

**CONFIDENTIAL**



**UTHM**  
Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

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

COURSE NAME : CONTRACT AND ESTIMATION  
COURSE CODE : BFC31602  
PROGRAMME CODE : BFF  
EXAMINATION DATE : DECEMBER 2018 / JANUARY 2019  
DURATION : 2 HOURS 30 MINUTES  
INSTRUCTION : ANSWER ALL QUESTIONS

**TERBUKA**

THIS QUESTION PAPER CONSISTS OF SIX (6) PAGES

**CONFIDENTIAL**

- Q1**
- (a) With an aid of diagram, explain the scope of pre-contract award and post-contract award phases of a typical engineering and construction contract. (5 marks)
  - (b) There are many stakeholders involve in any construction project. Apart from developer, financier, consultant and contractor, describe **TWO (2)** other stakeholders that their roles are vital to ensure successful construction project completion. (5 marks)
  - (c) Briefly explain the following causes of contract termination:
    - (i) By performance
    - (ii) Consent or agreement between parties
    - (iii) Impossibility of performance
    - (iv) Breach of contract(10 marks)
  - (d) When there is a breach of contract, the innocent party, is entitled for damages i.e. remedies claimed by an innocent party for the damage, loss or injury he has suffered for the breach of contract. Explain why liquidated damages are practical for remedying the innocent party in the event of delay in construction project completion? (5 marks)
- Q2**
- (a) List **FIVE (5)** documents (of information) that should be included in a tender document of construction project where client does not provide bills of quantities for tenderer. (5 marks)
  - (b) Describe **ONE (1)** purpose of the following documents:
    - (i) Conditions of Contract
    - (ii) Specifications
    - (iii) Drawing and plans(6 marks)
  - (c) Define and suggest the actions required to be taken by contractor and employer with regard to the following “key dates” in construction contract:
    - (i) Date of Site Possession
    - (ii) Completion Date
    - (iii) Expiry of Defects Liability Period (DLP)(9 marks)

TERBUKA

- (d) Blue Ocean Construction, a Grade 7 contractor was awarded a project of constructing a shopping complex building for completion by 31 January 2018. Cost information of the project is as the following:

Provisional Sums	RM	1,632,000.00
Prime Cost Sums	RM	6,678,120.00
Preliminaries	RM	1,809,960.00
Contingencies	RM	875,000.00
Contract Sum	RM	26,815,111.00
Value of Variation Work	RM	255,622.00

Due to the default by the contractor, the project was delayed, and was only completed on 31 March 2018. Based on the cost information and base lending rate (BLR) of 5.90%, calculate the amount of Liquidated Ascertained Damages (LAD) that the contractor has to pay to the client for the delay of the project.

(5 marks)

- Q3** (a) Briefly explain the following:

- (i) Lump sum contract
- (ii) Measure and value contract

(5 marks)

- (b) Your client is looking for a reliable contractor for a housing project using Turnkey contract. As his consultant, propose to your client:

- (i) Contractor selection process
- (ii) A diagram of relationship arrangement between key parties in the project.

(10 marks)

- (c) Choose either **ONE (1)** of the following procurement methods: Management Contracting; or Construction Management. Discuss your chosen procurement method in terms of:

- (i) Contractor and client responsibilities
- (ii) Advantages and disadvantages in comparison to Traditional Method (Design-Bid-Build).

(10 marks)

TERBUKA

**Q4** Based on **Figures Q4(a)** and **Q4(b)**, perform taking off to determine the quantity of the following items:

(a) Concrete for pad footing, column stump and ground beam. (7 marks)

(b) Reinforcement bars in pad footing, column stump and ground beam (in kg). (12 marks)

(c) Links in column stump and stirrups in ground beam (in kg). (6 marks)

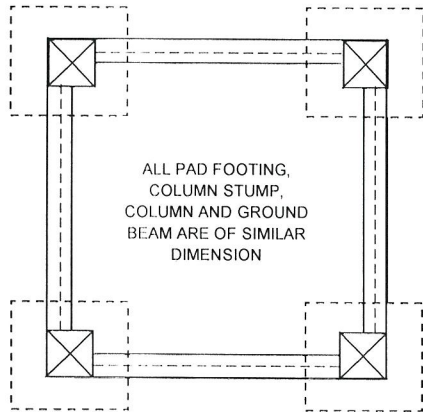
**–END OF QUESTIONS–**

TERBUKA

FINAL EXAMINATION

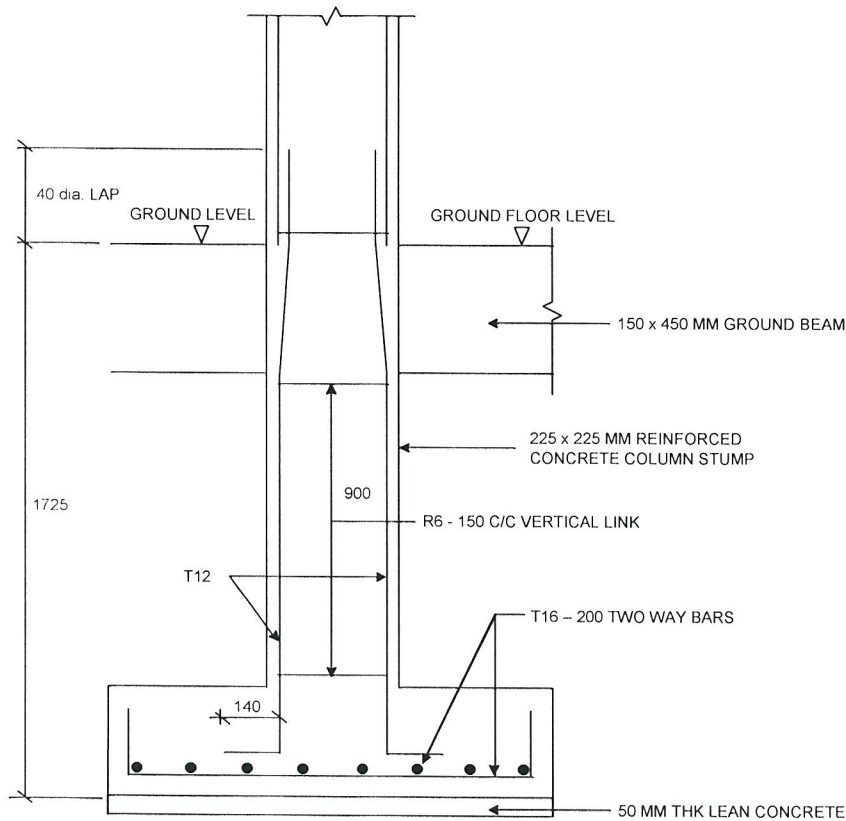
SEMESTER/SESSION : SEM I / 2018/2019  
COURSE NAME : CONTRACT AND ESTIMATION

PROGRAMME CODE : BFF  
COURSE CODE : BFC31602



GROUND FLOOR PLAN

- NOTES :
- 1. ALL DRAWINGS ARE NOT TO SCALE
  - 2. ALL DIMENSIONS ARE IN MILIMETRE (MM) UNLESS OTHERWISE NOTED.
  - 3. ALL CONCRETE COVERS SHALL BE 40 MM THICK.
  - 4. LEAN CONCRETE SHALL BE OF GRADE 7 CONCRETE
  - 5. PAD FOOTING, COLUMN STUMP AND GROUND BEAM SHALL BE OF GRADE 25 CONCRETE



1350 x 1350 x 300 MM REINFORCED CONCRETE PAD FOOTING

FIGURE Q4(a)

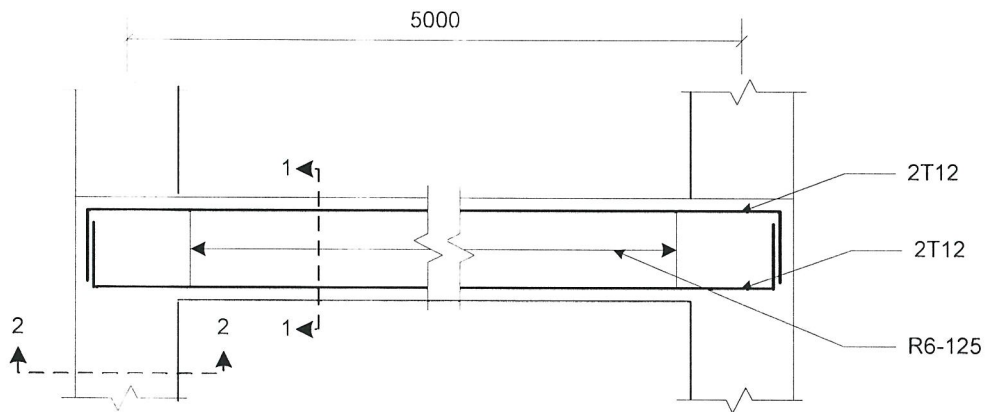
TERBUKA

Universiti Tun Hussein Onn Malaysia  
Fakulti Kejuruteraan Awam dan Alam Sekitar  
Johor Bahru, Johor Darul Ta'zim 80100

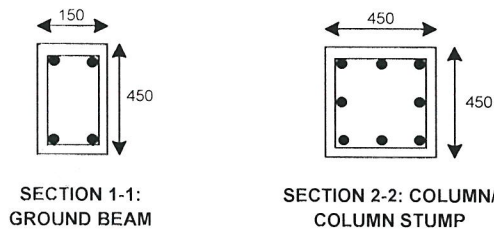
**FINAL EXAMINATION**

SEMESTER/SESSION : SEM I / 2018/2019  
 COURSE NAME : CONTRACT AND ESTIMATION

PROGRAMME CODE : BFF  
 COURSE CODE : BFC31602



**TYPICAL GROUND BEAM CROSS SECTION (150 x 450)**



**CONVERSION TABLE FOR ROUND BAR**

SIZE (MM)	MASS PER UNIT LENGTH (KG/M)
06	0.222
08	0.395
10	0.616
12	0.888
16	1.579
20	2.466
25	3.854
32	6.313

**FIGURE Q4(b)**

**TERBUKA**

BFC31602 – TAKING OFF SHEET

NAME: \_\_\_\_\_ MATRIC NUM.: \_\_\_\_\_

DIMENSION			UNIT	DESCRIPTION

TERBUKA