Q8** (a) Draw the following types of door frame rebate:-
(i) Single rebate
(ii) Double rebate (4 marks)
- (b) Draw and explain the operation of each of following window types
(i) Fixed window
(ii) Casement window
(iii) Awning and Hopper window
(iv) Sliding window
(v) Louvered window
(vi) Pivoting window (12 marks)



Q9 (a) Describe the main function of a retaining wall. (2 marks)

Q10 (a) Explain the main function of a party wall. (3 marks)

(b) Explain in which clause of Building By-Laws (UBBL) states about requirement of party walls. (2 marks)

– END OF QUESTIONS –

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